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**COMPETITIVENESS AND INNOVATION
IN THE KNOWLEDGE ECONOMY**

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2025**



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USING THE STATE-OWNED ENTERPRISES TO BOOST THE DOMESTIC CAPITAL MARKET

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Abstract: The article presents an innovative approach of addressing two seemingly unrelated constraints for the economic development of Moldova, which can be turned into opportunities: the sector of state-owned enterprises (SOEs) known for its extensiveness and inefficiency on the one side, and the capital market which is very limited in terms of financial instruments, market participants and development in general. The point is that, if proper reforms are implemented, SOEs can contribute to boosting the development of the domestic capital market in two ways: (i) by issuing corporate bonds, boosting the supply of financial instruments; and (ii) by listing of minority shares through the domestic stock exchange. Both ways will contribute to boosting the supply of financial instruments, will incentivize the development of the capital market infrastructure and will increase the popularity of investing in domestic capital market among local investors. There is a number of positive preconditions that could encourage such reforms in Moldova: relatively low level of indebtedness of many SOEs, presence of a number of SOEs with stable financial positions and the ongoing SOE reform initiated by the Government that is going to lead to a number of important privatizations in the future. Respectively, the article discusses how SOEs can boost the domestic capital market development and what policy changes and reforms are needed in this regard.

Keywords: state-owned enterprises, capital market, corporate bonds, privatization

JEL Classification: L32, L51, L53.

1 Introduction

A fundamental building block for the success of structural reforms, especially in countries with fragile institutional frameworks as the Republic of Moldova, is the complementarity of reforms. It means that, instead of solo approach in promoting reforms with limited inter-institutional coordination or, even worse, which involve even competition among institution, reforms should fuel one each other,

creating virtuous cycles. One relevant example is the potential interplay between two seemingly unrelated reforms: reform of the state-owned enterprises' (SOEs) sector and the capital market reform. Both are on the current government's agenda. Namely, in 2022 the Government adopted the State Ownership Policy, which laid the ground for the SOEs' reform: fostering the corporate governance of SOEs, classification of companies into those eligible and non-eligible for privatization (the so-called triage), adoption of the principle of competitive neutrality and restructuring the institutional framework for management of SOEs – measures that are in line with the World Bank and OECD corporate governance principles for SOEs (World Bank, 2014; OECD 2015; World Bank 2017). Also, currently, the capital market strategy is being drafted that envisages the increase of the number of financial instruments, issuers of financial instruments, investors and modernization of the capital market infrastructure.

Despite being seemingly unrelated, the SOEs' and capital market reforms and work together by reinforcing each other and, in this way, speeding up the achievement of reform objectives. More specifically, the SOEs can contribute to boosting the development of the domestic capital market in two ways: (i) by issuing corporate bonds, boosting the supply of financial instruments; and (ii) by listing of minority shares through the domestic stock exchange. It will contribute to boosting the supply of financial instruments, will incentivize the development of the capital market infrastructure and will increase the popularity of investing in domestic capital market among local investors, which will further support SOEs and the economy in general, by ensuring access to additional financing sources for development.

Creating a virtuous cycle between SOEs and capital market reforms will help addressing the specific challenges of each sector: poor corporate governance of most SOEs that causes its underperformance compared to the private sector in terms of profitability and efficiency indicators on the one side, and low capital market depth with limited number of issuers and financial instruments on the other side. Hence, the scope of this paper is to describe the opportunities of creating the synergy between the SOEs' and capital market reform and measure the potential of SOEs to issue corporate bonds and be listed on the domestic stock exchange, based on the analysis of their financial statements, legal framework and overall macroeconomic context in the Republic of Moldova. The paper formulates a series of concrete policy recommendations for the short-, medium- and long-run in order to facilitate the development of the capital market through the SOEs' reform.

2 General and Specific Context Analysis

2.1 State Owned Enterprises

The SOEs reform is currently on the Government's agenda, being also part of European integration agenda. Namely, the Action Plan for carrying out the 9 recommendations identified in the European Commission opinion from June 2022 contained a series of strategic measures related to:

- the adoption of the State Ownership Policy that should cover principles, measures and actions concerning better corporate governance, reorganization, privatization, and liquidation of non-viable companies;
- implementation of the policy on state ownership including through the final adoption of the adjusted laws on public-private partnership and public property management (step 4) and reinforce public procurement;
- improvement in the regulatory framework on corporate governance of state-owned enterprises /

companies with majority state capital, in line with the principles of the Organization for Economic Cooperation and Development (OECD), including regulations on selection and appointment of members of board of directors and of audit committee of state-owned enterprises and on the rules for their remuneration.

Additionally, in the context of the Republic of Moldova obtaining the EU candidate country status for accession to the European Union, the European Commission published, in November 2023, the detailed Report on Moldova regarding the progress, challenges and recommendations for the accession process (Republic of Moldova 2023 Report, Commission Staff Working Document). Thus, under the “Fundamentals” cluster (the most important cluster of chapters of the accession negotiations process that is first to be opened during the negotiations and last one that marks the close of negotiations for EU accession), the European Commission included a specific recommendation related to the SOEs’ sector: “continue to improve the business environment, reduce state interference in pricing, and maintain a rapid pace of reforms to restructure and/or privatize state ownership.”

According to the independent monitoring reports of civil society organizations (Expert-Grup, IPRE and LRCM, 2023), the progress in implementation of these commitments was mixed. The Government approved the State Ownership Policy in 2022 (Government Decision no. 911/2022), which laid the ground for a comprehensive reform of the SOEs’ sector in line with the OECD and World Bank corporate governance principles. It included a number of strategic measures related to ensuring competitive neutrality of SOEs, delimitation of SOEs that should be exposed for privatization and those that should remain in state ownership, fostering the institutional framework for ensuring a proper supervision, regulation and monitoring of SOEs, enhancing the corporate governance of SOEs by increasing the level of independence and professionalism of boards, increasing the transparency of SOEs etc. Nevertheless, the Program for implementation of the State Ownership Policy has been drafted only in 2024, and most of measures and reforms planned in the State Ownership Policy in 2022 remained on paper.

Another independent monitoring report (Expert-Grup, 2024), provided a moderate evaluation (3 out of 5 points maximum) the reforms in the SOE sector. According to this report, the main evolutions were:

- In October 2023, by the GD no. 819/2023, the screening mechanism for state enterprises and commercial companies with state capital was approved.
- On April 12, 2024, the Ministry of Economic Development and Digitization published for public consultation the draft Programme on the administration of public state property for the years 2024-2027.
- In October 2023, the analysis of the functional alignment of the organizational structure of the Public Property Agency was published in order to facilitate its reorganization.
- For the digitization of the records and administration of state property, in November 2023, the Government approved the Concept and Regulation of the “Register of public patrimony and administration of state property” integrated information system.

Nevertheless, the report mentioned above points on a number of constraints revealing the slow pace of the SOE reform:

- The organizational structure of the Public Property Agency is not aligned with its functional duties, which undermines a proper enforcement of good governance principles in SOEs.
- The records and administration of public property are not digitized, which hampers the transparency about state ownership and the efficiency of regulating this sector.

Other constraints are related to the poor quality of corporate governance of SOEs, induced, among others, by the fact that the majority of board members are public officials, with almost no independent board members, which exposes the SOEs to political interference and operational inefficiency. This is mainly revealed by the underperformance of SOEs compared to the private sector.

The analysis (Lupusor, 2024) of the economic and financial indicators of SOEs, administered by the Public Property Agency, reveals major shortcomings in their efficiency. While the share of assets held by SOEs in total assets held by the companies in 2022 amounted to about 11.7% (7.1% held by joint-stock companies (JSCs) with majority state capital and 4.6% held by state-owned enterprises (SOEs)), the share of sales revenues was much lower - only 2% (1.5% by JSCs and 0.5% by SOEs). The share of profits recorded by SOEs in the total profits reported by companies in 2022 was even lower - only 0.7% (0.4% by SOEs and 0.3% by SA). In addition, SOEs also recorded a significant share of total debts reported by companies: 9.9% in 2022 (7.1% reported by JSCs and 2.8% reported by SOEs), which, against the background of low profitability and efficiency, reveals a series of risks (see Figure 1). The efficiency shortcomings are also revealed by the major discrepancies in the rates of return calculated for SOEs compared to the rest of the economy. Thus, in 2022, the average rate of return on assets for SOEs was only 0.1% and -1% for JSCs, compared with 7.1% for the rest of the enterprises; the average rate of return on sales for SOEs was only 14.8% and -4.9% for JSCs, compared with 20.8% for the rest of the enterprises. Liquidity indicators, likewise, were weaker in the case of SOEs compared to the rest of the enterprises: the current liquidity ratio (current assets/current liabilities) in 2022 reported by SOEs was 1.7 and 1.2 in the case of JSCs, compared to 3.0 for the rest of the enterprises

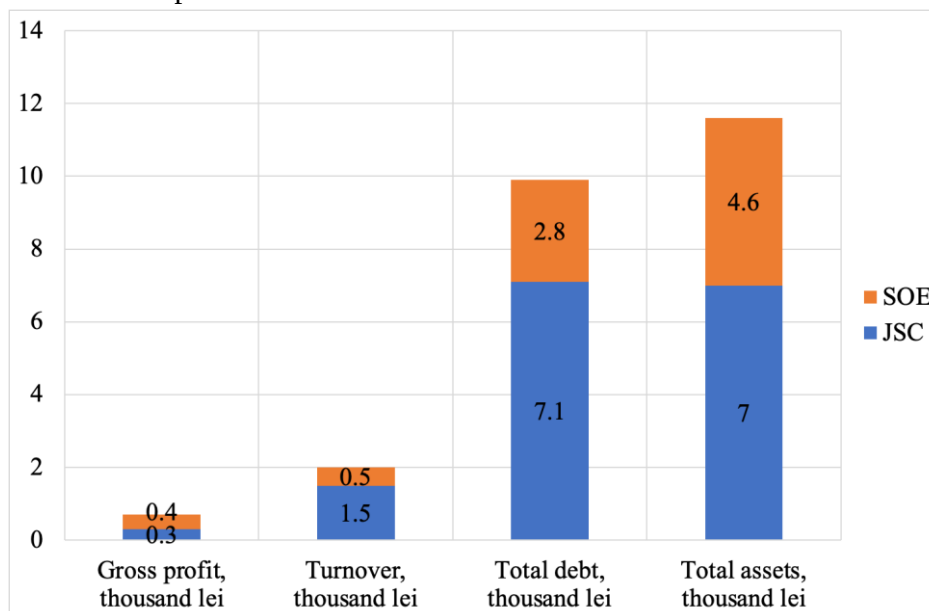


Figure 1. Financial indicators reported by SOEs, share of SOEs assets in the rest of the companies, year 2022

Source: Public Property Agency and National Bureau of Statistics

Therefore, SOEs, in addition to being much more inefficient compared to the rest of the enterprises, also face the critical problem of financial means for development. However, the above-mentioned fact does not suggest solvency problems: the overall solvency ratio (total assets to total liabilities) in

2022 was better for SOEs compared to the rest of enterprises (2.9 compared to 1.7) and similar for JSC and the rest of companies (Figure 2).

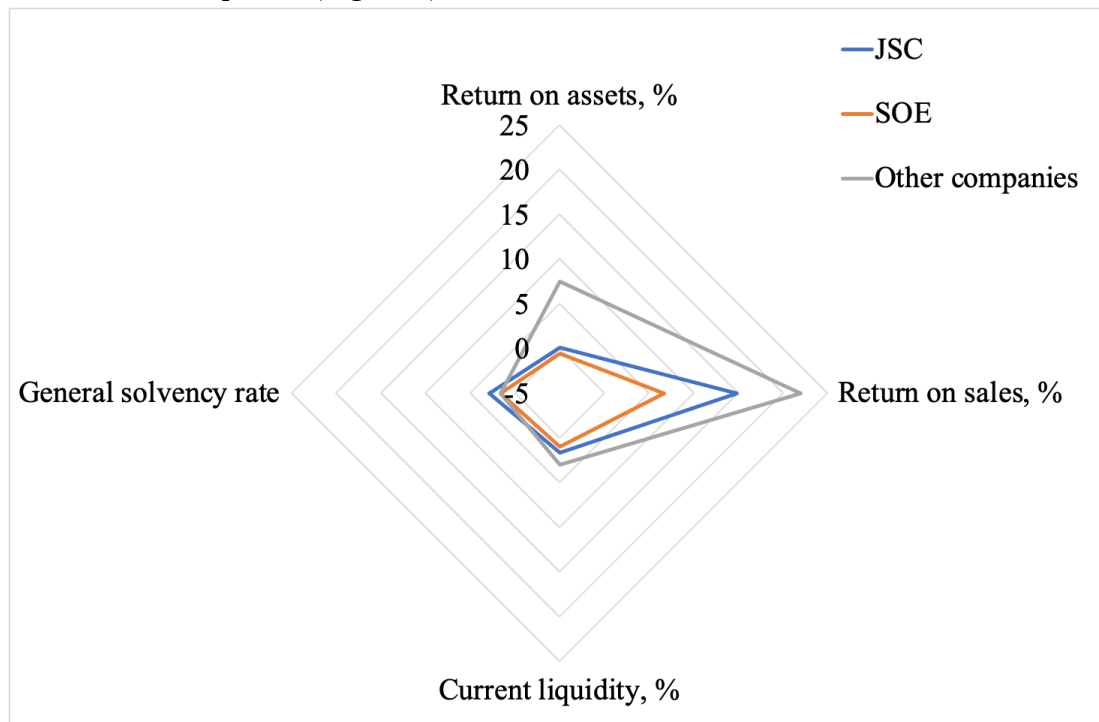


Figure 2. Financial indicators reported by SOEs compared to the rest of the companies, year 2022

Source: Public Property Agency and National Bureau of Statistics

Capital market

The capital market in Moldova is characterized by a low depth, being marked by limited number of financial instruments, issuers of financial instruments and poor infrastructure. According the IMF data, Moldova has one of the lowest Financial Market Depth Index in the region (figure 3). According to a recent report (CEELM, 2023), the capital market in Moldova is underdeveloped. Among the factors determining the low level of the Moldovan capital market development are the absence of liquid financial instruments, lack of institutional investors, and low degree of confidence in investing in financial instruments.

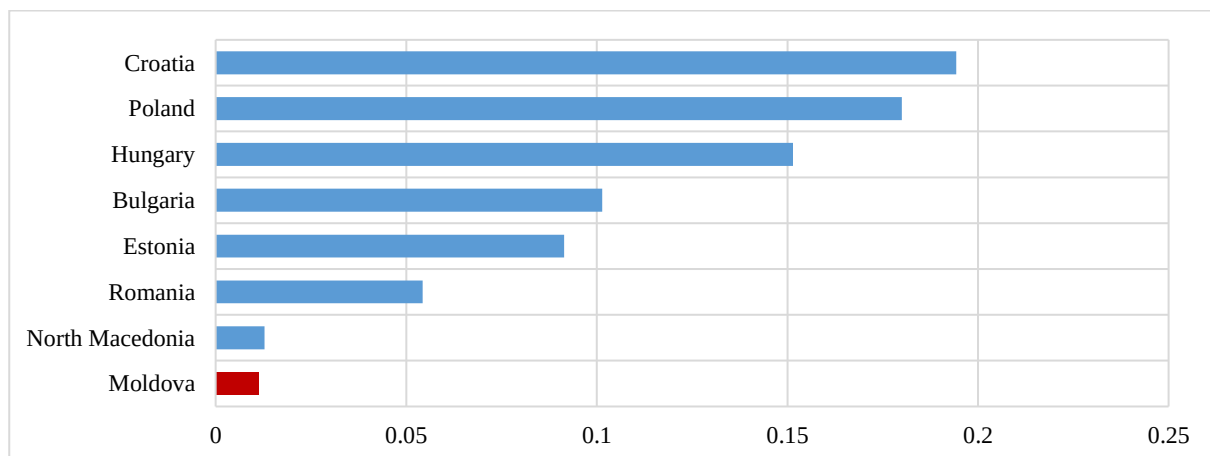


Figure 3. Financial market depth index, 2023

Source: IMF, <https://data.imf.org/?sk=388DFA60-1D26-4ADE-B505-A05A558D9A42&sId=1479329132316>

The interplay between SOE and capital market reforms

Both reforms can reinforce each other, by creating a virtuous cycle development cycle. Namely, there could be identified a number of SOEs with relatively robust financial position and attractive investment projects that could serve as frontrunners in issuing corporate bonds. Also, some SOEs could list on the domestic stock exchange the minority packages of shares, by attracting portfolio investors among firms and population. This could be done either after the privatization of majority shares of the respective SOEs (the government lists on the domestic stock exchange package of share that remained in its ownership after the majority is privatized), or listing of minority shares can be made for the SOEs that will remain in state ownership (in case of strategic SOEs that are not eligible for privatization).

Both strategies (corporate bond issuance and listing on the domestic stock exchange) can boost the capital market by increasing the number of financial instruments and issuers of financial instruments (corporate bonds market should serve as booster of the overall capital market development, following the experience of most European countries). Additionally, it will bring more investors on the market, increasing its liquidity and attractiveness for other listings and issuances of financial instruments. Importantly, the participation of SOEs on the capital market will support the processes of strengthening the transparency and governance of enterprises, which is a fundamental condition of success on this market (investors will be unlikely to invest in bonds or stocks of companies with issues with transparency and governance). In its turn, a more developed capital market will facilitate the access of other SOEs (and enterprises from the private sector) to financing their operational and investment activity, generating more development opportunities).

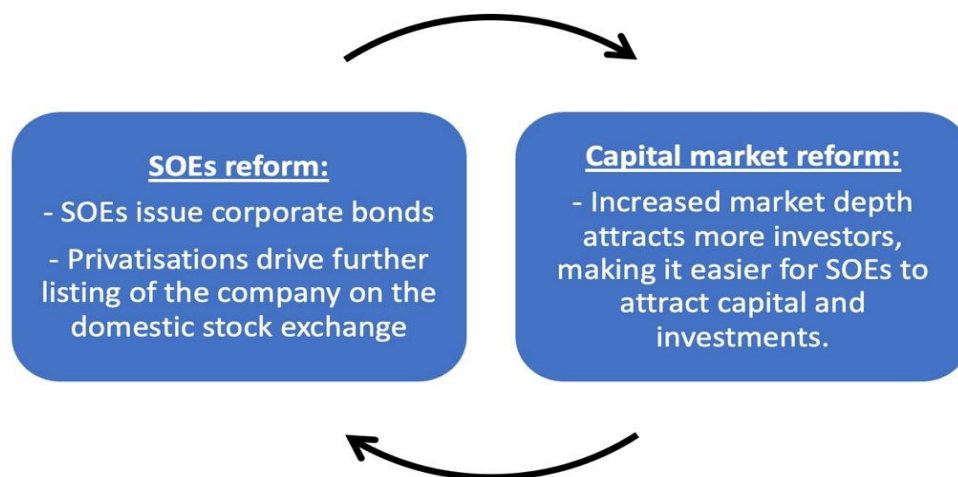


Figure 4. How SOEs and Capital market reforms can enable each other?

Source: author

3 Potential of SOEs in issuing corporate bonds and listing on the domestic stock exchange

The potential of SOEs to issue corporate bonds is analyzed through three different dimensions: (i) legal; (ii) governance; and (iii) financial perspective.

From the *legal perspective*, the Law no. 171 of 11.07.2012 on the capital market allows the issuance of corporate bonds by joint-stock companies and limited liability companies (implicitly, those with state owned capital). There are four key conditions in this regard: (a) The value of corporate bonds + interest + any other commissions should not exceed 90% of shareholders' equity; (b) shareholders

equity should be min. 1 mil. MDL; (c) the company should be operational for min. 3 years and register net profit for the last 2 years; and (d) no cases of unmet obligations against related to other bonds. To which extend the financial conditions are met we will see below, but from the legal perspective, there environment is conducive for SOEs' bonds issuance.

From the *governance perspective*, the situation is more complicated. The reason is that not all SOEs are joint-stock or limited liability companies and, hence, are not eligible to issue corporate bonds. Namely, out of 83 active SOEs administered by the Public Property Agency, only 29 are joint stock companies (SA) and 1 – limited liability company (SRL), the rest being “intreprinderi de stat”, which are yet to be restructured into SA after property delimitation. Another problem is that almost all board members are public officials, making the boards and, implicitly, SOEs, politically exposed. There is an ongoing reform on bringing in independent board members, but lack of financial incentives is a major issue in this regard.

From the *financial perspective*, the analysis of financial statements of SOEs that are joint stock (SA) or limited liability companies (SRL), reveals that entities have a comfortable leverage ratio: the average total-debt-to-asset ratio in 2022 was only 0.39 (39% of assets are financed from debt, the rest being the shareholders' equity). In fact, if we exclude CET Nord, FEE Nord and Termoelectrica, which are the most indebted SOEs, the leverage ratio is even lower – 0.27 (Moldovagaz was excluded from the analysis because the Government of Moldova does not own the majority share package). Such a low level of indebtedness points on a high flexibility and potential in attracting additional capital through corporate bonds issuance. On the downside, the efficiency and profitability of most SOEs is lower compare to the private companies: out of 30 SOEs (SA + SRL) managed by PPA, only 19 registered positive net profit in 2022, but the total net profit among all 30 SOEs was negative (net losses exceeded net profits). Also, the return on assets (ROA) was only 0.07% compared to 7.5% for the private companies. All in all, while the leverage ratio allows SOEs to issue bonds, the main challenge is improving the efficiency and profitability of these companies.

At the current stage, the analysis shows that only few SOEs can serve as frontrunners for issuing corporate bonds, as the majority struggle with corporate governance, efficiency and profitability issues. Still, few SOEs can be considered well-suited to be the first in issuing corporate bonds (table 1), due to low leverage ratio (high potential to issue relatively large volumes of bonds), high capital adequacy (all SOEs are funding their activity mainly from shareholders' equity), high short-term liquidity and limited credit risk, as well as positive profitability (but more should be done to increase efficiency and profitability indicators).

Table 1. SOEs that could be the first issuers of corporate bonds, according to data of 2022

SOE	Equity	Leverge ratio	Return on assets (ROA)	Return on sales (ROS)	Current liquidity ratio (current assets/short-term debt)	Potential of bond issuance
Barza Alba	345.5 mln. MDL	0.11	2.08%	44.9%	10.7	150 mln. MDL

Energocom	8036.9 mln. MDL	0.34	1.17%	-0.74%	14.5	1.9 bln. MDL
Loteria Nationala a Moldovei	211.5 mln. MDL	0.28	57.7%	4.5%	3.4	63 mln. MDL
Moldtelecom	4250.6 mln. MDL	0.19	0.76%	18.1%	5.2	1.6 bln. MDL
RED Nord	2637.7 mln. MDL	0.12	2.32%	14.9%	8.6	1.1 bln. MDL
Tracom	67.7 mln. MDL	0.01	2.53%	35.6%	78.6	33.4 mln. MDL
Arena Nationala	834.5 mln. MDL	0.38	1.32%	55.9%	2.6	161.4 mln. MDL
Franzeluta	249 mln. MDL	0.21	-6.09%	13%	4.9	92.3 mln. MDL

Source: Author's estimations

Benefits of corporate bonds' issuance by SOEs

As described the interplay between the SOEs and capital market reform, the potential issuance of SOE corporate bonds can be beneficial both for SOEs and capital market. From the capital market perspective, it will provide an important boost to the market of corporate bonds, which should become a fundamental element of the domestic capital market, as there will be additional financial instruments and issuers of financial instruments of the market. Respectively, other companies will follow the frontrunners who will prove in practice that corporate bonds allow to attract capital at better conditions compared to bank loans. It will lead to increased financial market depth and development. The benefits for SOEs are manifold. First, the corporate bonds will ensure larger access of SOEs to financing sources at relatively convenient conditions. For example, judging on the empirical experience with municipal bond issuance (Expert-Grup, 2024), bonds, be it municipal or corporate, can ensure lower interest rates compared to bank loans. Taking into account that the interest rate for municipal bonds for 2-3 years range at about 1-1.5 p.p. + T-bills of 1 year, the risk premium in the case of SOEs should be comparable. Hence, the estimated interest rate of an SOE 2-year bond issued in 2024 could be at around 6.0-6.5% (flexible rate), which is lower compared to the average interest rate on corporate loans (app. 8-9%). Other benefits are related to cash flow, because in the case of bonds, unlike the bank credit, the principle is paid at maturity, making the coupon total payments lower compared to total costs of servicing a loan. In addition, corporate bonds provide the opportunity to get funding for investment projects that could not be funded by banks because of lower risk tolerance of banks compared to the capital market. Last, but not least, it provides the possibility to improve the public image, as a frontrunner of bond issuance, as well as due to the positive implications the bond issuance have on the transparency and governance of the issuer.

Additional opportunity – listing on the domestic stock-exchange

Besides bond issuance, an additional opportunity to boost the capital market through SOE reform is the listing of minority shares of SOEs on the domestic stock-exchange. The listing can be done in

two cases. First case is related to SOEs that are eligible for privatization – listing following the privatization of the control package of shares by a strategic investor. In this case, the Government can list minority package of shares on the domestic stock exchange in order to attract portfolio investors and boost the equity market. Listing *after* privatization to a strategic investor can be at a higher price, implying better outcomes for the Government, because the portfolio investors will tend to follow the strategic investor. The second case is related to SOEs that are not eligible for privatization. In this case, the Government can list a minority package of shares, while preserving the control package, in order to bring in portfolio investors and boost the equity market (figure 5).

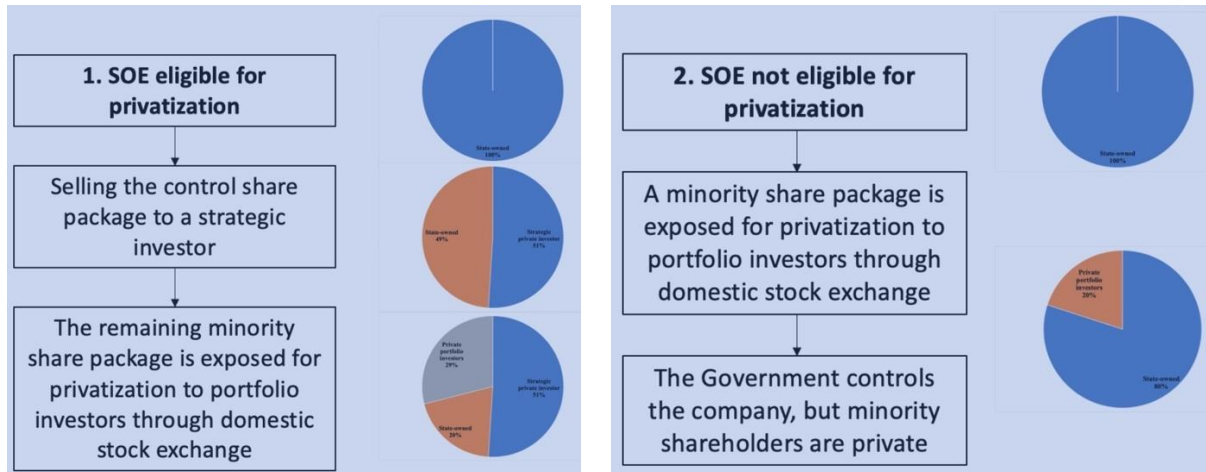


Figure 5. Two cases of SOEs' listing on the domestic stock exchange

Source: Author

4 Conclusions and ways forward

The analysis revealed that SOEs can serve as instruments to boost the capital market, at least from two perspectives: (i) selected SOEs can become frontrunners in issuing corporate bonds that could contribute to the development of the bonds' market and provide access to more convenient financing sources; and (ii) SOEs can list minority packages of shares on the domestic stock exchange, either after the privatization to a strategic investor or in the case of SOEs where the Government will preserve the control package, in order to boost the equity market. Both approaches will contribute to the capital market development, while ensuring larger access for SOEs to financing and development opportunities. Given the fact that many SOEs have sufficient capital adequacy and low level of indebtedness, the issuing of corporate bonds and listing of SOEs provide feasible opportunities to unleash the potential of both of the SOEs' sector and the domestic capital market, which can boost the overall economic development of the Republic of Moldova.

In order to explore these opportunities, the following actions and policies should be carried out:

On the short-term (immediate actions)

- Identification of the SOE(s) (at least 1 SOE) to serve as frontrunner(s) of the corporate bond issuance.
- Identification and formulation of the investment project to be financed from the bond issuance that would be convincing for potential investors: project with clear impact on the company development, its profitability and economic development of the entire country.
- Strengthening the corporate governance of the identified SOE(s): attracting independent board members, improving the website of the company, increasing the transparency of the company by

publishing as much information as possible, running a financial audit of the SOE(s) by reputable auditing company (if the financial statements have not been audited for the last year), revising the KPIs of the SOE management and the procedures to monitor the KPIs, revising the code of ethics and ensuring all the necessary internal governance procedures to enforce integrity.

- Identification of a reputable financial intermediary (preferably, a commercial bank) with experience in intermediation of bonds' issuance.
- Designing the prospect and registering it at the National Commission for Financial Market.
- Conducting a communication campaign in order to promote the SOE(s) bonds among potential investors (population, firms, banks, insurance companies etc.).

Medium-term actions/policies

- Defining the list of SOEs to be privatized first, in line with the triage results conducted in 2024 by the Government.
- Conducting the company valuation of these SOEs and designing individual privatization strategies.
- Simplification of listing procedures at the domestic stock exchange.
- Revising the pricing policy of the domestic stock exchange, in order to make it more appealing to small portfolio investors.
- Fostering corporate governance of SOEs:
- Increasing the financial remuneration of SOE board members and attracting independent board members so that their share could reach at least 1/3 of the board.
- Redesigning the PPA role in the management of SOEs, by refocusing its attention from micro-management to fostering the corporate governance of SOEs, preparing the selected SOEs for privatization and increasing the performance of SOEs.
- The focus of the PPA should be on making SOEs grow, under commercial conditions. Any non-commercial function imposed by the Government to SOEs should either be redirected to a public entity (ideal scenario) or be subsidized from the state budget so that fulfilling non-commercial objectives would not undermine the commercial ones and the overall performance of the SOEs.
- Rethinking the policy by which the SOEs are obliged to transfer to the state budget half of their dividends and encouraging the SOEs to reinvest their profits for development.
- Implementing the automatized information system that would digitalize the information about public property.

Long-term actions/policies

- Advancing the restructuring of "intreprinderi de stat" in "societati de actiuni" of the SOEs, in order to extend the pool of eligible SOEs for bond issuance.
- Conducting the privatization in a transparent manner, under the supervision of development partners and civil society.
- Initiate the listing of minority shares of selected SOEs, after enhancing their transparency, governance and financial position.
- Supporting other SOEs to issue bonds and list on the stock-exchange following the frontrunners (PPA should act as the main advocate in this regard).

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SESSION I

**INNOVATIVE APPROACHES AND NEW TRENDS IN
THE FIELD OF "BUSINESS AND ADMINISTRATION"**

INDUSTRY 4.0 AS A SOLUTION TO INCREASE THE LABOUR PRODUCTIVITY OF MOLDOVAN ENTERPRISES

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Abstract: Labour productivity expresses both the efficiency of using human resources and the synthetic expression of the efficiency of using production factors in activities that result in economic goods. The analysis of the dynamics of the industry of the Republic of Moldova shows that although the value of manufactured products increases simultaneously with the increase in the number of people employed in industrial activities, the indices of labour productivity growth are in stagnation. Our analysis show that in the medium term, the growth of employment will be accompanied by an increase in the labour shortage. The demand for labour will grow rapidly, while the supply of labour will have an anaemic evolution.

At the same time, the indicators of investment in the development of material production technological potential (engineering structures, machinery and equipment) and intangible (technology, know-how) show that the decrease in labour productivity is due, first of all, to these components. Thus, taking into account the forecasts of the evolution of demand and supply in the labour market, it is expected that the decline in labour productivity in the industry of the Republic of Moldova will continue.

We consider that in order to ensure sustainable development of the industry of the Republic of Moldova, it is advisable to promote and widely implement, including in small and medium-sized enterprises, the principles of the Industry 4.0 paradigm based on digitalization and, automation of production processes. These measures will allow to solve the problem of labour shortage observed in Moldova, as well as to bring the level of industrial and technological development to a globalised competitive level.

Keywords: labour productivity, industry 4.0, transformation, automation, information technologies

JEL Classification: J2, O1, O3

Introduction

The creation and consumption of material goods constitutes the main purpose and essence of economic activity, in which the financial environment, services and spiritual goods are only tools and levers to increase the level of economic-social performance and the quality of life by creating added value. The evolution of the world economy shows us how important it is to develop productive capacities, industry being the driving force of society's prosperity.

The obtaining of material goods by the combination of economic factors is conditioned by the quality of the central pillar in this process – the human resource. In the context of economic globalization and international migration, the issue of ensuring industrial enterprises with sufficient and qualified human resources has become imperative. The Republic of Moldova is increasingly facing the shortage of personnel in industry, a branch that contributes about 22% to the formation of the Gross Domestic Product (UNECE Data Portal, 2024). Between 2014 and 2022, the country's population

decreased by about 354.6 thousand people, from 2.869.2 thousand in 2014 to 2.512.8 thousand in 2022 (NBS, 2023a), or by 12.42%, while annual emigration (including travel, studies and work, permanent emigration) has almost doubled (196.37%) from 122.955 emigrants in 2014 to 241.448 emigrants in 2022 (NBS, 2024e). This dynamic shows us the difficulty of business development in the conditions of a constant reduction in the labour supply. Consequently, the issue of replacing work force with machinery and technical equipment has taken on a new connotation, that of compensating for the shortage of employees.

At the same time, human activity has reached a point where the price at which we develop the values and potential that will be passed on to future generations is being reconsidered, with a view to the sustainability of human activity.

Sustainable development is a concept that first appeared in 1987 with the publication of the **Brundtland Report** (United Nations Organisation, 1987), warning of the negative environmental consequences of economic growth and globalization, and attempting to find possible solutions to the problems caused by industrialization and population growth.

As a continuation of this desire comes the "Industry 4.0" initiative, presented for the first time in 2011 at the Hannover Messe exhibition and which presents the concept of the German Federal Government's High Tech Strategy (Deutsche Messe, 02.04.2014), where digitization and automation of industrial processes are seen as solutions to boost sustainable industrial development, based on the use of information technologies and artificial intelligence, thus replacing the exploitation of human resources in various technological segments and industrial operations, including those with increased risks to employee health and safety.

In the context of a declining active population, national policymakers must find solutions to ensure the continuous and sustainable development of the Republic of Moldova's industry, and the purpose of our research was to argue the reason to implement systems and technologies designed in the "Industry 4.0" paradigm in the Republic of Moldova.

Applied research methods and materials

In order to find the answer to the problem addressed and achieve the goal of the research, official statistical data were consulted, collected, selected and analysed (National Bureau of Statistics of the Republic of Moldova (NBS), UNECE Data Portal, National Employment Agency (ANOFM)), relating to the number of the population, migration, the volume and indices of industrial production, the number of employees in the industrial branches. The results of the data analysis allowed to identify the discrepancy between the current and comparative indicators.

We also studied the opinions of researchers and practitioners regarding the prospects for sustainable industrial development and the impact of "Industry 4.0" systems and technologies on labour productivity. In this context, documents on the prospects for the dynamics of the labour market presented by international organizations (United Nations Organisation, World Economic Forum, PricewaterhouseCoopers, Bloomberg) and the Republic of Moldova (ANOFM, Expert-Grup), as well as the National Industrial Development Program for 2024-2028, approved by the Government of the Republic of Moldova, have been studied too.

Obtained results and discussions

Productivity from an economic point of view is a synthetic expression of the efficiency of using production factors in activities that result in economic goods. Being expressed as the ratio of the obtained economic result to the used production factor, valued in physical or monetary terms, **labour**

productivity ($W=Q/L$) shows the efficiency of using human resource and the impact of labour on the economic result of the enterprise.

In the Republic of Moldova, the value of manufactured industrial products (in current prices) in 2022 amounted to 85,5 billion lei, which is 94,9% in comparable prices compared to 2021. The largest share in total manufactured industrial production is held by manufacturing industry (86,2%), followed by production and supply of electricity and heat, gas, hot water and air conditioning (10,2%), water distribution; sanitation, waste management, decontamination activities (2,1%) and the extractive industry (1,5%) (NBS, 2023b). The dynamics of the data from the period 2014-2022 show a constant growth of the country's industrial sector (Figure 1). Thus, the value of manufactured industrial production, in current prices, in the period 2014-2022 increased from 43,54 billion lei in 2014 to 85,50 billion lei in 2022, representing a growth of about 196%.

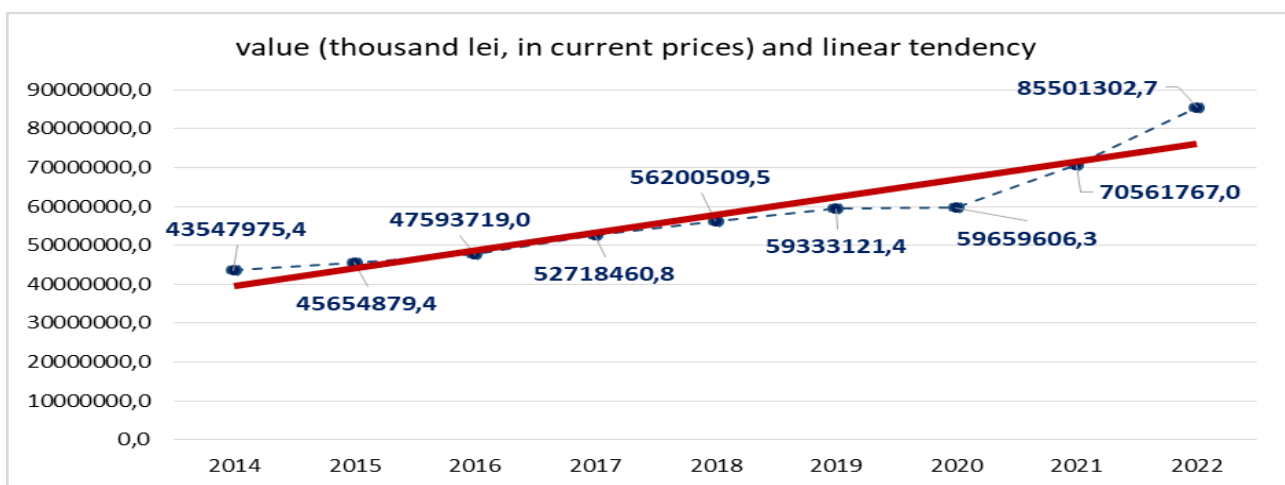


Figure 1. Value of manufactured industrial production, 2014-2023

Source: compiled by the author based on (NBS, 2024a)

Similarly, despite the fluctuations recorded in the last 10 years, there is a tendency to increase the average number of employees in the industry (Figure 2), mainly due to the opening of new large-scale foreign-invested factories producing wiring harness systems for the automotive industry (*Drarxlmaier Group, Fujikura Automotive, Sumitomo Electric Bordnetze*). Specially, namely the decline in turnover of these companies, during the COVID-19 pandemic (2019-2021) and the post-pandemic economic consequences which led to a global decline in automobile production (2021-2023), had a great impact on the number of employees in the industry. Even in 2023 “*nearly a third of major passenger-car plants from Europe’s five largest automakers - BMW, Mercedes-Benz, Stellantis, Renault and VW - were underutilized ..., producing fewer than half the vehicles they have the capacity to make*” (Nicola S., Torsoli A., Fevrier T. and Pogkas D. in Bloomberg, September 11, 2024).

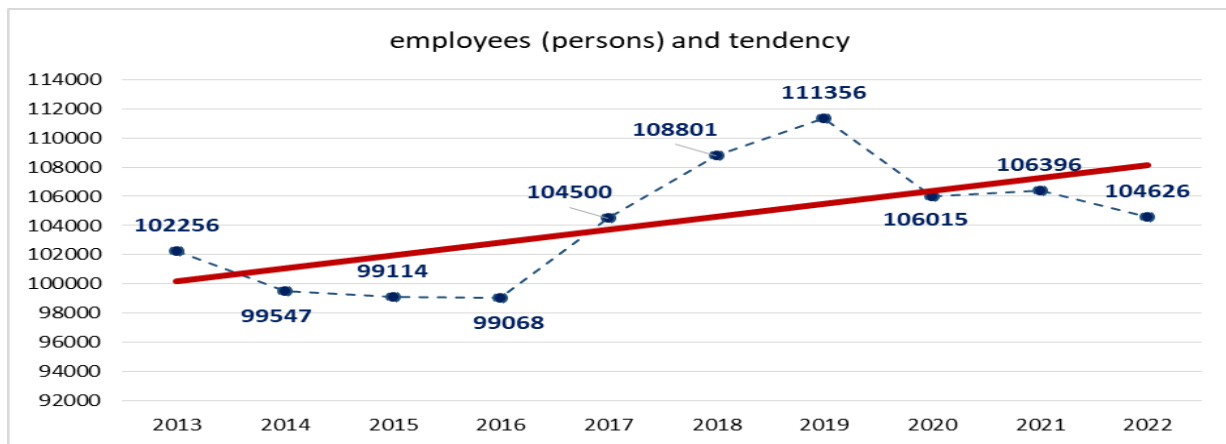


Figure 2. The Republic of Moldova INDUSTRY. Average number of employees, both sexes (in full-time equivalent), 2013-2022, persons

Source: compiled by the author based on (NBS, 2024b)

At the same time, during this period a stable growth in average labour productivity, also expressed in current prices, is also observed (Table 1).

Table 1. Average productivity per employee in Moldovan industry, in current prices, thousand lei

	2014	2015	2016	2017	2018	2019	2020	2021	2022
Value of manufactured industrial production, billion lei (in current prices)	43,54	45,65	47,59	52,71	56,20	59,33	59,65	70,56	85,50
Average number (in full-time equivalent), persons	99547	99114	99068	104500	108801	111356	106015	106396	104626
Average productivity per employee, thousand lei (in current prices)	437,46	460,63	480,41	504,48	516,54	532,82	562,75	663,20	817,21

Source: compiled by the author based on (NBS, 2024a) and (NBS, 2024b)

So, if we'll take into account only the indicators estimated in current prices, then it appears that the challenges of the COVID-19 pandemic and the post-Covid economic effects did not have any negative impact on the average labour productivity, presented in Table 1.

Based on the research carried out, we concluded that, during the analysed period, **the growth of average labour productivity in Moldova's industry is mainly based on the increasing of manufactured products prices.**

Although the data presented above shows us positive dynamics, the **volume indices of industrial production compared to the previous year** (previous year=100) shows us a different situation. Thus, compared to the previous year's indicators, in the period 2014-2022. the index of the volume of industrial output recorded a negative trend (Figure 3).

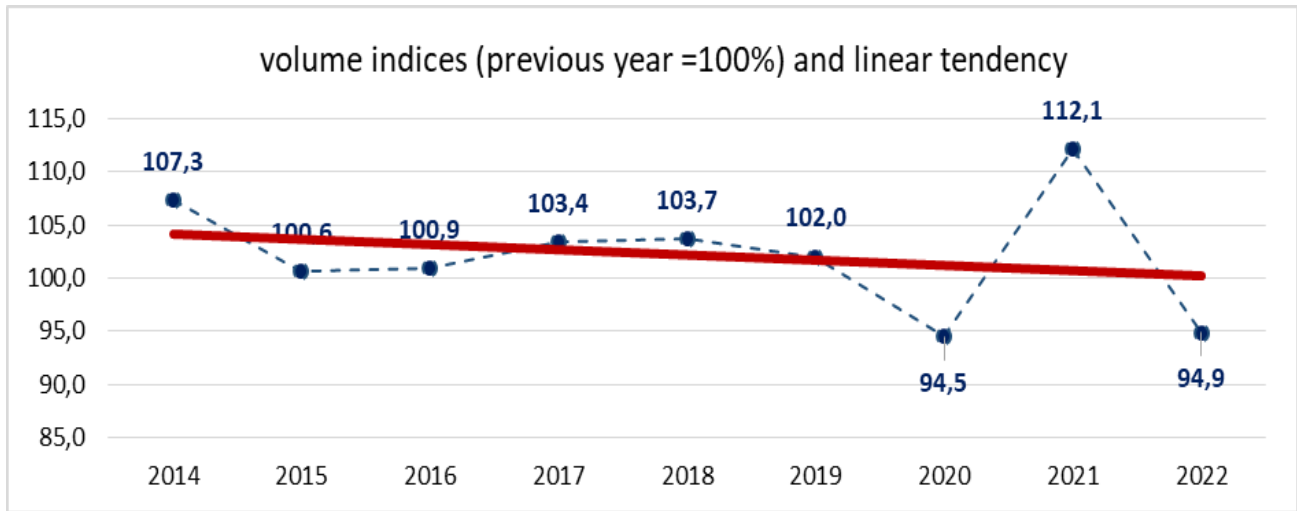


Figure 3. Volume indices of industrial production, previous year =100%

Source: compiled by the author based on (NBS, 2024c)

Continuing this logic, if we determine the *indices of average number of employees* in the industry of the Republic of Moldova *compared to the previous year* (previous year=100), it follows that in the period 2014-2022 it grew by only 1,33%, that is from 97,35% in 2014 to 98,68% in 2022 (Table 2).

Table 2. Indices of average number of employees in Moldova' industry, previous year =100%

	2014	2015	2016	2017	2018	2019	2020	2021	2022
Average number of employees (in full-time equivalent), persons	99547	99114	99068	104500	108801	111356	106015	106396	104626
Indices of average number of employees in Moldova' industry, previous year =100%	97,35	99,56	99,95	105,48	104,11	102,34	95,20	95,54	98,68

Source: compiled by the author based on (NBS, 2024b)

Linear trends of "volume indices of industrial production" and "indices of average number of employees" in Moldova' industry (previous year =100%), reveal that both indicators have a decreasing trend (Figure 4).

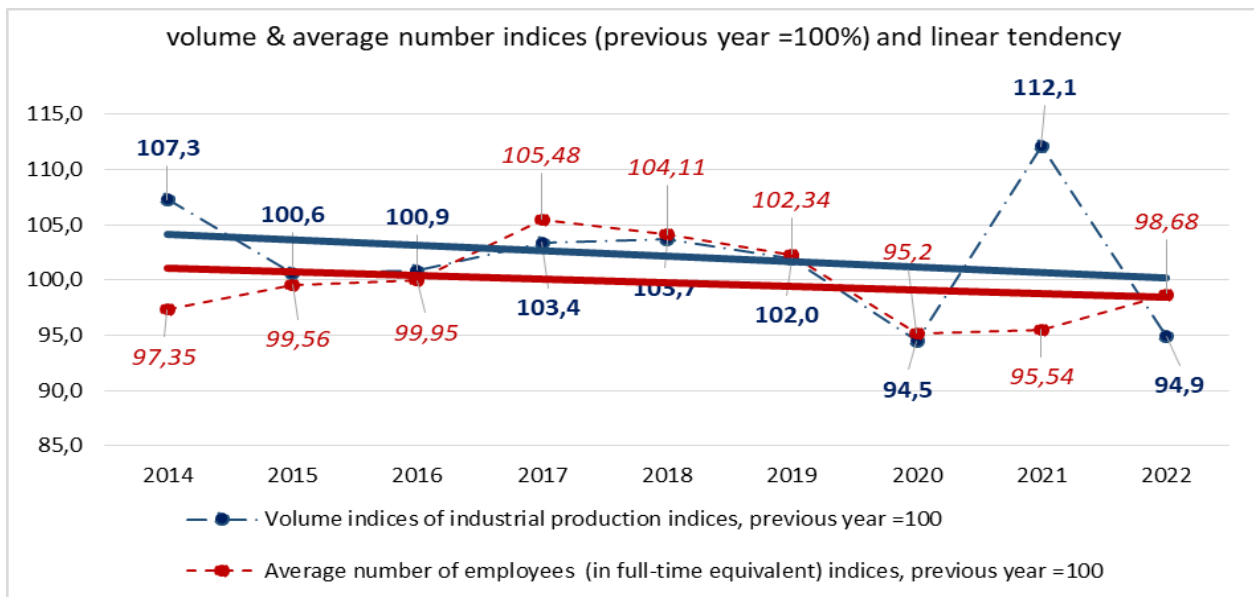


Figure 4. Linear relation of “volume indices vs average number of employee (in full-time equivalent) indices” of industrial production, previous year =100%

Source: compiled by the author based on (NBS, 2024c) and (NBS, 2024b)

Knowing that productivity is the ratio between the quantity of manufactured products and the number of workers who produced them ($W=Q/L$), we see that the **trends** presented in Figure 4 **reveal a decreasing dynamic of labour productivity in the industry of the Republic of Moldova**.

The demographic situation in the Republic of Moldova, as well as the opinions of experts in the field, entrepreneurs and industrial managers of the Republic of Moldova indicate the persistence of the problem of labour shortage in industrial enterprises of our country. Thus, according to the medium-term labour market forecast (2024-2026), developed by the Independent Analytical Centre "Expert-Grup", *"in the medium term, employment growth will be accompanied by an increase in labour shortage. The demand for labour will grow rapidly, and the supply of labour will have an anaemic evolution"* (Expert-Grup, 2023, p. 16)

Same, according to the “Labour Market Forecast for 2023 from the Employers’ Perspective” developed by the National Employment Agency (ANOFM, 2023), in 2022, compared to 2021, there was a twofold increase in the number of economic agents who cited that *the lack of qualified personnel and the low number of staff are one of the main reasons for the failure to fill vacant positions and full-time positions*. The Forecast notes that the manufacturing industry has become the second industry most affected by the labour shortage (14%), after wholesale and retail trade.

The shortage of skilled and unskilled labour is a structural problem of the economy of the Republic of Moldova and, in particular, of the domestic industry. In general, the increase in the total number of people employed in industry over the past ten years has been due to the development of labor-intensive industries. At the same time, employment has sharply decreased in such industries as: production of electrical equipment (-68% compared to 2014), energy (-14%), footwear and leather industry (-26%), car repair and installation (-44%), beverage production (-9%), electronics production (-39%), metallurgy (-74%), etc. The reasons for this decrease were the closure of enterprises due to various crises (financial and banking, pandemic, war in the neighbouring country Ukraine, etc.), the withdrawal of foreign investors from the Moldovan market, as well as the introduction of new

technologies (National Industrial Development Program for 2024-2028).

At the same time, the **investment indices** in the development of **tangible** productive technological potential (engineering structures, machines and equipment) and **intangible assets** (technologies, know-how) demonstrate that the decrease in labour productivity is primarily caused by these components (Figure 5).

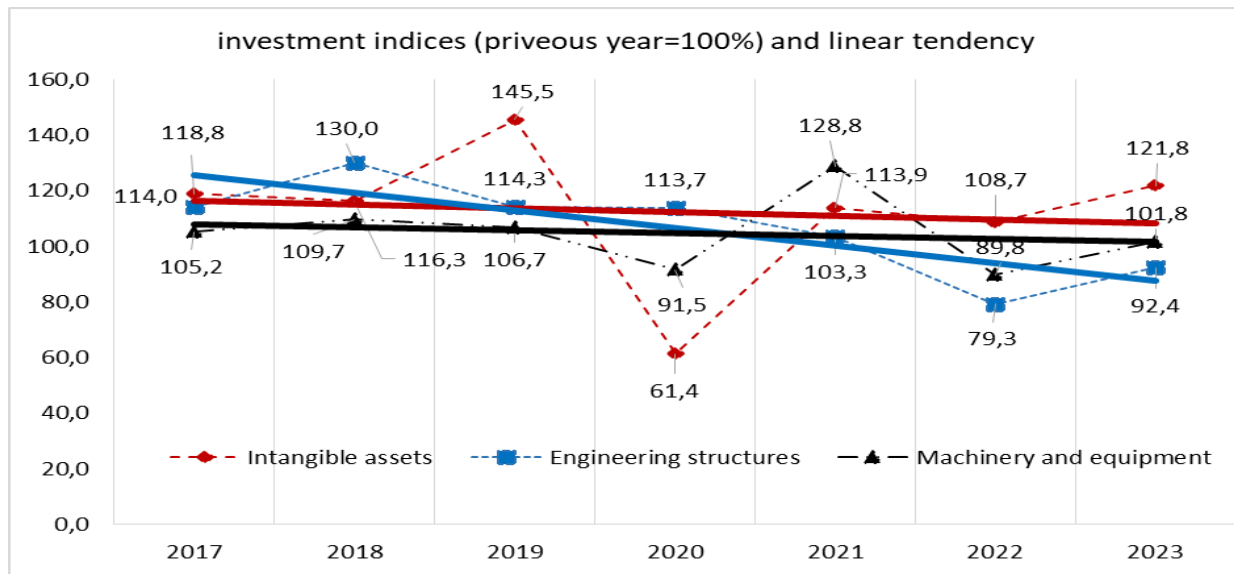


Figure 5. Investments in non-current assets by types of assets, 2017-2023, in percent to the previous year (in comparable prices)

Source: compiled by the author based on (NBS, 2024d)

The trend lines of the three indicators in Figure 5 show **a negative trend of investment preconditions that increase productivity** and, respectively, demonstrate to us the causes of the reduction of real productivity (per real unit of output) in the Moldovan industry. Thus, taking into account the forecasts of the evolution of demand and supply in the labour market (ANOFM, 2023; Expert-Grup, 2023), it is expected that the decrease in labour productivity in the industry of the Republic of Moldova will continue.

Based on the analyses and research carried out, we consider that as a solution to stimulate the productive forces in the Republic of Moldova can be the Industry 4.0 paradigm, which refers to the technological transformation that society is experiencing in the 21st century (Ross & Maynard, 2021) and which involves a new approach to production based on the massive introduction of information technology into industry, large-scale automation business processes and the spread of artificial intelligence.

Industry 4.0 or **the fourth industrial revolution** (Table 3) promotes the transition to fully automated digital production, controlled by intelligent systems in real time in constant interaction with the external environment, overcoming the boundaries of a single enterprise, with the perspective of combining goods and services in an industrial network global. In a broad sense, Industry 4.0 represents a new level of production organization and value chain management throughout the entire product life cycle, and aims to achieve increased productivity and increased worker safety through elimination of dangerous jobs.

Table 3. The first four successive industrial revolutions

Industrial Revolution	Period	Innovation / breakthrough	Results
First	1760 - 1820 /1840	mechanisation, water power, steam power	transition from an agrarian economy to industrial production, development of transport
Second	1871 - 1914	mass production, assembly line, electricity	railways, electrification, flow production, division of labour
Third	since 1970	computer and automation	automation and robotics
Fourth (Industry 4.0)	since 2011	Cyber Physical Systems	distributed production, distributed energy, networked collective access and consumption, replacement of intermediaries with distributed networks, direct access of the producer to the consumer, sharing economy (car sharing, for example)

Source: compiled by the author from (MEDIUM: Manufactory, 18.06.2018) and (TADVISER, 17.10.2017)

The concept of “Industry 4.0” is based on four principles (Abele, 2016; Tarasov, 2018):

- interoperability of humans, machines and cyber-physical systems (*Smart Factories*), which makes it possible to communicate directly via the *Internet of Things* and the *Internet of Services*;
- virtualization and transparency of information, and the ability of systems to create a virtual copy of the Smart Factory which is created by linking sensor data (from monitoring physical processes) with virtual plant models and simulation models;
- technical assistance of machines to humans to collect, combine and analyse large volumes of data and perform a number of tasks that are unsafe for humans and provide the derived insights immediately (*Big Data*);
- the ability of cyber-physical systems within *Smart Factories* to make decisions independently and autonomously.

The main idea of cyber-physical systems is maximum automation, partial or complete exclusion of humans from production and business processes. The problem is that humans are always the weak link. The human factor is very often the cause of errors, inaccuracies, as a result of which the business suffers losses. Moreover, in some industries, human error can even lead to tragic consequences, for example, to injuries at work. Cyber-physical systems allow improving production processes, providing real-time data exchange between such elements as industrial equipment, logistics, business management systems and clients. In addition, cyber-physical systems allow automatic monitoring and control of the entire process, including adaptation of production to the current needs of clients. According to the Industry 4.0 paradigm, in the future, factories and plants will be able to improve and modernize themselves, that is, without or with minimal human involvement. Business processes, logistics, and production cycles will be constantly optimized autonomously. Predictive analytics will play a significant role in this process. Based on the analysis of large amounts of data, it will be possible to predict the probability of a system element or an entire device breaking down, and replace the component before it completely fails.

An example of such a smart factory is Siemens Electronic Works in Amberg, Germany (Hessman, 2013), where human involvement is minimized and the smart system independently monitors the functioning of 1.6 billion components. It also sets production standards and manages logistics flows. The introduction of the technologies of the fourth industrial revolution is radically changing the activities of industrial companies. Back in 2015, the McKinsey Global Institute (Manyika, 2015) predicted a significant gap in performance between companies that had introduced the technologies of the fourth industrial revolution and those lagging behind. Thus, according to the authors of the study, companies that are unable to respond to the current technological trend in a timely manner will miss out on a significant part of the benefits.

Also, in 2017, a study by the consulting company Pricewaterhouse Coopers (PWC, 2017) concluded that the introduction of technologies of the fourth industrial revolution affects productivity increases, allows for better response to customer requests, personalization of products, and reduction of logistics costs.

Same, in 2019, the World Economic Forum and McKinsey & Company (World Economic Forum, 2019) analysed the cases of lighthouse companies that implemented technologies of the fourth industrial revolution. The study concluded that the implementation of these technologies allows increasing production output by 10–200 %, achieve productivity growth by 5–160%, increase overall equipment efficiency by 3–50%, reduce quality costs by 5–40%, increase energy efficiency by 2–50%, speed up production cycles by 10–90%, speed up launching new products by 30-90%, reducing batch size by 50-90%, which makes it possible to make new products more personalized.

The experience of modern *Smart Factories* confirms the impact of Industry 4.0 technologies on the financial performance of industrial companies. Thus, the introduction of new technologies allows increasing revenue by increasing the speed of bringing new products to market and improving the quality of services provided, reducing costs by reducing labour costs, including line managers, repair and maintenance needs, launching production lines, internal warehouse logistics, and electricity.

Also, the introduction of new technologies allows increasing productivity by optimizing the loading and operating modes of production equipment, optimizing logistics and supply chains, improving key product quality characteristics, more accurately forecasting demand, reducing the time of design and bringing products to market, and improving after-sales service. The introduction of new technologies also allows replacing the labour of many workers and specialists and performing the operation more efficiently.

In addition, the experience of technologically advanced enterprises shows that the implementation of technologies of the fourth industrial revolution is achieved through the optimization of production business processes: servicing (design and prototyping, production planning, production analytics, logistics, technical control, occupational health and safety), auxiliary (maintenance and repair, management of tools and equipment, provision of all types of energy) and technological (harvesting, processing, assembling).

Beside these, Industry 4.0 technologies are designed to reduce time to market for new products, improve the effectiveness of customer interactions, promote economies of scale and more efficiently use resources.

Depending on the situation it is in, and the goals it pursues, each industrial enterprise have to adopt its own strategies for implementing the Industry 4.0 concept. When making these decisions, it is necessary to evaluate and appreciate:

- strategic goals for the next few years;
- technologies and systems that have already been implemented and are operating at the enterprise;

- the efficiency of the technologies and systems that have already been implemented at the enterprise;
- steps (stages) to be performed for a successful transformation;
- the benefits that the enterprise wants to obtain.

In the same way, each enterprise must establish its strategic priorities and the sequence in which it will act.

As a result of such a strategic analysis, the enterprise will be able to formulate an operational digital transformation plan for all its structural units, indicating SMART (*Specific, Measurable, Achievable, Relevant, and Time-Bound*) goals.

According to the study "*Industrie 4.0 Maturity Index*" (Schuh Günther, Anderl Reiner, et al., 2017), there are **6 (six) stages in the Industry 4.0 development path**: (Schuh Günther, Anderl Reiner, et al., 2017, pp. 15-18).

I. Computerisation – first stage - the enterprise uses different information technologies, separately from each other, mainly for more efficient performance of repetitive tasks. The used information technologies also help to reduce the cost of production and at the same time bring it to higher standards and greater accuracy. Same, a lot of equipment without a digital interface, controlled manually, continues to be used.

II. Connectivity – second stage - the separate (individually, by each structural units) implementation of information technologies is replaced by interconnected elements, but a full integration of the levels of IT and operational technologies has not yet been achieved. At this stage, manufacturing companies widely use business applications of operational technology systems that are interconnected and reflect the company's key business processes.

Among these systems, in industry, the main ones are: (Zemsky, J., 2024)

- **PLM** – *Product Lifecycle Management systems* aggregate, automate, and centralize the management of product data for distribution across the enterprise. The purpose of PLM is to manage the entire lifecycle of a product, from conception and design, through manufacturing, to after-sale service and even final disposal.
- **ERP** – *Enterprise Resource Planning systems* manage a broad array of business processes across the organization. Domains like supply chain management, operations, personnel, and finance are integrated within ERP systems. Design, engineering, and manufacturing activities also interact with ERP in ways that are critical to the overall smooth operation of the enterprise.
- **MES** – *Manufacturing Execution Systems*, are focused on the production process itself – the fabrication, assembly and quality control activities that result in a discrete product, ready to sell. By monitoring and controlling in-progress production flows, MES can capture data and provide critical, real-time feedback. The result is better-informed decision-making to optimize manufacturing operations.

These systems, if properly implemented and coordinated, can provide significant benefits, both when operated individually and when operating in an integrated manner. Simplified operations, increased efficiency and better quality - these are just a few of the many benefits available from integrated operational technology systems.

III. Visibility – third stage - enterprises widely use sensors that allow them to capture end-to-end processes with a large number of data entry points and record events in real time across the entire company, and not just in specific areas such as manufacturing floors, as it was previously. This makes the current digital enterprise model available at all stages of production.

This data is detailed enough to let observers know exactly what is going on at the factory at any given time, but they may not have the organization to make this possible. At this stage, the presence of the data itself is the only qualifying factor. However, the integration of existing data sources with sensors, as well as integration of PLM, ERP and MES systems can bring significant benefits and provide a comprehensive picture of the current state of production.

IV. Transparency – fourth stage - digital development is moving from increasing technical capabilities to using analytics. To achieve this, manufacturers must learn to interpret and understand the data they collect. Most shop control management software performs this type of analysis automatically, sorting and displaying relevant data in response to user queries. Digital transparency helps the company to understand why certain events occur and use this information to gain insights through root cause analysis, identifying semantic relationships, and aggregating data to obtain relevant information and contextualization. All this provides knowledge about all processes within the enterprise, this knowledge being necessary to support complex and rapid decision-making.

V. Predictive capacity – the fifth stage - manufacturers use the real-time data at their disposal to forecast the future of their production capabilities. This is done in order to imagine different scenarios, the probability of which can then be assessed. As a result, companies can anticipate future events and, as a result, take timely decisions and appropriate actions. This includes information about when downtime may occur, when quality control may fail, where the plant can save energy, and much more. This is another area where shop floor management software plays an important role in reducing the number of unexpected events such as breakdowns or deviations from plan, ensuring a more stable operation of the plant. For example, a company could look at recurring logistics problems, such as carrier breakdowns, before they happen and prevent them - in this case, by changing carriers.

VI. Adaptability the sixth stage - is a fundamental requirement for automated decisions and automated decision making. Digital systems in the enterprise have the ability to operate independently, using their analytical and predictive capabilities. Continuous adaptation allows the industrial enterprise to transfer responsibility for making certain decisions to IT systems in order to adapt as quickly as possible to a changing business environment. Digital systems can take steps to adapt to changing conditions as they evolve, organizing personnel and their responsibilities to manage routine operations as well as emergencies and emerging problems.

Finley, it should be noted that, in order to implement the concept of Industry 4.0, there are few developed technologies, but it is much more important to build on their basis a harmonious ecosystem both within an enterprise and along the entire value chain. Already today, individual business processes are successfully moving into the digital environment, but at the same time they remain "isolated islands" in a sea of analogue interactions. A deeper digital integration is hampered by "bottlenecks" – business processes that rely entirely on people and depend on their bandwidth and cognitive resources. There are many such "bottlenecks" in every industry and any digital transformation strategy should include their identification, analysis and development of specific measures to reduce "human dependency".

Thus, investments of industrial companies in the technologies of the fourth industrial revolution allow changing the innovative behaviour of an industrial company and increasing the efficiency of production, expressed by increasing flexibility and adaptability, increasing the customization of goods and services, individualization and reduction of manufactured batches of goods, reducing the time of prototype development, launching new products on the market and increasing the overall level

of technological development, accelerating the production cycle and increasing labour productivity, which ultimately leads to an increase in revenue and a decrease in cost.

Conclusion

The growth of the population's well-being is closely linked to the capacity of society to produce values that satisfy or contribute to the satisfaction of individual and collective needs. A country is richer when it has developed value-producing capabilities. Industry is the economic branch, which, by its essence of combining economic factors (material resources acquired from nature or obtained through processing, human resources, financial and capital resources, informational resources) constitutes the driving force of economic and social development. A well-functioning and active industry ensures sustainable development and predictable well-being.

The industrial activity in the Republic of Moldova is carried out in the context of an ongoing demographic crisis and an increasing flow of emigrants. Thus, in the period 2014-2022, the number of permanent residents in the country decreased by about 12.42%, while the flow of emigration (temporary and permanent) increased almost 2-fold. Accordingly, the decrease in the number of people of working age has exacerbated the shortage of labour employed in the industry.

The comparative analysis of statistical data reveals a downward trend in labour productivity, the main cause being the decrease in tangible (physical, engineering structures, machines and equipment) and intangible (technologies, know-how) investments.

In this context, it is reasonable to conceive and promote the development of the industry of the Republic of Moldova in accordance with the paradigm of "Industry 4.0", based on the digitalization and automation of production processes.

Thus, implementation of technologies of the fourth industrial revolution is achieved through the optimization of production business processes. Industry 4.0 or the fourth industrial revolution promotes the transition to fully automated digital production, controlled by intelligent systems in real time in constant interaction with the external environment, overcoming the boundaries of a single enterprise, with the perspective of combining goods and services in an industrial network global. In a broad sense, Industry 4.0 represents a new level of production organization and value chain management throughout the entire product life cycle, and aims to achieve increased productivity and increased worker safety through elimination of dangerous jobs.

There are six stages in the Industry 4.0 development path: Computerisation, Connectivity, Visibility, Transparency, Predictive capacity, and Adaptability. In order to implement the concept of Industry 4.0, there are few developed technologies, but it is much more important to build on their basis a harmonious ecosystem both within an enterprise and along the entire value chain.

A deeper digital integration is hampered by "bottlenecks" – business processes that rely entirely on people and depend on their bandwidth and cognitive resources. However, by implementing the Industry 4.0 paradigm, in the future, factories and plants will be able to pass these constraints and to improve and modernize themselves, without or with minimal human involvement in dangerous processes. Business processes, logistics, and production cycles will be constantly optimized autonomously.

Thus, investments of industrial companies in the technologies of the fourth industrial revolution allow changing the innovative behaviour of an industrial company and increasing the efficiency of production, expressed by increasing flexibility and adaptability, increasing the customization of goods and services, individualization and reduction of manufactured batches of goods, reducing the time of prototype development, launching new products on the market and increasing the overall level

of technological development, accelerating the production cycle and increasing labour productivity, which ultimately leads to an increase in revenue and a decrease in cost.

These measures will allow to solve the problem of labour shortage observed in Moldova, as well as to bring the level of industrial and technological development to a globalised competitive level.

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CONTRACTS AND THEIR ADAPTATION TO EXTERNAL CHANGES: FROM HARDSHIP CLAUSES TO JUSTIFYING IMPEDIMENTS

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Abstract: In the context of increasing global uncertainties, such as economic crises, pandemics, and regulatory changes, contract adaptation mechanisms have become essential tools for maintaining stability in commercial relationships. This study examines the role and effectiveness of specific contractual clauses, namely hardship clauses and justifying impediments (such as force majeure), in enabling parties to adjust their obligations and mitigate risks arising from unforeseen external changes. The research aims to provide a comprehensive analysis of the theoretical foundations, legal frameworks, and practical applications of these clauses, focusing on how they can be utilized to preserve the equilibrium of contractual relationships under conditions of significant change.

The study begins by defining and differentiating between hardship clauses and justifying impediments, exploring their historical evolution and legal underpinnings in various jurisdictions. Through a comparative analysis, the paper illustrates how these clauses have been invoked and interpreted in recent years, particularly in response to crises such as the COVID-19 pandemic and geopolitical conflicts. Furthermore, the research highlights the impact of such clauses on contractual stability and the challenges faced by parties in negotiating and applying them effectively.

The findings suggest that while both hardship and justifying impediments clauses are valuable tools for contract adaptation, their effectiveness largely depends on the clarity of their terms, the foreseeability of the events, and the specific legal environment in which they are applied. The paper concludes with strategic recommendations for drafting and negotiating these clauses to better manage contractual risks, enhance adaptability, and maintain commercial relationships in volatile environments.

Keywords: contract adaptation, hardship clauses, justifying impediments, force majeure, external changes, risk management

JEL Classification: K15, K20.

1. Introduction: the relevance of contract adaptation in the knowledge economy

Contracts are essential tools in the business world, but in the face of constant economic changes, they must be more than just static agreements. In the knowledge economy, characterized by rapid innovation, digitalization, and global interdependencies, the ability of contracts to adapt to unpredictable external conditions has become crucial. The emergence of unexpected events, such as economic crises, technological innovations, or legislative changes, can cause significant imbalances in commercial and contractual relationships (Stănescu C. and Bârsan C., 2000).

To maintain stability and trust between parties, it is essential for contractual relationships to include flexible mechanisms capable of addressing these challenges. Hardship clauses and excusable impediments are two such mechanisms that allow for the adjustment or, in some cases, even the suspension of contractual obligations depending on external circumstances. Thus, they become not

only legal tools but also means of contractual innovation, ensuring a balance between the rights and obligations of the parties (Cazacu O., 2020).

The aim of this article is to explore how hardship clauses and excusable impediments contribute to the adaptation of contracts to external changes, analyzing their efficiency and applicability in various jurisdictions and within the current economic context. The objectives are to assess the impact of these contractual instruments on commercial relationships and to propose solutions for improving the flexibility and fairness of contracts.

In our analysis, we will first examine hardship clauses and excusable impediments, investigating how these tools contribute to managing unforeseen changes. We will then explore recent innovations in the contractual field and their impact on commercial practice. Finally, we will focus on the challenges encountered and the proposed solutions for ensuring the effective adaptation of contracts to external changes.

2. Data and methodology

To analyze how hardship clauses and justifying impediments are applied in practice and influenced by external changes, this article employs a research methodology based on a combination of theoretical and practical approaches. A detailed legal analysis was conducted on relevant national and international legislation, including the Civil Code of the Republic of Moldova, European Union directives, and other regulations applicable in various jurisdictions.

Additionally, judicial decisions and contractual practices from different countries were studied to highlight how these legal tools have been implemented and interpreted in concrete contexts.

The research also includes a review of the specialized literature to identify current trends and challenges in the use of hardship clauses and excusable impediments. Both primary and secondary sources, such as scientific articles, case studies, and legal reports, were used to provide a comprehensive perspective on the subject. This method allows for a critical evaluation of legislative gaps and practical challenges while also offering solutions and recommendations for improving the legal framework and contractual practices.

In addition to the legal and literary analysis, the article utilizes comparative case studies to illustrate how hardship clauses and justifying impediments have been applied in practice across different jurisdictions. These case studies offer a deeper understanding of how contractual innovations and adaptations have been integrated in response to external changes, highlighting both best practices and difficulties encountered during implementation. The chosen methodology allows for not only a descriptive approach but also an analytical one, capable of providing a solid foundation for the recommendations and conclusions presented in this article.

3. Literature review

This article explores how hardship clauses and justifying impediments are applied and adapted in commercial contracts, drawing on relevant legal and economic studies.

Amarîța (2006) offers an analysis of force majeure clauses in comparative law, highlighting the differences and similarities across various legal systems. This comparative approach is essential for understanding how these clauses are applied in different legal and cultural contexts. Additionally, Jaffa (2023) discusses the implications of force majeure clauses in the context of war, emphasizing the complexity of legal challenges that arise during crises.

The studies by Plotnic and Popescu (2022) focus on the impact of force majeure on intellectual property contracts, providing an innovative perspective on how these clauses can protect the rights of the involved parties. Furthermore, Plotnic and Praporščic (2023) extend their analysis to the effects of the pandemic on the business environment, underlining the importance of hardship clauses and excusable impediments in maintaining contractual balance amid significant global changes.

In the context of national legislation, the Civil Code of the Republic of Moldova (2002) plays a crucial role in defining the conditions under which a contractual obligation may be excused by an external, unforeseeable, and unavoidable impediment, as specified in Article 904. This clarifies how national legislation protects contractual rights in the face of unforeseen events, providing a solid legal framework for the interpretation and application of hardship clauses (Civil Code of the Republic of Moldova, 2002).

Through his research, Praporščic (2023) explores the impact of excusable impediments on contractual relations, highlighting the differences between national legislation and international approaches in addressing this concept. These studies are complemented by Cazacu (2020), who offers an updated interpretation of Article 904 of the Civil Code, emphasizing the need for clarifying existing regulations to address contemporary challenges.

In conclusion, the specialized literature underscores the importance of clear and uniform regulations to ensure the fair application of hardship clauses and excusable impediments across various jurisdictions, thus protecting contracting parties against unforeseen external changes.

4. Hardship clauses: adaptation and challenges in contractual practice

Hardship is not currently regulated in Moldovan law but can be defined as the loss suffered by one of the contracting parties due to the deterioration of the value equivalence between its performances and the counter-performances of the other party during the execution of the contract, caused by objective events. There is also no regulation of hardship in EU law at this time, only a proposal in the draft European Private Code, according to which hardship would be regulated in Article 6:111.

Hardship clauses are essential legal instruments that allow contracting parties to modify or suspend contractual obligations in the event of unforeseen events that significantly affect the execution of the contract. These clauses are based on the legal concept that contractual balance must be maintained even in the face of unexpected changes, such as economic crises, drastic legislative changes, pandemics, or natural disasters. They provide a flexible adjustment mechanism adaptable to a wide range of unforeseen situations while ensuring the protection of the interests of both contracting parties (Chibac, G., Băieșu, A., Rotari, A. and Efrim, O., 2010).

Essentially, a hardship clause allows for the renegotiation of contract terms when a major and unpredictable change makes the initial execution of the contract extremely burdensome or impossible for one party. For example, a contract may stipulate price adjustments, extensions of delivery deadlines, or even contract termination under certain circumstances. However, the application of these clauses is conditional upon meeting strict criteria: the event must be unforeseen, unavoidable, and must create a significant disproportion in the execution of the parties' obligations. (Cuznețov, A., 2016)

The application of hardship clauses varies significantly among different jurisdictions, each having its own rules and interpretations. In most civil law systems, such as those in France, Italy, or Romania, the principle of hardship is recognized as a justification for renegotiating or adapting the contract. In France, for example, Article 1195 of the Civil Code allows a party to request the renegotiation of a

contract if economic changes make its execution impossible without substantial losses. However, if the parties cannot reach an agreement, courts may intervene to modify or terminate the contract.

In common law jurisdictions, such as the UK, hardship clauses are less common, as courts are reluctant to intervene in contracts. In these jurisdictions, the concept of "frustration" applies only in extreme cases, where the event renders contract execution impossible, not merely more difficult or costly. However, courts tend to apply this concept restrictively, limiting its practical application. A notable example is the English case *Davis Contractors Ltd v. Fareham Urban District Council* (1956), where the court decided that rising construction costs due to changing economic conditions do not constitute sufficient grounds to invoke "frustration." This illustrates the challenges faced by parties attempting to apply hardship clauses in common law jurisdictions, where judicial intervention in contracts is strictly limited (Stone, R. and Devenney, J., 2017).

In the energy sector, hardship clauses are widely used to address market volatility and price fluctuations. For instance, in natural gas supply contracts, hardship clauses are often invoked in the context of significant price increases in the global market, as seen during recent energy crises. However, the interpretation of these clauses may vary depending on the specific contract and applicable jurisdiction, potentially leading to complex litigation.

These examples illustrate both the importance of hardship clauses and the challenges encountered in their application. Although they provide some protection against unforeseen changes, the effective use of these clauses requires a deep understanding of the specific legal and economic context of each jurisdiction. Moreover, the clauses must be drafted clearly and prudently to minimize ambiguities and protect the interests of the contracting parties.

5. Justifying impediments: legislation and implementation in the global context

5.1. Defining justifying impediments: characteristics and differences from similar concepts

Justifying impediments refer to those external and unforeseen circumstances that prevent parties from fulfilling their contractual obligations without fault. They differ from similar concepts, such as force majeure, by being broader and more flexible in nature. While force majeure is typically limited to extraordinary and inevitable events, such as natural disasters, wars, or pandemics, justifying impediments can also include a wider array of situations, such as severe economic changes, unforeseen legislative interventions, or other events that disrupt contractual balance. (Pop, L., 1996)

In civil law, a justifying impediment implies that a contracting party cannot be held liable for the non-performance of an obligation if this is due to an event beyond its control that could not have been anticipated or avoided. Unlike force majeure, which involves a high degree of objective impossibility, justifying impediments may also encompass circumstances in which execution becomes excessively burdensome, without necessarily being impossible. This flexibility provides a broader range of legal protection, allowing for the adaptation of contracts to various types of external risks. (Civil Code of the Republic of Moldova, 2002).

5.2. Applicable legislation and examples: analysis of national and international legislation

In the Republic of Moldova, justifying impediments are primarily regulated by Article 904 of the Civil Code of the Republic of Moldova (Law no. 1107-XV of 2002 regarding the Civil Code of the Republic of Moldova). This provision stipulates that non-performance of an obligation is justified if it results from an impediment that could not have been controlled by the debtor, and if the debtor

cannot reasonably be required to avoid or overcome the impediment or its consequences. The concept thus allows for a more balanced approach in contractual relationships, providing an appropriate legal solution for cases where external events disrupt the normal execution of the contract. (Plotnic, O. and Popescu, L., 2022)

In EU legislation, similar principles can be found in Directive 2011/83/EU on consumer rights and other regulations regarding consumer protection and the execution of contractual obligations. These rules emphasize transparency, fairness, and consumer protection in the face of unforeseen external circumstances. (Ciobanu, N., 2014). For example, the Directive on Unfair Terms in Consumer Contracts (93/13/EEC) states that any clause that creates a significant imbalance to the detriment of the consumer is considered null and void. This may include situations where the consumer is affected by a justifying impediment, without having the possibility to renegotiate or modify its obligations. (Plotnic, O. and Praporșcic, V., 2023)

An example of effective application of justifying impediments can be found in European jurisprudence during the global financial crisis of 2008, when courts in several member states allowed for the adaptation of commercial contracts based on justifying impediments. For instance, in Spain, courts accepted arguments regarding fundamental changes in economic circumstances as a reason for adjusting prices in long-term rental contracts. In France, courts recognized hardship clauses, similar to justifying impediments, allowing parties to renegotiate contracts when their execution became extremely difficult due to drastic economic changes. (Beale, H., Fauvarque-Cosson, B., Rutgers, J. and Tallon, D., 2010)

In a global context, the concept of justifying impediments is also reflected in the United Nations Convention on Contracts for the International Sale of Goods (CISG). Article 79 of the CISG states that a party is not liable for the non-performance of its obligations if this is due to an impediment beyond its control and if it could not reasonably be expected to have taken the impediment into account at the time of the conclusion of the contract or to have avoided or overcome its consequences. (Fisher, R., Ury, W. and Patton, B., 2011). These examples and legislative frameworks underscore the importance of the concept of justifying impediments in contemporary contract law, highlighting the need for flexible mechanisms that allow for contract adaptation in the face of unforeseen and unavoidable external changes. The concept thus provides an essential balance between the protection of rights and the adaptability of obligations across various legal systems (Amarîța, A., 2006).

6. Innovation and adaptability in contracts: contemporary trends and practices

Technological and economic innovations have profoundly transformed the field of contracts, influencing both the drafting and application of unforeseeability clauses and justifying impediments. As the global economy becomes increasingly complex and interconnected, modern contracts require greater flexibility and adaptability to external changes. Emerging technologies, such as blockchain and artificial intelligence (AI), have significantly altered how contracts are negotiated, executed, and monitored, bringing new opportunities as well as challenges. (Praporșcic, V., 2023).

Blockchain and smart contracts represent a revolution in the legal and business fields, enabling increased automation of contractual execution and unprecedented transparency. Smart contracts that run on blockchain platforms allow for the automatic inclusion of clauses related to unforeseeability and justifying impediments. For instance, a smart contract can contain code that automatically triggers the renegotiation of contractual terms or temporarily suspends obligations in the event of a force majeure or an unforeseen

circumstance, such as a pandemic or a sudden economic crisis. This reduces the risk of conflict between parties and minimizes the need for judicial intervention (McKendrick, E., 2022).

Artificial intelligence (AI) also contributes to contract drafting by using machine learning algorithms to analyze risks and generate customized clauses based on the specific context of each contract. This includes identifying and assessing external risks, such as market fluctuations, regulatory changes, or climate risks that may impact contractual performance. For example, AI can recommend the inclusion of adaptability clauses that automatically adjust price conditions or delivery terms based on external developments (Klein, N., 2020).

Technological innovations have also led to the development of digital dispute resolution platforms that utilize online mediation and arbitration to swiftly and effectively resolve conflicts arising from non-fulfillment of contractual obligations due to unforeseen events. These platforms help reduce costs and the time required for dispute resolution, facilitating a quicker and more flexible adaptation to external changes (Peel, E., 2015).

A notable example of integrating technological innovation into contractual practice is the use of smart contracts in the logistics and maritime transport sector. In this field, fluctuations in oil prices and supply chain disruptions due to the COVID-19 pandemic created an acute need for contractual flexibility. Blockchain-based smart contracts have been used to include unforeseeability clauses that automatically trigger price adjustments and changes to delivery terms when significant fluctuations in fuel costs or delays caused by government restrictions occur. These practices have demonstrated significant success in reducing disputes and maintaining long-term commercial relationships (Jaffa, L., 2023).

In the financial sector, the use of artificial intelligence for credit and risk analysis has led to the creation of dynamic loan contracts that automatically adjust interest rates and repayment terms based on global financial market conditions. This innovative approach has been adopted by major financial institutions in Europe and the United States to mitigate default risks and increase transparency and predictability for both parties involved in the contract.

Thus, technological innovations have a significant influence on the drafting and application of unforeseeability clauses and justifying impediments (Pop, L., 2020). They allow for greater flexibility and adaptability in the face of external changes, contributing to the development of fairer and more efficient contractual practices. Additionally, case studies of new contractual practices demonstrate how technology can be effectively used to address external risks and promote stability and trust in commercial relationships.

7. Challenges in implementing unforeseeability clauses and justifying impediments: analysis and recommendations

The implementation of unforeseeability clauses and justifying impediments in contemporary contracts faces several significant challenges, especially in the context of unexpected events such as economic crises, pandemics, or natural disasters. The difficulties encountered by contracting parties and courts in interpreting and applying these clauses are primarily due to factors such as the ambiguity of contractual formulations, the lack of uniform legal standards, and the diversity of legal practices across jurisdictions (Plotnic, O. and Praporscic, V., 2023).

One of the main difficulties in applying unforeseeability clauses relates to the ambiguity and generality of the formulations. Contracts often contain unforeseeability clauses drafted in vague terms, leaving room for multiple interpretations and leading to legal uncertainty. For example, terms

such as "unforeseen events" or "significant changes in circumstances" may have different connotations depending on the jurisprudence of each country, which can lead to contradictory decisions. Additionally, courts are often reluctant to intervene in terms freely negotiated by the parties, limiting the ability to adapt the contract to external changes (Klein, N., 2020).

Another major challenge is the legal diversity among jurisdictions. While European legislation tends to be more uniform, regulations and their application vary significantly between countries. For example, in some jurisdictions, such as France or Italy, the principle of unforeseeability is legally recognized and regulated, while in others, such as England, traditional common law doctrines do not allow judicial intervention to modify contract terms due to economic changes. This diversity creates confusion and difficulties for parties operating internationally (Ewan, M., 2021).

Moreover, technical and technological challenges affect the implementation of these clauses. For instance, in the context of using smart contracts and blockchain technologies, there are difficulties in programming unforeseeability clauses that take into account all possible variables and allow the necessary flexibility to adequately respond to external changes.

7.1. Practical solutions and recommendations

To improve the efficiency and clarity of the application of unforeseeability clauses and justifying impediments, it is essential to adopt a more standardized and clear approach to contract drafting. Precise and detailed formulations can reduce the risks of misinterpretation and ensure better legal predictability. Utilizing model guidelines or standardized clauses developed by international organizations, such as the International Chamber of Commerce (ICC), can provide a common reference point for contracting parties. (Smith, J. and Brown, L., 2021)

Legal harmonization at the international and European level could also help reduce disparities among different jurisdictions. European institutions could develop additional directives or guidelines for the uniform interpretation and application of unforeseeability clauses and justifying impediments, which could be integrated into national legislations. This would facilitate consistent application and support the development of a uniform practice in the contractual field (Praporščic, V., 2023)

On a technological level, improving the design of smart contracts should include flexible programming solutions that allow for automatic adaptations, as well as mechanisms for human oversight to resolve exceptional cases that cannot be managed through code. Additionally, online arbitration and mediation platforms could be developed to provide rapid and efficient solutions in disputes regarding the application of unforeseeability clauses (Gheorghiu, A., 2020).

In conclusion, a combination of legal clarity, international legislative harmonization, and technological innovation can help overcome current challenges and improve the application of unforeseeability clauses and justifying impediments in modern contracts.

Conclusions and recommendations

This article has explored the complexity of adapting contracts to external changes through the use of unforeseeability clauses and justifying impediments, highlighting the importance of these legal tools in maintaining contractual balance in the face of unforeseen events. The crucial role of legal clarity, legislative harmonization, and technological innovation in improving the application and efficiency of these clauses has been emphasized. The case studies and examples analyzed have shown how various jurisdictions and business practices have addressed the challenges posed by unforeseeability and justifying impediments, offering valuable lessons for practitioners and lawmakers.

Recommendations for practitioners and companies include adopting more detailed and well-defined contractual clauses that prevent ambiguity and provide greater legal certainty. It is essential to use standardized clause models and to ensure sufficient flexibility to adapt contracts to unforeseen circumstances. Additionally, companies should regularly assess external risks and include appropriate risk allocation mechanisms in their contracts, relying on specialized legal advice and successful international practices.

For lawmakers, it is recommended to harmonize national legislation with international and European norms to provide a uniform and predictable framework for the application of unforeseeability clauses and justifying impediments. Clear, well-defined legislation that explicitly regulates these clauses will support the development of a fair and stable legal environment, thereby contributing to trust in commercial relationships. In the long term, further research is necessary regarding the adaptation of contracts to external changes, exploring new trends and challenges posed by globalization and digitalization. Researchers should investigate the impact of emerging technologies, such as artificial intelligence and blockchain, on the drafting and implementation of contracts, as well as their potential to enhance efficiency and transparency in the application of unforeseeability clauses and justifying impediments. This could contribute to the development of more dynamic and resilient contractual instruments capable of facing the challenges of an ever-changing economy.

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CLUSTERING OF BUSINESSES IN THE REPUBLIC OF MOLDOVA: ANALYSIS OF ECONOMIC DEVELOPMENT PROSPECTS

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Abstract: In the context of the National Industrial Development Program for the years 2024-2028, supporting the cluster development in the industrial sector of the Republic of Moldova, represents a priority strategic direction for strengthening business infrastructure. Clustering, broadly conceptualized as a geographical concentration of companies and innovation activities, has become essential for increasing economic competitiveness on a regional scale. In the Republic of Moldova, this process is seen as an essential way to increase the operational efficiency of companies by facilitating access to common resources such as advanced technology, know-how and specialized infrastructure. Clustering allows small and medium-sized enterprises to strengthen their internal capabilities and to collaborate with other entities in the same sector and in associative sectors, leading to increased innovation and optimization of production processes. This article focuses on the opportunities for financing and developing business clusters in the Republic of Moldova, highlighting the role of government support, international organizations and the readiness of entrepreneurs to collaborate in order to create an enabling environment for innovation and sustainable economic growth. It also analyzes the impact of this initiative on the competitiveness and performance of the key regions of the Republic of Moldova. Finally, it is emphasized that the success of this initiative depends on effective collaboration between the public, private and academic sectors and adaptability to the dynamics of international markets.

Keywords: business, clustering, financeing, competitive advantage, competitive advantage, management, strategies

JEL Classification: O1, M1, M2.

Introduction

In conditions of global turbulence, the business clustering approach, which is a new model with a history of development in the EU, contributes to the creation of a system of functional interaction between education, science, business and public administration. The cluster approach is relatively a new management technology that improves the competitiveness of industry, the region and the country's economy as a whole. Thus, organizations and companies are integrated into the cluster, interacting with each other according to the geographic principle and organizing their activities in a specific area.

Because it promotes collaboration between different institutional and economic groups, business clustering is an important approach for the Republic of Moldova's economic development. Drawing from insights gained through author's involvement in cluster development projects, it has been demonstrated that this approach significantly fosters innovation, enhances industry competitiveness, and supports sustainable economic growth. The establishment of clusters enables SMEs in the Republic of Moldova to adopt an advanced regional economic framework, contributing to long-term development objectives.

Its primary goals are to improve energy efficiency, green production methods, and the added value of goods and services while also adapting to the community's social needs. Opportunities for the effective use of resources like energy, infrastructure, forestry, and water will be created by such an economy, improving the region's general (Iordachi et al., 2018).

The Republic of Moldova has implemented the clustering model, drawing inspiration from European Union practices, where this concept has demonstrated a significant impact on regional development and economic competitiveness. This model has been transposed into the national context through public policy instruments and legislative initiatives aimed at stimulating cooperation between economic actors and strengthening their innovation capacity, as detailed below.

Results

The European Union, together with the Government of the Republic of Moldova, is supporting the development of clusters through measures focused on the diversification and expansion of strategic industries. These actions facilitate the strengthening of the SME sector and boost sustainable growth, contributing to the country's economic progress. Priority areas for the development of clusters and their formation have been determined in earlier program documents:

1. Innovation Strategy of the Republic of Moldova for 2013-2020 "Innovation for Competitiveness" (Government of the Republic of Moldova, 2013a).
2. Roadmap for improving Moldova's competitiveness (Government of the Republic of Moldova, 2014).
3. The concept of cluster development in the industrial sector of the Republic of Moldova (Government of the Republic of Moldova, 2013b).
4. National Development Strategy "European Moldova 2030 (Government of the Republic of Moldova, 2024).
5. National Industrial Development Program for 2024 - 2028 (National Industrial Development Program, 2024).

Numerous researches, both from local and international sources, emphasize that one of the most effective tools to support the development of the eco-economy in the Republic of Moldova is the promotion of business clusters. This model contributes significantly to stimulating collaboration, innovation and competitiveness among economic actors. According to the model of cluster development in the industrial sector of the Republic of Moldova (Government of the Republic of Moldova, 2014), the following main factors negatively influence business growth in the country: SMEs and large enterprises have a low level of association.

- Innovations are not fully integrated into the real economy due to a lack of cooperation between companies and research and innovation institutions, which affects how well they meet the demands of the productive sector (Government of the Republic of Moldova, 2014).
- Businesses find it challenging to offer competent people when corporations and educational institutions do not effectively cooperate.
- Effective resolution of significant common issues is hampered by poor communication in the workplace, which is brought on by a lack of trust between internal and external partners.
- Underdeveloped partnerships between local authorities and businesses hinder the effectiveness of collaboration and make collaborative efforts challenging to execute.

- Insufficient personal funds, no funding from budgetary sources, and exorbitant interest rates on loans limit development (Government of the Republic of Moldova, 2014).

Assuming what has already expressed, the establishment of cluster positions and activities at the level of government policy requires the following ministries, as shown in Table 1.

Table 1. Institutions involved and responsibilities in the cluster development process

Institution	Responsibilities
Ministry of Economic Development and Digitization	Main actor responsible for developing and coordinating general policies in the field of entrepreneurship, with a focus on SME and cluster development.
Minister for Agriculture and Food Industry	Responsible for designing and implementing development strategies in agriculture and food industry.
Minister for Infrastructure and Regional Development	Responsible for developing and implementing regional policies and coordinating the infrastructure needed to support them.
Ministry of Culture	Policy Development Officer for Culture and Tourism
Other ministries	Policy-makers complementary to business environment development and cluster policy implementation, with various responsibilities and tasks
Organization for Entrepreneurship Development	Support cluster initiatives at all formative stages, providing advisory, training and financial support for the development of MSMEs and clusters
Investment Attractiveness Agency	Promoting the brands of clusters and local companies, attracting investors for development
Institute of Economics, Finance and Statistics	Scientific-methodological support in cluster policy design and development
National Agency for Research and Development	Support and promote the innovative and sustainable development of clusters to boost competitiveness and long-term economic growth.
Universities, higher education and dual education institutions	Special research and training of professionals according to market and cluster members' requirements
Regional Development Agencies	Networking with the business community and implementing regional development policy
Chambers of commerce and industry, industry associations, business incubators	Facilitate and support business relations and actively promote the concept of clustering with a view to creating strategic partnerships and increasing market competitiveness.

Source: systematized by author

In the context of policies and interventions to support clusters, a very important aspect to consider is the institutionalization of clusters.

Institutionalized organization, which includes a dedicated management entity, is the most advanced form of cluster structuring, offering multiple benefits for increasing the efficiency of collaboration among key actors and strengthening their competitive advantages. However, this type of organization is only feasible in mature and well-dimensioned clusters with sufficiently strong key actors able to manage and support dedicated management entities.

The cluster management entity is the organization designated by the cluster members to represent them in relations with third parties. In general, there are three major possible forms of institutionalized cluster organization based on cluster initiating entities:

- **Industry Driven** - when the management entity is represented by an association of enterprises (Producers' Association, Cooperative, Export Consortia, etc.). It is considered to be the most efficient form of institutional organization of cluster management, as its strategic and operational objectives are dictated directly by the firms in the sector. In Romania, examples can be Romanian Textile Concept (2024) or Pro Wood (2024).
- **Research Driven** - when the managing entity is a university or research institute. This type of managerial organization has a strong advantage in terms of innovation, but it is less efficient than the first one, as it requires a considerable effort to harmonize the R&D-innovation offer with the real needs of business. In Romania, an example is the *Indagro Pol* cluster (<http://www.inma.ro/indagropol/>), run by the National Research and Development Institute for Agricultural and Food Industry Machinery and Installations (Indagro Pol, 2024).
- **State Driven** - when the managing entity is a local or regional public authority (regional development agency, local/regional public administration, etc.). Although it has the advantage of direct financial support from the state, it is the most vulnerable type of cluster in terms of sustainability, risking extinction as public support diminishes or ceases. This type is widespread in Europe. For example, all clusters in Lower Austria are clusters of this type, managed by the Regional Development Agency of the respective Land (Ecoplus Austria, 2024). In Romania, examples are *Imago Mol* (2024), run by the North East Regional Development Agency or *Euronest* (2024), run by the Iasi County Council.

A cluster's organizational structure plays an important role since it provides its binding nature and ensures that its members are transparent and accountable through its formal organization and collaboration standards.

According to the author, this in turn forms the foundation for beneficial trust, which is the basis of productive collaboration. The cluster's organizational structures additionally encompass management responsibilities and member benefits. This promotes an aspect of cluster "corporate identity" to grow, which has an important impact on a cluster management's competitiveness and dynamism.

The core elements of the organizational structure of cluster management are (Iordachi et al., 2018):

- Legal position, or legal form
- The cluster's structural hierarchy, authority, capacities, and routes of communication (who is in charge of what?)
- Principles, rules, activities, classification, managerial tools and procedures, the entirety of relationships, and the organization of operations are examples of these systems.

A cluster management's organizational structure must meet a variety of the requirements, including having a large number of partners, fostering cooperative relationships, having a simple hierarchy with as few levels as feasible, and being open and functional. Within the cluster the organizational structure

requires the support of all members for obtaining and mobilizing resources quickly without being an overwhelming burden for resource providers or individual members. Cluster management also requires the flexibility to respond to market demands. With today's markets being so globalized and competitive, the cluster management structure needs to be able to respond quickly to a variety of demands (rapid reaction capabilities). This specific task is carried out by cluster management that has a strong market focus. The cluster management organizational structure must be open and integrative enough to guarantee steady and high-quality collaboration, but it must also be exclusive and selective enough to incorporate a wide range of partners and capable actors.

Meanwhile, there are competing forces affecting the cluster management organizational structure. Accordingly, only specially designed organizational structures with sufficient human resources—which are required for cluster operation—can offer the multifunctionality of cluster management (European Commission, 2024).

The phase of selecting the organizational and legal form, which is depending upon the cluster's goals, is an important part of the cluster management organizational structure. Generally speaking, clusters whose primary objective is the cooperation execution of business operations need various organizational and legal structures, based on the group.

The expression "structure follows strategy" applies in this situation. According to the author, some potential legal structures for cluster administration are (Federation of American Scientists, 2024):

- Non-profit or for-profit associations;
- Limited liability companies (LLCs);
- Public limited companies (SAs);
- Hybrid forms (a combination of limited liability companies and partnerships);
- Foundation

The second element of the cluster management organizational structure is the stage of structural hierarchy, powers, competences and communication channels, which determine the competence of communication, i.e. who in the cluster is responsible for the information and messages flowing between departments and cluster members. Since divisions and subdivisions have shown their usefulness in practice, the following traditional components of cluster management organizational structure are still used today: working groups, the executive board, the advisory council, and the cluster manager.

According to the author, the regulations adopted by the members of the clusters establish the objectives of the organization, the conditions of membership, the rights and responsibilities of the members, as well as the management structure and its tasks. Specific operational activities are carried out in working groups, each with responsibility for distinct profiles within the various clusters. Depending on the level of organization and aggregation, primary and secondary processes can be identified in these profiles.

The Republic of Moldova has initiated the development of clusters in various fields such as technology, services and agriculture, with the main objective of stimulating collaboration and increasing economic competitiveness. Although it is at an early stage of implementation of these practices, valuable experiences have already been accumulated, which can be analyzed and integrated into future strategies to maximize the impact on economic development

In the Republic of Moldova, clustering holds great promise for the future, fostering both improved integration into global markets and economic growth. To realize this potential, it is essential to

continue government support and adapt legislation to improve the conditions for clusters to operate. To guarantee the transfer of knowledge and technology required for innovation and sustainable development, it is also imperative to promote improved cooperation between universities, businesses, and governmental agencies.

Therefore, the EU4Moldova: Focal-Regions Programme, which is implemented by UNDP and UNICEF and supported by the European Union, promotes intelligent, inclusive, and sustainable socioeconomic development in the Cahul and Ungheni region. By encouraging business collaboration and the creation of creative projects within clusters, this program seeks to raise living standards and make the Cahul and Ungheni regions more appealing to potential investors (UNDP, 2024a). Eight non-commercial organizations in the Cahul and Ungheni regions—five of which are in the Cahul region—have received funds totaling €800,000 from the initiative, which has a €23 million overall budget. The purpose of these grants, which were given out as LVGAs (Low Value Grant Agreements), was to help clusters grow and create new jobs by funding the acquisition of goods, services, equipment, and labor.

The clusters, recognized as catalysts for innovation and regional development, were selected through a competitive call for proposals, each receiving a grant of €100,000 per project, subject to an own contribution of at least 10% of the total project value. This approach not only stimulates economic development but also ensures the long-term sustainability of the projects by involving the beneficiaries in co-financing. At the same time, their active involvement in the implementation process contributes to stronger commitment and more efficient management of resources.

Thus, the clusters Zootechnics of Bacia Sudului, Winemaking, Beekeeping, Table Grapes, Tourism of the Magurian Hills, Tourism VIA Cahul, Furniture and Bacifer received funding through the EU4Moldova: Focal-Regions Programme, implemented by UNDP and UNICEF (UNDP, 2024b). This financial support contributed significantly to modernizing infrastructure, increasing production capacity and improving competitiveness both locally and internationally. The funding has also had a direct impact on the development of human capital by creating new jobs and supporting innovation, thus strengthening the positioning of clusters on the global market and attracting new strategic partnerships.

Table 2. Impact of UNDP funding on Clusters in key regions Cahul and Ungheni

Cluster	Jobs created	New products	Modernized infrastructure	International collaborations	Trainings	Event participations
Bacifer	6	2	100kW PV photovoltaic power plant	1	9	6
Furniture	17	10	New machinery	4	10	4
South Bacia Zootehnic	3	2	Mobile modern slaughterhouse	1	10	6
Winemaking Cahul	3	1	Wine Center	1	10	5
Beekeeping Cahul	6	1	Packaging line with Easy Snap technology	2	10	5

Table Grapes Cahul	5	2	Sorting and packing hall, electronic automobile scales, equipment	1	10	6
The tourist area	7	7	Tourist equipment, tourist trails, road signs	1	12	6
Tourist VIA Cahul	13	7	Belvedere platform, Tourist equipment, tourist signposts	5	10	9

Source: Author

The non-reimbursable assistance provided in the form of project grants aimed to promote the spirit of cooperation and partnership between companies in urban and rural areas and to support innovative ideas. The aim was not only to achieve immediate economic growth, but also to establish a solid basis for long-term development by integrating value chains and encouraging investment.

The eight clusters in the Cahul and Ungheni Region analyzed have demonstrated that their success depends to a large extent on the close cooperation between their members and the international partnerships developed. Job creation, the launch of new products and the modernization of infrastructure were made possible thanks to effective collaboration between companies, facilitating access to resources and expertise. The "Furniture" and "Tourist VIA Cahul" clusters have excelled through international partnerships and the implementation of joint projects.

Faced with challenges related to communication and resistance to change, cooperation between members and the constant support of the management team led to the correction of problems and rapid implementation of solutions. This collaboration has brought mutual benefits, accelerating progress and the achievement of objectives.

In the author's view, by fostering collaboration and innovation, UNDP and the EU4Moldova: Focal-Regions Programme reaffirm their dedication to advancing regional economic development through the promotion of company clusterization in the Republic of Moldova. These initiatives aim to create clusters as strategic tools to enhance the competitiveness of regional sectors and emphasize the importance of cooperation between various institutional and economic entities. In addition to stimulating economic growth in the short term, these programs contribute to the foundation of integrated, sustainable and long-term development in the Cahul and Ungheni regions, but also in other parts of the country, by providing financial resources, technical assistance and encouraging cross-sectoral partnerships.

Conclusions

By focusing on key economic sectors, the clusters in the Cahul and Ungheni regions highlight the strategic importance of regional economic development. Each cluster is designed to capitalize on the comparative advantages of the region, introducing modern technologies, innovative practices and continuous training for its members. These initiatives aim not only to increase local competitiveness and access to international markets, but also to stimulate job creation and promote sustainable development. The implementation of these clusters is supported by close partnerships with international organizations, which provide not only the necessary funding, but also the expertise and technical support needed to achieve the ambitious goals. This model of cooperation between local entities, government authorities and international partners is essential to ensure a positive and long-lasting impact in the region. Thus, the clustering projects in Cahul and Ungheni demonstrate how well-planned and efficiently managed strategies can transform a region's natural and human potential into engines of economic growth and innovation, bringing widespread benefits to local communities and contributing to Moldova's socio-economic progress.

United Nations Development Program and initiatives such as EU4Moldova: Focal-Regions, play an important role in the Republic of Moldova, reflecting strong and sustainable cooperation between UNDP, the European Union, local governments and various international and national organizations. This collaboration is essential for promoting sustainable socio-economic development, improving governance, combating climate change, and increasing social inclusion in key regions of Moldova. Efforts combining financial resources and technical expertise from different entities contribute to achieving the goals of sustainable development and improving the quality of life for Moldovan citizens.

As an important aspect of the UNDP and EU4Moldova: Focal-Regions Programme is the focus on empowerment and active participation of local communities in decision-making processes. By stimulating inclusive economic growth, improving access to quality public services and promoting transparent and accountable governance policies, the programs not only support local development, but also strengthen local capacities to manage and implement sustainable change. Citizens thus become active partners in the socio-economic transformation of their regions, contributing to a more cohesive and resilient Moldova.

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DEVELOPMENT OF THE REAL ESTATE MARKET IN THE REPUBLIC OF MOLDOVA INFLUENCED BY THE MILITARY CONFLICT IN THE REGION

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Abstract: The real estate market is a generator of economic growth for the whole country, as real estate attracts significant investments, stimulates construction activity and creates jobs. It contributes to the development of infrastructure and ensures the dynamics of the country's macroeconomic development, while strengthening economic stability and creating the conditions for long-term sustainable growth. Research and analysis of real estate market development trends provide a clear picture of the current situation, as well as an updated and adapted perspective in response to changes within the sector. Over the last few decades, the real estate market has become increasingly complex, constantly evolving and facing numerous challenges and influences, including economic factors, demographic shifts, technological innovations and changes driven by various local and international phenomena. The military conflict between Russia and Ukraine is one of the events that have recently affected this sector is, and caused regional instability, disrupted economic flows, and influenced the evolution and development of the real estate market.

Therefore, this study aims to examine the impact of the military conflict in the region on the real estate market in the Republic of Moldova, using information about the complexity and dynamics of the market in recent years to provide a clear perspective on the structural changes, risks and opportunities that have arisen in the context of the conflict, and to identify possible scenarios and strategic visions for its development.

Keywords: real estate market, military conflict, regional crisis, economic impact, real estate market dynamics, strategic visions.

JEL Classification: M31, M37, R21, F51

Introduction

The real estate market is a generator of a country's economic growth, as significant investments in various types of real estate generate qualitative changes in both the demand and supply of real estate. At the same time, the real estate market ensures the dynamics of a country's macroeconomic development.

The real estate market comprises several regional and local markets, which vary according to various factors such as price levels, associated risks, investment efficiency and specific trends in different

periods, and which are open and accessible to anyone with sufficient financial resources to carry out various transactions (purchase, sale, rental, etc.). The final decision taken by the buyer is often a conscious, well considered and very important one, as it involves both financial and emotional aspects and requires a careful and well managed process to ensure a successful transaction. For well-informed buyers, the property market has proven to be extremely lucrative, allowing them to maximise returns by taking advantage of market fluctuations. These statements can certainly characterise the activity of the property market in any period, be it a stable (regular) one, where all processes follow their course, or an unstable one, influenced by factors and events that cannot be easily anticipated or remedied.

Thus, over time, the property market has been affected by various disruptive factors, each of which has had a more or less significant impact. Starting with the economic and financial crisis, followed by the COVID 19 pandemic crisis and the most recent event, which is still ongoing in the immediate aftermath of the pandemic crisis, namely the military conflict between Russia and Ukraine, all have affected the property market to a greater or lesser extent. Therefore, in the following we would like to analyse the impact of the military conflict in the region on the real estate market in the Republic of Moldova, analysing its current state, main trends and strategic visions for its development.

Impact of the military conflict in the region on the real estate market in the Republic of Moldova

The first half of 2022, more precisely with the beginning of the war in Ukraine (24 February 2022) and until September 2022, the real estate market can be characterised by a period of uncertainty that has affected the country's economy and the real estate market globally, as well as the economy of the Republic of Moldova, as Ukraine is a very important trading partner for our country and an important transit point for trade with European countries. Firstly, the crisis in Ukraine has led to a decrease in trade between Moldova and Ukraine, which has had a direct impact on the property market, and the increased tension in the region has led to a decrease in investor confidence in the Moldovan economy, which has resulted in a decrease in investment in commercial and residential property. At the same time, the tensions between Russia and Ukraine have forced Moldova to turn to other markets, such as Romania or Turkey, which has favoured a diversification of investments and trading partners.

In times of crisis, investors are usually reluctant to invest in the real estate market, and economic uncertainty and high-risk lead to a reduction in investment in real estate, with negative effects on the development of new projects and, in the long term, on the evolution of the real estate market. On the other hand, economic crises and pandemics also lead to changes in buyer behaviour, altering a number of behavioural dimensions such as housing preferences, purchase intentions, lifestyle changes etc. However, for those willing to invest in the real estate market, various opportunities can be created, and slightly reduced prices and the availability of goods on the market are elements that attract investors and buyers with financial resources, but also risk-takers who could take advantage of the crisis period to acquire real estate at affordable prices. In theory, these are the consequences that can occur in times of crisis and immediately afterwards, but in reality, these scenarios are not general and cannot be applied to all countries, companies, etc.

Beyond the humanitarian consequences, Russia's war in Ukraine undoubtedly has economic implications, some of which are already visible and others that will become more apparent as time goes on. Real estate is considered to be a less volatile investment than other traditional assets, but when inflation is low, it is difficult to predict how it will affect real estate in the future. Over the years, real estate investment has attracted considerable interest from both buyers and investors and

has seen significant growth in recent decades. In the context of low interest rates, investors may be encouraged to invest more in real estate as the cost of borrowing is low, allowing them to access more capital. On the other hand, extreme price rises in popular metropolitan areas may discourage investors and make them more cautious about the right time and place to invest. Market uncertainties raise questions for all real estate market participants as to how markets will develop in the future and how property prices will be affected if these conditions persist (Bezo, A., 2023).

If we analyse the contribution of the main sectors to the evolution of the GDP in 2022, in percentage points, it can be observed that only the **hospitality industry**, domestic trade, information and communication and financial activities will have a positive impact on the GDP in 2022, contributing (in order of enumeration) with 0.2 p.p., 0.2 p.p., 0.3 p.p. and 0.4 p.p., respectively, and the general picture created by the influence of these indicators is presented in Figure 1.

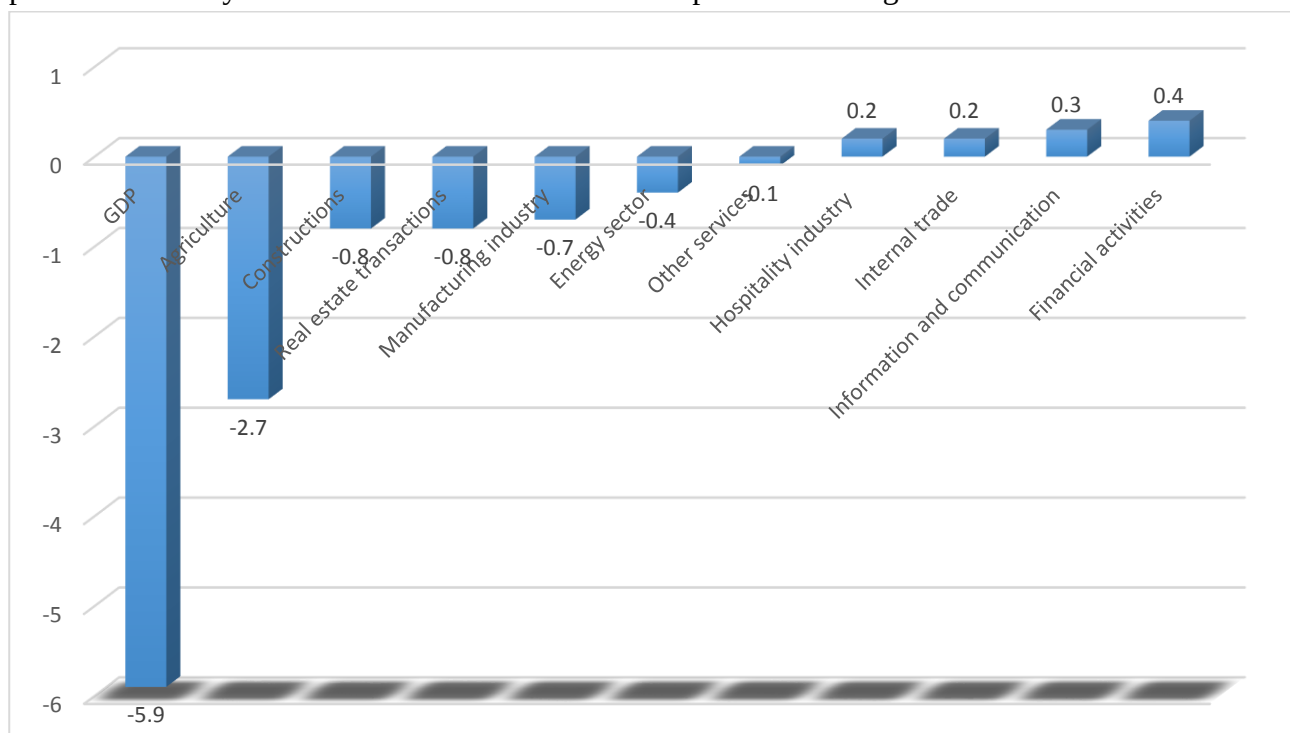


Figure 1. Contribution of main sectors to GDP growth, 2022 year, (p.p.)

Source: compiled by authors based on source (Raport lunar privind evoluția social-economică a Republicii Moldova, 31.05.2023 available at: <https://mded.gov.md/wp-content/uploads/2023/06/Raport-lunar-2023-04.pdf>)

According to the data presented by the National Statistical Office in the Monthly Report on the Socio-Economic Development of the Republic of Moldova, dated 31 May 2023, we observe that the construction and real estate transactions sectors had a negative impact of 0.8 p.p. each on the GDP for 2022, although the analysis carried out, as well as the data presented in Table 1, speak of a positive development of these indicators in terms of the total volume of works/sales in the respective sectors. However, when analysing the volume of investment in construction and real estate transactions over the period, it can be seen that the volume of investment in construction and real estate transactions decreases by 1.4 p.p. and 2.1 p.p. respectively in 2022 compared to 2021 (Table 1).

Table 1. Investment in long-term tangible assets, by economic activity

million lei, and %

Direction of investment	2019	2020	2021	2022
Total invested	31 253,2	30 089,6	35 411,2	37107,5
Constructions	4779,5	5144,8	6006,9	5777,3
Structure, %	15,3	17,1	17,0	15,6
Real estate transactions	1 586,0	1 712,3	2 242,7	1554,8
Structure, %	5,1	5,7	6,3	4,2

Source: compiled by authors based on source (Anuarul statistic al Republicii Moldova, 2022 available at: https://statistica.gov.md/files/files/publicatii_electronice/Anuar_Statistic/2022/17_AS.pdf)

At the same time, under the influence of the military conflict taking place in the region, as well as the inflation that can be described as galloping, the energy crisis that has affected our country, the extremely complicated external environment, all these factors have had a negative impact on the national economy for 2022, reducing the Gross Domestic Product (GDP), according to the information provided by the National Bureau of Statistics, by 5.9% compared to 2021, reaching 272.6 million lei (Raport lunar privind evoluția social-economică a Republicii Moldova, 31.05.2023).

Another aspect that needs to be analysed in the period related to the military conflict in the region (in time and during the period of its unfolding), concerns the number of authorisations issued by the authorities for new constructions. The housing stock is the total number of (residential) apartments, regardless of the form of ownership, located on the territory of a state. According to the data provided by the National Bureau of Statistics, as of 1 January 2023, the housing stock of the Republic of Moldova amounted to 90 528.3 thousand m², the total number of apartments in the country amounted to 1324.5 thousand units (Biroul Național de Statistică al Republicii Moldova, 30 ianuarie 2024).

Although for several years there has been talk of a decline in the number of permits issued for construction works, the statistics speak of a different situation, so permits are being issued and new construction will continue to take place. In this regard, Table 2 has been prepared, in which the data on the number of building permits granted for the period from 2020 to 2023 are presented as follows:

Table 2. Building permits issued for buildings, 2020 – 2023

	2020	2021	2022	2023	In % vs:	
					Year 2022	Total
Total	3038	4118	3394	3414	100,6	100
Of which for:						
residential	2044	3026	2301	2252	97,9	66,0
non-residential	994	1092	1093	1162	106,3	34,0
Total, in:						
urban	1730	2430	1517	1545	101,8	45,3
rural	1308	1688	1877	1869	99,6	54,7

Source: compiled by authors based on source (Biroul Național de Statistică al Republicii Moldova, 30 ianuarie 2024 available at: https://statistica.gov.md/ro/autorizatii-de-construire-eliberate-pentru-cladiri-in-anul-2023-9801_60917.html)

On the basis of the information presented in Table 2, in 2022 there is a decrease in the number of permits, both overall and by type of real estate, while in 2023 we observe an increase of 0.6% compared to 2022, a decrease of 2.1% in the number of permits granted for residential buildings and

an increase of 6.3% in the number of permits granted for non-residential buildings. When analysing the distribution of authorisations by living environment, we see that the number of authorisations will increase by 1.8% in urban areas and decrease by 0.4% in rural areas compared to 2022.

Subsequently, an analysis of the number of apartments commercialized during this period is carried out, a period that presents several successive events as follows (Figure 2):

- 2020 - beginning of the COVID 19 pandemic;
- 2021 - the period of "property fever";
- 2022 - military conflict in the region;
- 2023 - real estate loans become cheaper.

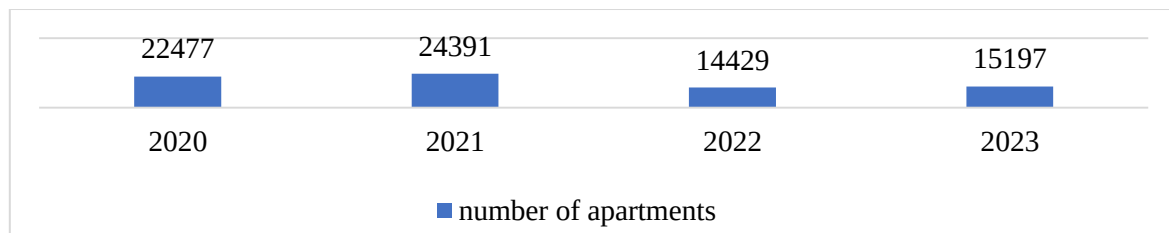


Figure 2. Number of commercialised apartments, 2022-2023

Source: compiled by the authors based on source (Site-ul oficial al companiei Acces Imobil SRL, 1 ianuarie 2024 available at: <https://accesimobil.md/blog/criza-imobiliara-chisinau-numar-apartamente-vindute-scadere-40-procente>)

According to the data presented in Figure 2, we can see that the military conflict in the region had the greatest impact on sales compared to other major events that occurred. Thus, if in the COVID 19 pandemic the number of apartments sold increased by 8.52% compared to the previous year (2020), in 2022 it decreased by 40.84% compared to 2021. The year 2023 can be characterised as a good year for the real estate market, when due to the influence of several factors (slight overcoming of buyers' fears and uncertainties, cheapening of real estate loans, decrease in prices for some categories of real estate, etc.) a slight increase of 5.33% in the number of apartments sold is observed.

If we analyse the main indicators of the real estate market in the period from February 2022 to September 2022, we can see that the average price of the flats in the construction phase offered for sale has decreased by about 30 euros/m², the most significant decrease in the price of the apartment in the construction phase (by about 80-100 euros/m²), at the same time there was an increase of about 20 euros/m² in the price of the apartment put into operation, where the customer becomes the owner practically immediately and has the possibility to live immediately after the purchase. Another peculiarity of this period is the increase in prices on the rental market, influenced by (Site-ul oficial al companiei Acces Imobil SRL, 1 ianuarie 2024):

- the large influx of refugees from Ukraine, seeking alternatives for a safe life, coming to the Republic of Moldova, especially Chisinau, and renting apartments or houses, initially on a short-term basis, then renewing their leases indefinitely, in anticipation of a quick resolution to the conflict in their country;
- inflation has risen by 30%, so the selling price of apartments in general has also increased;
- the influence of seasonal factors, such as the return of students to their studies; in particular, it should be noted that after the pandemic crisis and the restrictions imposed by the authorities, for a long time the educational process was carried out at a distance, online, and the period analysed also coincides to some extent with the full return to the educational process with physical presence.

In 2022, the real estate market in Moldova was affected by several major factors that had a significant impact on it (Ioniță, V., 2023):

1. Too rapid a recovery in prices has caused concern among buyers,
2. The military conflict in Ukraine has had a negative impact on housing decisions and discouraged potential buyers,
3. High inflation has caused people to turn to current spending, minimising interest in real estate investment, and
4. Rising mortgage rates have reduced the number of mortgage transactions, which has reduced demand.

All these factors contributed to the phenomenon of "deferred demand", many people postponed the decision to buy an apartment in 2022, but potential buyers did not abandon the idea of buying a real estate, but continued to wait for the right time. Therefore, a significant increase in real estate transactions is expected in 2023-2024 as a result of the combination of regular demand and deferred demand in 2022. "Although housing prices increased in the first quarter of 2023, they became more affordable for buyers, which is due to the fact that the average annual salary in Moldova, calculated in euro, has increased much faster than the increase in housing prices. Thus, in the first quarter of 2023, the average annual salary in Moldova reached 6,555 euros, which represents an increase of 20.5% compared to 2022" (Ioniță, V., 2023), information presented in detail in Figure 3.

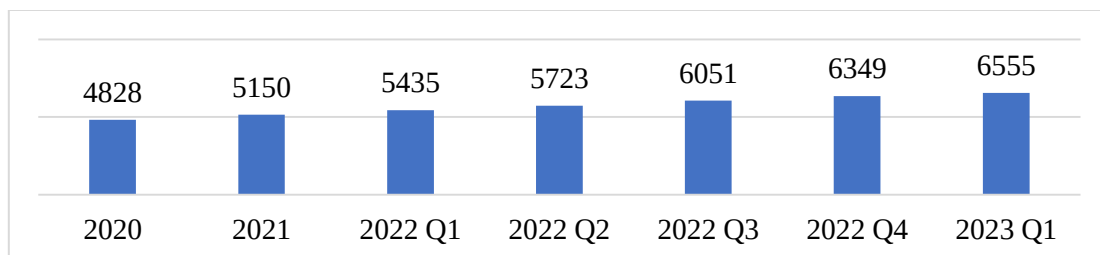


Figure 3. Average annual salary in the Republic of Moldova, euro

Source: compiled by authors based on source (Ioniță, V., 2023 available at: <https://ionita.md/2023/05/15/dupa-o-stagnare-de-jumatate-de-an-preturile-la-apartamentele-din-mun-chisinau-in-primul-trimestru-din-2023-au-inregistrat-o-crestere-de-23/>)

Thus, we can see that since 2022, investors in this sector will be more reluctant to use their savings and cash in real estate investments, and from 2023, although there is a situation where inflation continues to rise, we understand that real estate prices will also rise. Any investor who chooses to invest in real estate must learn not to be euphoric when making decisions, but also not to fall prey to panic based on market trends, which can lead to hasty and wrong decisions. The most important thing for a savvy investor is to know when to get in and when to get out of the market.

Strategic visions in the development of the real estate market in Moldova in the light of the military conflict in the region

Regardless of the efforts of the main actors and participants of the real estate market to stimulate and develop its activity, there are a number of unpredictable factors that can affect the real estate market and which, unfortunately, cannot be anticipated, fully controlled, managed with certainty, etc. An example is the military conflict between Russia and Ukraine, which has suddenly started. It is very difficult to predict what will happen in the coming period. Even if this military conflict was supposed to be short, the Ukrainian people have proved to be more courageous, organised and patriotic, and

the help of Western countries is helping them to put up a strong resistance. The consequences of rising energy prices have already been seen in Europe, with annual inflation in the eurozone at 7.5% in March 2022, with energy prices 44.7% higher than in March 2021 (Eurostat, April 2022).

As for the Republic of Moldova, although not directly involved in this conflict, the population of the country lives in constant fear and uncertainty as to how the events related to this conflict will unfold, with strong economic and financial consequences for the economy of the countries involved, while at the same time influencing the economy of our country, including negative effects on the real estate market. Based on the possible outcomes (evolution/ stagnation/ end), we propose a visionary model that includes 3 scenarios and possible actions for each of them in the coming years (Figure 4).

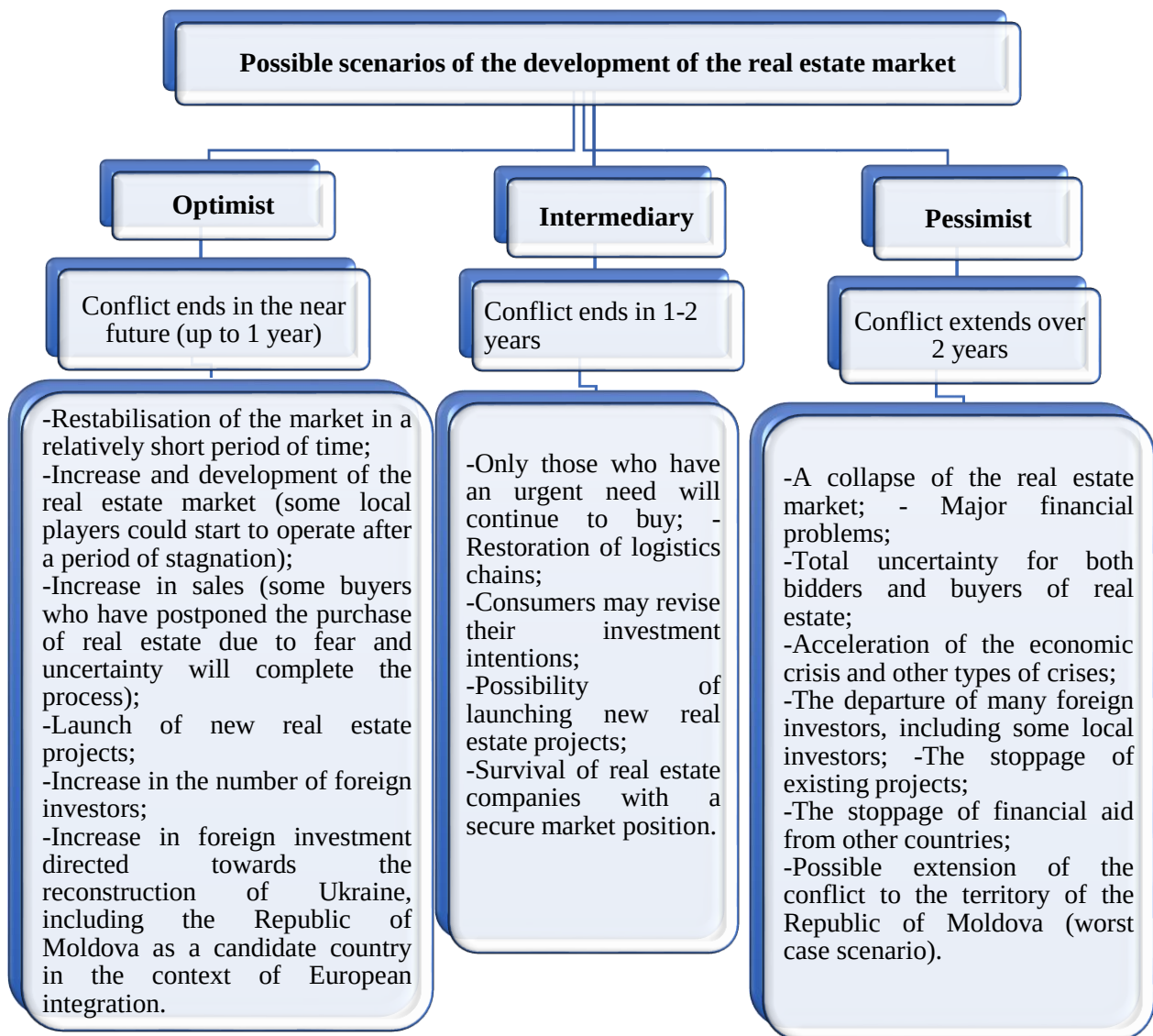


Figure 4. The visionary development model of the real estate market for the next years in the light of the evolution of the military conflict in the region

Source: compiled by authors

No matter which of the three possible scenarios is proposed, it is certain that our country's economy is already affected by financial problems, including the real estate market, one of the main reasons being the impossibility of importing raw materials from Ukraine, which is one of the main suppliers of raw materials and materials for construction and finishing works, at prices that are affordable

compared to what is currently imported (new suppliers are being identified) at much higher prices by up to 30% for some categories of materials.

A reality that has arisen as a result of the conflict in the region is the fact that external partners are limiting aid and investment in our country and turning their attention to our neighbouring country, which has been severely affected both economically and in other respects (infrastructure, relations, social, etc.), although the EU and its member states are making a huge contribution to Moldova's economic rehabilitation through aid and loans.

According to the author Yelisieieva L., the restoration of the functioning of the real estate market in Ukraine will be one of the most urgent tasks in the post-war reconstruction of the national economy. New buildings must not only be comfortable, but also fulfil safety and energy-saving functions. To achieve this, it will be necessary to consolidate the efforts of all subjects of the national economy and the international community (Yelisieieva, L., 2022).

Thus, in an optimistic scenario, all neighbouring countries, and not only them, will be geared towards helping Ukraine to recover its economy, infrastructure, etc., including investment in the real estate market, which was badly destroyed during the attacks on it. In an intermediate and worst-case pessimistic scenario, the consequences could be catastrophic, as economic relations have already suffered enormously and will be in an even more critical situation in the event of such an end. As negative as the consequences of the armed conflict between Russia and Ukraine may be from an economic point of view, we cannot ignore one of the possibilities of its development: the conflict could spread territorially to other countries, including the Republic of Moldova, given that attacks have often taken place on the borders of the Republic of Moldova. This would be the worst possible scenario, in which the economic and other aspects related to the real estate market, and not only, would become the least important, and buyers and sellers would be in a situation of total uncertainty.

Conclusion

The real estate market, which has been affected by highly disruptive factors such as the economic and financial crisis, the COVID 19 pandemic crisis and the military conflict in the region, has developed positively over time, although it has been a period of unrest and uncertainty. The analysis of the above aspects has made it possible to identify some trends in the development of the property market as a result of the influence of various external factors. One of the truths about the state of the real estate market is that potential buyers are postponing the decision to buy a property, waiting for a more secure period of economic and social stability in the region. Also, the tendency to invest in rental properties, especially in urban areas, has gained momentum as a result of the high demand for rental properties during the period of large influx of refugees to our country. At the same time, the development of real estate projects and the construction of new residential complexes continue to be an important factor on the real estate market in the Republic of Moldova, but taking into account the peculiarities and behavioural dimensions of buyers, as well as the specificity of the period in which they are active.

At the same time, it is essential for the authorities to monitor and regulate the real estate market in order to ensure sustainable, affordable and equitable development, and for market players to adapt and respond to economic and social changes, such as economic crises and pandemics, in order to minimise the negative impact.

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LEADERSHIP RESILIENCE: A KEY DETERMINANT OF ORGANIZATIONAL SUCCESS

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Abstract

Leadership resilience has emerged as a critical factor in driving organizational success, particularly in today's volatile, uncertain, complex, and ambiguous (VUCA) environments. This paper examines the concept of leadership resilience, defined as a leader's capacity to recover from setbacks, adapt to change, and remain focused on organizational goals despite adversity. The study explores how resilient leadership influences organizational success by fostering a culture of adaptability, innovation, and sustained performance. Resilient leaders are equipped to navigate crises, maintain team morale, and align organizational strategies with rapidly changing external conditions. By building trust and psychological safety, such leaders enable teams to confront challenges more effectively, leading to improved collaboration and problem-solving.

This paper synthesizes findings from existing literature and empirical studies to highlight key components of leadership resilience, including emotional intelligence, self-awareness, adaptability, and a growth mindset. It also explores how resilient leadership contributes to organizational success by driving employee engagement, enhancing decision-making processes, and fostering a culture of continuous learning and development. Additionally, the study discusses the role of organizational structures and support systems in nurturing resilient leadership, suggesting that resilience can be cultivated through targeted leadership development programs, mentoring, and the promotion of a supportive organizational culture. The paper concludes that organizations prioritizing leadership resilience are better positioned to thrive amid disruption and uncertainty. As such, developing resilient leaders should be a strategic priority for organizations aiming to achieve sustained success in the long term. The findings underscore the need for future research to explore practical frameworks and interventions that organizations can implement to enhance leadership resilience across different contexts and industries.

Keywords: resilience, leadership, uncertainty, organizational flexibility

JEL Classification: M12, M14, D23

Introduction

Leaders and organizations frequently face challenges and crises that test the adaptability of resources and systems. Effective leadership has always been more difficult to achieve during periods characterized by rapid and unpredictable changes. The unique stress factors that organizations face globally have led to a renewed interest in exploring individual and collective behaviors to identify the traits of adaptive and effective leadership. Interestingly, certain resilient organizations and leaders not only manage to overcome these challenges but even thrive, while others succumb to the pressure of change.

The ability of organizations to maintain operational continuity during times of crisis is a determining factor in recovery and adaptation processes. Especially in environments characterized by uncertainty and high risks, interpersonal relationships within the organization become essential. In the context of difficulties or disruptions, leaders play a crucial role in fostering a positive organizational culture, emphasizing the organization's strengths, and cultivating strong relationships with employees. Leadership resilience is a contagious factor that propagates throughout the organization, gradually influencing the behavior of the entire staff. As members of the organization are exposed to resilient leadership over time, they develop a resilient mindset and adopt similar behavioral patterns. Furthermore, observing resilient behavior among colleagues contributes to increased confidence and the ability to respond effectively in crisis situations. The prevalence of this type of behavior in an organization generates a generalized atmosphere of resilience. A positive organizational culture, supported by the resilience of leaders and founders, facilitates the spread of this trait throughout the entire organization.

The Concept of Resilience

Resilience can be defined as the ability to regain balance after exposure to one or more adverse events. It is not a static state but a continuous process of growth and adaptation in the face of a risk-filled environment throughout life. A resilient person is capable of adapting to stress, recovering from failures, maintaining a relatively stable level of healthy functioning, efficiently utilizing resources to support well-being, and leveraging crises for personal growth as part of a healthy adaptation process. In leadership, understanding resilience, its determining factors, and ways to improve it is of major importance. (Krystal, 2008)

According to organizational theory, resilience can be defined in two main ways:

- The ability to absorb shocks and continue functioning despite challenges;
- The ability to evolve and recover from undesirable events.

An evolutionary approach to resilience suggests that it does not arise solely in response to disruptions or shocks but can be developed gradually through continuous management of risks and stress. Thus, organizational resilience can be considered the capacity of an organization to manage its internal and external resources in a way that allows it to thrive even in the midst of crises. (Youssef, Luthans, 2005)

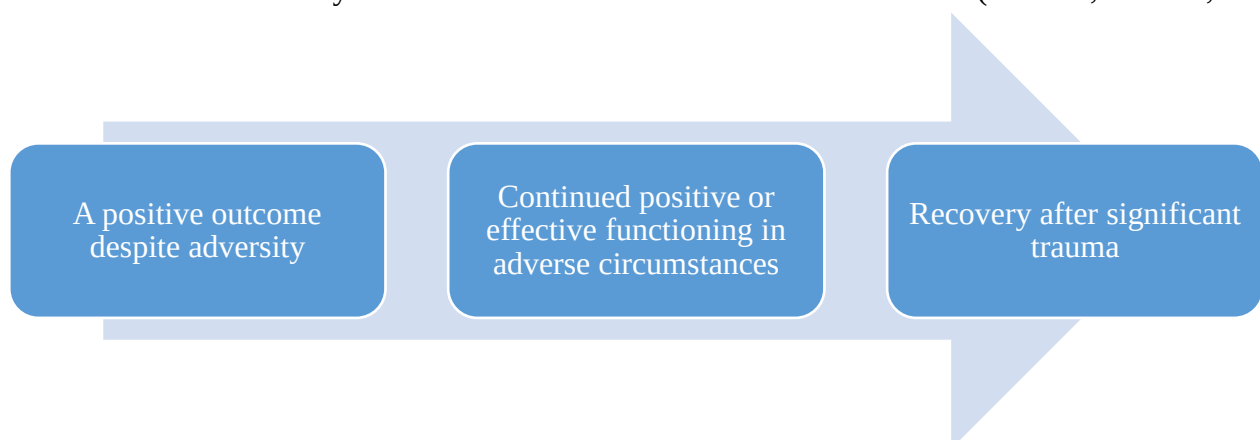


Figure 1. The characteristics of resilience

Source: Developed by the author based on (Krystal, 2008)

Most definitions of resilience emphasize adaptation, although some also include the notion of growth. Following adverse experiences, individuals may either return to their previous state or evolve towards a higher level of functioning. The main hypotheses in resilience research suggest that in the face of adversity, people not only have the ability to adapt but also to overcome challenges and grow.

Psychological/ Mental Resilience	•An individual's ability to psychologically recover and mentally cope with distress resulting from adversity.
Emotional Resilience	•An individual's ability to generate positive emotions and quickly recover from negative emotional experiences.
Social Resilience	•The ability of individuals, organizations, or communities to tolerate, absorb, cope with, and adapt to environmental and social threats.
Academic/ Educational Resilience	•A student's ability to maintain high levels of academic performance and motivation despite facing adversity in an academic setting.
Physical/ Health Resilience	•An individual's ability to respond to stressors that acutely disrupt normal physiological homeostasis and to adapt and recover quickly.
Leadership Resilience	•The leader's ability to help organizations cope with changes and adversities.
Career Resilience	•An individual's ability to cope with poor working conditions and achieve good results despite them.
Organizational Resilience	•The ability of an organization to create an environment that enhances employees' career resilience.

Figure 2. Types of resilience

Source: developed by the author based on (Krystal, 2008)

Resilient Leadership

Leaders who demonstrate resilience manage to overcome challenges and adversities to maintain their personal well-being and that of the organization they lead. Resilience is essential for understanding why "leaders and organizations not only survive but also thrive in these situations, while others collapse under the stress of change." Thus, resilient leaders not only possess individual resilience but also actively work to build the resilience of their organization and employees. (Baykal, 2018)

Additionally, resilient leaders exhibit four key skills that enable them to lead through adversity:

- Resilient thinking;
- Developing resilience capacity;
- Resilient actions;
- Encouraging resilience in others.

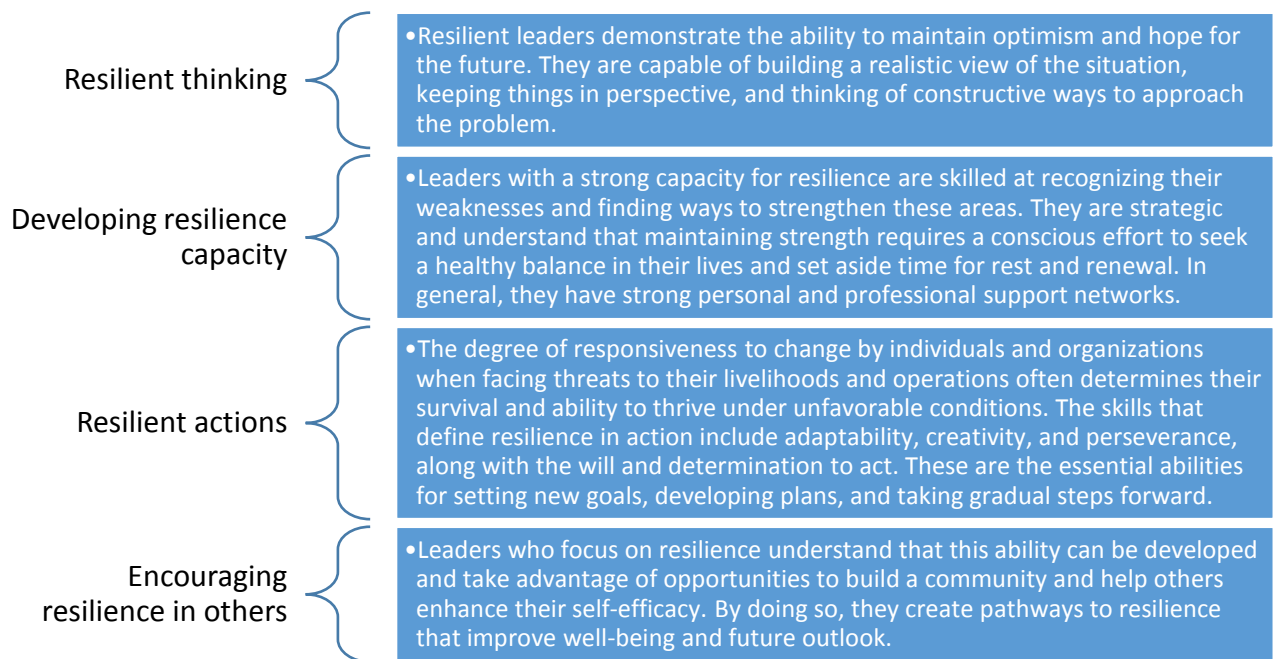


Figure 3. The framework of resilient leadership skills

Source: developed by the author based on (Ledesma, 2014)

Mission and Unity of Purpose

Resilient organizations have leaders who demonstrate consistent support for the organization’s mission. Through their words and actions, they can shape a positive vision of the mission, effectively communicate plans to others, and encourage a strong attachment to the course of action. This reservoir of commitment promotes a greater tolerance for uncertainty and perseverance in the face of threats. When the mission is strong and clear, members of the organization perceive their work as meaningful, leading to improved job satisfaction, reduced staff turnover, and an increased capacity to overcome adversities. (Southwick, Charney, 2016)

Creating a clear mission image allows employees to visualize the final outcome or deliverable, as well as the collaborative process required to achieve the desired objective. Missions also serve as a tool for change, guiding the organization toward desired outcomes or reinforcing systems necessary to achieve new objectives. Resilient individuals often state that they find strength in crises by adhering to the belief that overcoming adversity aligns with their values or principles. Similarly, a fundamental goal for leaders should be to unite the team around strong moral principles. Unexpected circumstances and challenges should never distract leaders and organizations from their primary mission.

Change Management, Facing Fear, and Cognitive Flexibility

Change within an organizational structure is often perceived as frightening, and not all team members respond resiliently to change. Effective leaders are aware of the fear present in the organization and actively work to mitigate it. Common situations that can lead to low morale and resistance to change include: (Folan, 2021)

- *Fear of failure*: If past behaviors were unsuccessful, change may be met with hesitation due to concerns about poor performance;
- *Perceived loss of control*: Routines often provide a sense of control, and change can make some team members feel like they are losing this control;

- *Familiarity with change*: Operational modifications require people to deviate from ingrained behaviors and navigate unknown territory;
- *Rigid or inflexible perspective*: New processes may seem confusing, and some team members may resist adopting new methods, preferring the "tried and true."

All these obstacles to change are deeply rooted in fear or perceived threats. A resilient leader strives to understand the reasons for resistance to change, encourages the development of strengths, and facilitates cooperation to embrace necessary modifications in the organization's mission.

Social Support and Team Cohesion Building

Resilient leaders and organizations understand the importance of creating a strong social network. It is well known that social isolation and weak social support are associated with poor physical and mental health. One of the most effective social networks for problem-solving and coordinated action is an interdependent team. The complexity of our world is far too great for any leader to navigate alone. Modern leaders need one or more leadership teams whose members have extensive experience and problem-solving capabilities to help establish appropriate priorities and guide the organization's specific actions. A resilient leader is aware of personal limitations and seeks out those with greater expertise whenever necessary. This symbiotic exchange helps ensure the survival of the organization as a whole. Empowering teams also enhances leadership capacities within the organization and prepares others to take on leadership roles when an unexpected challenge arises.

Successful leaders know that to guide and motivate an effective team, they must evaluate and understand each team member's strengths and weaknesses. (Youssef, Luthans, 2005) A good leader focuses on identifying and developing each team member's strengths and assigns work accordingly, utilizing strengths as much as possible.

Conclusions

Organizational resilience is significant in the development of companies across various fields. Resilience contributes to engagement in prosocial behaviors, helps manage conflicts, and minimizes the likelihood of psychological contract breaches. The capacity for resilience also reduces organizational errors in production processes and activities. Learning from mistakes is essential in mitigating potential issues during innovation and new product development processes. Organizational resilience is useful in understanding the main vulnerabilities of an organization and its complex and dynamic environment.

Developing resilient leadership is one of the best ways to strengthen flexibility in a world where organizations are exposed to an increasingly complex and rapidly changing environment. Resilient leaders can maintain their energy levels even under pressure and are equipped to cope with and adapt to unforeseen changes. They build relationships of care and trust with their teams, keeping them engaged in their work. The ability to remain calm under stress, assess situations objectively, and lead with empathy are all resilience traits that can set a leader apart from their peers.

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THE IMPORTANCE OF RESEARCH ON CROSS-CULTURAL DIFFERENCES IN CONSUMER BEHAVIOR IN FOREIGN MARKETS

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Abstract: Culture affects both the choice of goods by an individual consumer and the consumption process of society as a whole. International companies face problems related to cultural differences in consumer behavior and their perception of foreign goods. Currently, the increase in flows of goods across the borders of countries and cultures, the reduction of technological barriers increases the relevance of cross-cultural research. Attention to theoretical and applied cross-cultural studies of consumer behavior is explained by both scientific interest and practical request of enterprises operating in foreign markets. When entering foreign markets, companies are faced with the need to adapt their marketing strategies to the requirements of a new culture and behavioral characteristics of consumers. National culture influences the supply of goods, their distribution and promotion, providing information to consumers and sellers, imposes restrictions or increases the degree of freedom of sellers and consumers, demonstrates the possibilities of consumption of new goods. Attracting and retaining consumers belonging to different cultures contributes to improving the effectiveness of international marketing. Cross-cultural analysis as a relatively new direction of research is at the intersection of marketing, management, sociology and cultural studies. Cultural differences and unique traditions of each nation influence the behavior of consumers and their reaction to marketing. Insufficient understanding by marketers of the cultural characteristics of consumers in different countries is one of the main problems of cross-cultural marketing. The purpose of this work is to study existing approaches to cross-cultural analysis through the prism of marketing concepts. Cross-cultural marketing as a strategy aimed at adapting products, advertising and communications to the cultural characteristics of different regions and countries allows you to attract a new audience, improve brand perception and establish positive relationships with consumers of different cultures. To develop an effective cross-cultural marketing strategy, it is important to explore and take into account the mentality, values, preferences and traditions of consumers of different cultures, as well as to use adequate linguistic and visual images.

Keywords: marketing, consumer behavior, cross-cultural analysis

JEL Classification: M31

1 Introduction

In the context of the globalization of the world economy, the effectiveness of international marketing is largely determined by the ability of market participants to overcome cultural barriers. Being one of the key strategies of modern business, cross-cultural marketing allows companies to achieve success in foreign markets, taking into account the cultural characteristics of different countries and regions. Cross-cultural competence is the ability to successfully communicate with representatives of another culture, to function in conditions of cross-cultural interactions. In the international scientific and business environment, studies of the impact of cross-cultural differences on consumer behavior are relevant and in demand. This is due to the need of international companies to adapt their marketing strategies to the characteristics and identity of different cultures. Such studies are interdisciplinary.

2 The text of the research

The future of business is determined by such global trends as digitalization, environmental responsibility, personalization and development of mobile technologies. Today, innovative development of the economy is chosen by many states as one of the main ways of economic growth and ensuring competitiveness. Considering open innovation, marketing and consumers as closely related concepts, Aleshina I. draws attention to the interpretation of culture from the point of view of marketing and problems of consumer behavior management (Aleshina, 2010). Cross-cultural aspects of working with consumers in global markets cover a wide range of issues - from philosophical to everyday reality.

Features of the cultures of nations associated with progress and innovative development were revealed and described, in particular, by the American researcher L. Harrison, a specialist in the field of culture as a factor of progress. He compiled a comparative description of the cultures of societies prone to progress and resisting progress, according to 25 criteria or parameters: Religion, Destiny, Time orientation, Wealth, Knowledge, Ethical code, The lesser virtues, Education, Work/Achievement, Frugality and Prosperity, Entrepreneurship, Risk propensity, Competition, Innovation, Advancement, Rule of Law/corruption, Radius of identification and trust, Family, Association, social capital, The individual/the group, Authority, Role of elites, Church-state relations, Gender relations, Fertility. The parameters are combined into 4 groups: "Worldview", "Values, Virtues", "Economic Behavior", "Social Behavior" (Harrison, 2006).

Social responsibility and respect for cultural diversity contribute to the sustainable development of companies both in the domestic and foreign markets. Culture is "...a complex that includes knowledge, faith, art, law, morality, customs and any other abilities and habits acquired by a person as a member of society. Culture is a set of values, ideas, objects of human labor and other significant symbols that help people, as members of society, to communicate, interpret and evaluate" (Aleshina, 2006). Cultural differences play a key role in the formation of marketing strategies that can both use the values of the consumer segment and change these values in order to expand the possibilities of consumption of the promoted product. The values of the nation's culture and the personal values of consumers are more resistant to changes compared to the processes of consumption of goods and services. At the same time, culture is dynamic, many cultural features, despite their historical roots, may lose their relevance. Understanding local values, traditions and preferences helps companies successfully adapt their products to the needs of target audiences in foreign markets.

The increase in the mass of goods with similar parameters leads to the fact that consumer loyalty can be achieved only on an emotional level. At the same time, it is necessary to take into account that in different countries emotions can be based on different value systems. In the process of cross-cultural research, scientists have developed cultural models and measurements based on a practical study of the values of a wide variety of cultures on fairly large samples, which allows to obtain qualitative results.

One of the most famous cultural models that can be actively applied in cross-cultural studies of consumer behavior is the Hofstede model. To make countries comparable in terms of measurable parameters, Dutch sociologist Geert Hofstede proposed a set of indicators that determine the cultural characteristics of different peoples based on studies conducted in the 1960s and 1970s. This theory became the basis for many cross-cultural studies in marketing. Before Hofstede, culture was understood as a single integral object, not amenable to meaningful analysis. He also proposed to divide this object into separate components - cultural dimensions. Initially, Hofstede (Hofstede, 1980)

proposed four dimensions: "Individualism - Collectivism", "Power Distance", "Uncertainty Avoidance", "Masculinity - Femininity". Subsequently, he added the fifth dimension - "Long Term Orientation", which reflects the opposition of the priority of investments in the future through savings and investments in modern education and increased attention to the present and the past, manifested in emphasizing the importance of traditions and resisting personal and social changes. In the 2000s, Hofstede supplemented his model with a sixth dimension proposed by his co-author Minkov M. - "Indulgence - Restraint". "Indulgent" societies allow their members to live as they want and see fit, especially in the field of leisure. At the same time, in "restrictive" cultures, individual freedom is suppressed (Hofstede, 2013, Hofstede *et al.*, 2010, VSM, 2013).

In international marketing, the correct assessment of the differences of national cultures is becoming increasingly important. National culture is a synthesis of cultures of different strata and groups of the respective society. The originality of the national culture, its well-known uniqueness and originality are manifested both in the spiritual and material spheres of life and activity.

As studies show, within one country, consumers belonging to different ethnic groups also have their own characteristics of perception and motivation, which must be taken into account when developing marketing programs to attract and retain them (Timokhina and Kulikova, 2015).

3 Conclusions

Studies of cross-cultural differences in consumer behavior are of interest not only for academic science, but also for business. A high level of business adaptation to global market requirements and cultural characteristics of various countries plays an important role in the development of international business and allows companies to successfully compete in global markets. Observing the basic principles of cross-cultural marketing and using appropriate models and methods, companies can attract and retain the attention of consumers. Being a fairly stable phenomenon, national culture is still gradually changing under the influence of various external and internal factors. In studies of the influence of cross-cultural characteristics on the behavior of consumers of different countries, the empirical approach prevails today. Theoretical conclusions are based mainly on field research materials. Existing measurement methods reflect the features of a particular culture, which causes the need for their adaptation in the context of other cultures.

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CARACTERISTICS AND FACTORS INFLUENCING THE USE OF SHOCK TACTICS IN THE CONTEXT OF SOCIAL AND COMMERCIAL ADVERTISING

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Abstract: For the national context, shock advertising is a relatively new field, little studied, but attracting increasing attention from both theorists and practitioners who are looking for innovative methods of communication. Research paper has focused on defining the elements and particularities of shock advertising, concluding that it must "intentionally and unexpectedly violate social norms for consumers", surprise and create negative emotions. Reviewing the diversity of theoretical concepts, the author develops a proper definition and a conceptual model of shock advertising. The research methodology focused on a complex approach and was based on the use of several scientific methods, such as: documentary analysis, synthesis, scientific abstraction, induction, deduction, systemic approach and comparative analysis. This stage of the methodological approach made it possible to substantiate the conceptual and theoretical framework of shock advertising and its impact on consumers. In analyzing the impact of advertising shock on consumer emotions and behavior, the literature states that the nature and intensity of consumer reaction is determined by the demographic and socio-cultural factors of the target segments, as well as by different advertising contexts. The intensity of shock in advertising messages perceived by women is higher than in men. The type and intensity of consumer reaction is determined by the advertising contexts in which shock tactics are used.

Keywords: shock tactics, shock advertising, consumer behavior, cultural factors

JEL Classification: M1, M3

1 Introduction

In pursuit of exceptionality and persuasion, advertising agencies often use innovative strategies to create messages that shock consumers by provoking strong negative emotions. This approach cuts through traditional advertising clutter to reach existing or potential customers. Since the 1980s, shock advertising has been studied and applied to enhance communication strategies. However, research in this field has been fragmented and primarily focused on defining the theoretical concept of shock advertising. It is generally agreed that shock advertising must intentionally and unexpectedly break social norms, surprise consumers, and evoke negative emotions.

Four decades after the initial attempts to use shock tactics in advertising, a review of the literature reveals limited research on the impact of different types of shock on consumer behavior. There are divergent views in the international literature regarding the factors that influence consumer reactions and the effectiveness of shock advertising in both commercial and social contexts. While previous studies tend to describe components of shock advertising in isolation, less attention has been paid to

the sustainability or long-term impact of this strategy. Additionally, few studies have examined the role of socio-economic context in shock advertising through a holistic approach.

In the national context, shock advertising is still in its early stages of use and remains understudied. Nevertheless, it is gaining interest from theorists and practitioners who seek innovative communication methods or aim to adapt international best practices locally. Given the rapidly evolving advertising environment, it is crucial to investigate and understand the defining elements of shock tactics in advertising, as these elements can profoundly influence consumer attention, reactions, and behaviors.

2 Theoretical considerations and characteristics of shock advertising in contemporary marketing

2.1 Definitions, elements and characteristics of shock advertising

To define "shock advertising," it's essential to understand the terms "advertising" and "shock." According to the explanatory dictionary of the Romanian language, advertising is "a commercial activity aimed at arousing public interest in certain goods or services through various media." Publicity is defined as "the action of making something known to the public; dissemination of information."

The term "shock" is central to shock advertising. Although it has various meanings across contexts, it generally refers to a sudden state of surprise, disorientation, or emotional disturbance. In a relevant definition, shock is described as "a sudden, violent disturbance of bodily functions caused by external factors," which leads to physical and psychological imbalance, often resulting from a strong emotion. Research in the field has focused on defining shock advertising as a strategy that deliberately and unexpectedly violates social norms to attract consumer attention. Studies suggest that shock advertising can be more effective at capturing attention and making messages memorable than traditional methods. However, individual factors such as culture, beliefs, and values can influence consumer responses and perceptions of offense.

Despite extensive literature on shock tactics, there is limited research on the long-term effects of various types of shock on consumer behavior. Opinions on the factors affecting consumer reactions and the effectiveness of shock ads in commercial and social contexts are conflicting. Dahl (2003) defined shock advertising as "a deliberate attempt to surprise an audience by violating societal norms to capture attention", highlighting its controversial nature (Dahl et al., 2003).

Terms related to shock advertising include irritating, non-traditional, offensive, taboo, provocative, shockvertising, and controversial. These terms, though not absolute synonyms, share characteristics such as violating social norms, creating surprise, and provoking negative emotions by breaching ethical standards. This ambiguity often leads to public discussions and increased attention.

The AISDA Model—Attention, Interest, Share, Desire, and Action—replaces the classic AIDA model for analyzing shock advertising. This model emphasizes the effectiveness of shock tactics in drawing attention and fostering interest through unconventional messages that may violate social norms. These tactics spark discussion, create buzz, and employ emotional appeals to stimulate consumer desire and action, such as purchasing the advertised product (Fig.1)

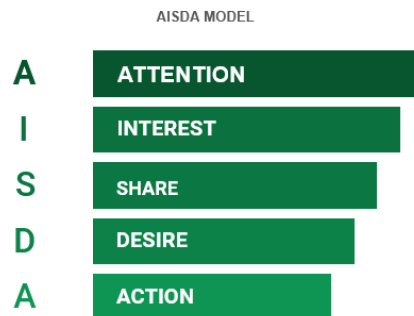


Figure 1. AISDA Model applied for shock tactics in advertising

Source: based on LEE, Michael et al (2020)

Considering the diversity of existing approaches in the literature and analyzing the similarities and divergences, the author develops the following definition: shock advertising is a form of promotion, which aims to produce a strong emotional impact on the target audience by intentionally and unexpectedly appealing to social and moral norms, values, in order to attract attention, differentiate, achieve a higher level of memorization of the message, and persuade the consumer to act.

The purpose of the shock ad is to draw attention to a product or service by creating a strong emotional impact on the public, or to make people aware of an important social or political issue in the case of the social context. Understanding consumer attitudes, behavior, reactions and emotions in response to a shock advertisement is of major importance and various researchers have conducted studies in this area. In field literature, reference is most frequently made to three specific characteristics of shock advertising:

- a) distinctiveness - has a positive effect on the level of attention attracted by the advertising message, the degree of memorization and on the evaluation of the brand,
- b) ambiguity - is the extent to which the advertisement leaves room for various interpretations, if not of its content, then of the intentions of the broadcasters.
- c) violation of norms and taboos - it is considered that the shock, most likely, can occur when the content of an advertisement refers to a subject that is considered by consumers to be taboo. This element might be the most important, since an advertisement that is merely distinctive and ambiguous would hardly shock and would rather tend to be simply rejected (Andersson et al., 2004).

Marketers take various approaches to the shocks evoked in advertising and the key element that causes shock, they argue that audiences may be shocked by the 'advertising object' or 'shock tactics' used in advertising and which, through various emotional appeals, create a shocking way of advertising. Empirical research indicates that the advertised object and tactics with various stimuli encourage cognitive processes that produce strong effects on memory, thus, shocking advertising content attracts attention and provokes cognitive processing and has a greater chance of eliciting behavioral reactions:

1. The promoted object (which can be a good, service, person, place, idea or organization).

Many experts believe that the element of shock in an advertisement can be primarily caused by the specifics of the product/service we want to promote. There are a number of products that create emotions just by openly mentioning them in public, as a rule, these are the products that from the

perspective of social and moral norms should not be displayed or discussed publicly, e.g. Waller (2009) presents a list of 15 products and groups them according to their level of consumer offense (from lowest to highest): *alcohol, cigarettes, condoms, female contraceptives, hygiene products, lingerie, funeral services, gambling, men's underwear, pharmaceuticals, political parties, racially motivated extremist political groups, religious cultures, sexually transmitted diseases and weight loss programs*. We note that the negative attitude towards a product can disappear in the long term, if the product is perceived by consumers as useful, or it can lose its shock intensity when it is heavily promoted and consumers no longer feel discomfort when seeing it, creating a state of habit (Andersson et al., 2004).

2. Shock tactics in advertising.

Emotional appeals in advertising, as they are frequently used in practitioner discussions and the consumer's response to them, are heavily discussed topics in the marketing literature. The analysis of emotions triggered by shock advertising by Dahl et al. (2003) identify seven types of shock tactics: *disgusting images, sexual references, profanity or obscenity, vulgarity, indecency, moral offences, religious taboos*. The essence of the 7 types of "shock appeals" identified by Dahl is generalized in table 2.

Table 1. Typology of shock tactics in advertising

Shock Tactics/The Offensive Element	The description
1. Disgusting images	Use of images of blood, body parts or secretions, orifices, especially urine, gas, odors, disease, vermin, bodily harm, dismemberment, death.
2. Sexual references	Images or references to sexual relations, full or partial nudity
3. Profanity / obscenity	Cursing, obscene gestures, racial epithets
4. Vulgarity	Display of cruelty or bad taste, actions of people or animals, such as picking the nose or drinking the water from the toilet
5. Indecency	Violations of social values or violation of decency and ethical norms e.g. clothing, manners
6. Moral offense	Injuring innocent people/animals, violence, allusion to people or objects that cause violence (e.g. Hitler), violation of standards of correct behavior (e.g. shooting someone in the back), placing children in challenging situations (e.g. sexual, violent or victim exploitation)
7. Religious taboos	Improper use of spiritual words or religious symbols and/or rituals

Source: based on Dahl et al. (2003)

Research results highlight two types of emotional tactics: *positive and negative emotional stimuli*. *Positive emotional stimuli* have a beneficial impact on the audience to change behavior. However, only 3 stimuli - *humor, rationality and values* - cause positive emotions. Out of 13 tactics identified in the reference literature, 7 types of tactics were found to elicit positive emotions and 3 mixed emotions, both positive and negative. For example, highway safety ads typically elicit negative emotional appeals, such as broadcasting incidents and collisions. If positive emotions are triggered,

the public may not take this fact seriously and, consequently, not produce the behavior change (Williams, 2009). Theoretical research based on specialized literature published abroad, allowed us to conclude that there is no unanimity in the classification of shock tactics and a holistic approach to shock advertising is missing. Generalizing the defining elements and characteristics of shock advertising with the classification of shock tactics, we propose a schematic model, which, in the author's view, represents the typology of shock tactics (Fig.4.)

2.2 Characteristics and factors influencing the use of shock tactics in the context of social and commercial advertising

The literature has shown that consumers' positive or negative attitudes towards shock advertising can be affected by cultural and socio-demographic factors such as religiosity, age, moral code of conduct, gender, individualism and collectivism. The theoretical model is developed based on socio-cultural and demographic factors, consumer buying behavior and consumer perception of shock advertising. (Fig.1)

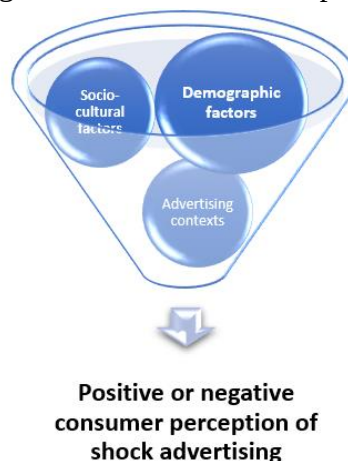


Figure 2. Factors influencing consumer perception of shock advertising

Source: author own study

These elements can have different impacts depending on the context of use - social or commercial context. Studies show that the demographic and socio-cultural factors that may influence consumer attitudes and actions after viewing shock advertisements relate to:

1. *Age*- there are differences in the perception of shock advertisements among consumers of different ages, typically younger consumers have a more positive view towards the use of shock tactics compared to older people. To better understand the differences in consumer behavior by age, generational theory, which was formulated in 1991 by William Strauss and Neil Howe, was used to delineate 5 distinctive generations: baby boomers, generation X, generation Y, generation Z and generation Alpha. It was found that each of these generations has its own personal moral values, views and attitudes towards the role of family and career, life balance, which Strauss and Neil Howe developed under the impact of changing social environment (Machova et al., 2015).
2. *Gender* - there is evidence that women and men may react differently to the same shock tactics, for example nudity may be perceived neutrally by women, whereas indecent images related to children may have a much stronger impact on women due to maternal instinct compared to men's perceptions. Differences may occur not only in reactions to different shock tactics, but also in the intensity of the shock.

3. *Religion* - Religious aspects have a large impact on consumer reaction to shock advertising. Sabri et al. (2012) conducted research examining how religion can affect consumer behavior to shocking or offensive advertising. The authors concluded that for religious people, the level of acceptance of shock advertising and the promoted product is low and the reaction is negative (Sabri, 2012)

4. *Moral principles* - ethical values, personal morals can influence the reaction of consumers to shock advertising, the more they are influenced by the ethical and moral rules of society in his behavior, the higher the level of shock can be and the more negative the reaction.

Cultural factors play an important role in the studies analyzed. These can make a significant difference in how people interpret and respond to provocative or controversial elements in an advertisement. It is important to note that these cultural dimensions provide only a general overview and there are variations and subtleties within each culture. Further research, testing, and evaluation are needed to better understand how the impact of shock ads may vary based on these factors, as well as in combination with other demographic factors such as gender, religion, culture, and everyone's moral principles.

In the discussion of the impact of shock advertising on consumer emotions and behavior, it was concluded that the nature and intensity of consumer reaction is determined by different advertising contexts. When creating commercial or social advertising, the same shock-inducing techniques and methods of consumer influence are used; however, the purpose of advertising in the two contexts is essentially different. Research findings show that consumers are more willing to shock advertising in the social context than in the commercial context, the level of involvement and awareness of the message is higher (Banyte et al., 2014). Social advertising is intended to educate society, change attitudes, propagate and enhance social welfare and thus is used to solve problems in one way or another related to an individual's actions as a member of society. Social advertisements are most used in areas such as health care, environmental protection, harm prevention, and the promotion of social initiatives and involvement and are focused on changing and shaping stereotypes of social behavior. Studies also show the risks of using shock ads for companies: the message may remain ambiguous and confusing, and if consumers perceive the ads as offensive, they may refuse to buy the promoted products.

3 Conclusion

There are no comprehensive studies that reflect consumer reactions to shock advertising in the context of both commercial and social advertising, nor are there models based on such results. This underscores the need for a conceptual model of consumer responses to shock advertising across various contexts. It is essential to note that these tactics may be perceived differently by the public, depending on their sensibilities and values, which can elicit both positive and negative reactions. Therefore, companies must be mindful of the impact of advertising messages and tactics, considering the target audience and the social and cultural environment in which they are presented.

There are no comprehensive studies reflecting consumer reactions to shock advertising in the context of commercial and social advertising, and there are no models based on these results, which argues for the need to develop a conceptual model of consumer response to shock advertising in various advertising contexts. It is important to note that these tactics may be perceived differently by the public, depending on their sensibilities and values, and may attract both positive and negative

reactions. Therefore, companies need to be attentive to the impact of advertising messages and tactics and consider the target audience and the social and cultural environment in which they are presented. Capitalizing on the advantages of shock advertising in commercial and social advertising depends on the following aspects:

1. *Grab attention*: shocking ads with unexpected images or messages can grab the audience's attention more than regular ads.
2. *Stimulates emotions*: shock ads can cause a strong emotional reaction in the audience, which can increase their interest and involvement in the product or service being presented.
3. *Incite discussion*: shock tactics can spark discussion and debate among audiences, which can lead to additional exposure and increased brand awareness through viral marketing.
4. *Differentiate from the competition*: by using shocking messages or images, companies can differentiate themselves from the competition and make their product or service more attractive and memorable to the public.
5. *It's better remembered*: consumers are more likely to remember shocking ad content compared to traditional ad content due to the evoking of higher intensity emotions.
6. *Inform and educate the population*: messages with shock elements, especially in the social field, have a greater impact in informing, raising awareness and educating people, especially when it comes to vices and their harmful effects.
7. *Contributes to increasing the visibility of non-profit organizations*: shock advertising increases the role and contribution of organizations, especially those that collect charity funds, which have a relatively small advertising budget in a crowded and competitive environment.

However, it is important to consider that shock advertising can also have disadvantages. This can be perceived as *insensitive, offensive or exaggerated*, which can lead to negative reactions from the public. It is also important for advertisers to consider their target audience and ensure that the messages and images used are appropriate for their profile and will not be misconstrued or interpreted in a negative way.

The risks and limitations of using shock tactics in advertising include the following:

1. *Negative reactions from the public*: shock ads can be perceived as offensive, which can lead to negative reactions, such as boycotting the products or the company.
2. *Distraction from the main message*: if the shock level used is too high or the message is not directly related to the product or service presented, it can distract the audience from the main message and lead to a decrease in the effectiveness of the ad.
3. *The risk of exploiting the emotions of the public*: shock stimuli can be perceived as exploiting the emotions of the public in order to increase sales, which can have a negative impact on the image of the brand.
4. *Adverse reactions from the authorities*: some shock ads may be considered immoral or unethical and may lead to adverse reactions from the authorities, such as fines or the withdrawal of the ad or even the products from the market.
5. *Creating a negative image of the brand*: if the use of shock tactics becomes a constant strategy of the brand, it can develop a negative image, perceived as insensitive or too aggressive towards the public. The advantages of using shock advertising are more present in the short term by attracting the attention of the public, but in the long term there is a risk of damaging the brand image and losing some of the more sensitive customers.

6. Some consumers may ignore the shocking ads, preferring to avoid reality and ignore the seriousness of social issues.
7. Shock tactics in advertising could be addictive and the shock level would need to be amplified to get the audience's permanent attention, yesterday's shock may become today's normality.

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CURRENT TRENDS IN THE INNOVATION PROCESS WITHIN THE GLOBAL BANKING INDUSTRY

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Abstract: The global banking industry has constantly evolved, undergoing processes such as internationalization, banking concentration, liberalization, diversification, universalization, and globalization of activities. The most recent changes include the modernization of banking technologies and the development of alternative communication methods, which have revolutionized the sector, creating real competitive advantages through the implementation of high-performance information systems and the personalization of the bank-client relationship. This gradual transformation, alongside the creation of the digital economy and the integration of innovations from the 5.0 and 6.0 technological revolutions (where 5.0 focuses on the integration of advanced technologies like AI and IoT into industries for smarter, more connected environments, and 6.0 envisions further advances toward human-centric innovations and automation), has led banks to adopt the Banking 4.0 concept (which emphasizes the use of IT and AI technologies to offer personalized, on-demand banking services anywhere, anytime). According to the Banking 4.0 concept, banking activities integrate IT and AI technologies, enabling the provision of banking products and services at any time, regardless of the client's location. The research conducted shows that, globally, there are several innovative types of banks: platform banks, digital banks, including virtual banks, and OEM banks. Moreover, with the implementation of the Banking 4.0 concept, complementary non-banking models have also emerged.

This article analyzes current trends in the global banking innovation process, based on a review of specialized publications in the field. It highlights the advantages and benefits these innovations offer, as well as the challenges encountered in promoting the innovation process. The study identifies key trends, including the digitization of banking activities, ensuring banking security, the rise of banking self-service, hyper-personalization, and the improvement of customer experience, among others. In the context of digitalization, coupled with pressures such as declining profits and changing customer preferences, experts argue that banks must address all aspects of the innovation process. This begins with a radical transformation of the business model and extends to the implementation of open banking and smart banking, which can take various forms. The global banking industry has adopted and integrated a wide range of new tools and technologies. Banks are increasingly implementing these innovations to bridge the existing gap and enhance their competitiveness in the financial sector.

Keywords: banking industry, trends, banking services, bank innovation

JEL Classification: E40, E44, G20

Introduction

Since the second half of the 20th century, the global banking sector has undergone profound transformations, including internationalization, concentration, liberalization, universalization, and diversification of banking activities, eventually leading to the trans-nationalization and globalization of operations. These changes were largely driven by the modernization of information technologies and communication methods, which significantly impacted the quality of banking services. As a result, there has been an increase in the volume of operations, an expansion of the range of services provided by banks, and the adoption of non-banking methods of raising funds. For example, banks increasingly act as intermediaries in the issuance of bonds and other securities. The present article aims to explore bibliographical sources and official documents of the global banking system, identifying the trends of banking innovation, as well as the advantages and challenges associated with its implementation.

Trends in the innovation process in the global banking industry

In the process of globalization, banks have undergone several phases: from domestic or national banks to international banks, then multinational banks, and finally global banks. Beginning in the 1960s, the process of internationalization has evolved into the globalization of banking activities, culminating in the emergence of the concept of the "**global bank**" – a financial institution that operates in all countries worldwide simultaneously, *offering universal products and services*.

American researcher Brett King (2013) identifies four stages in the metamorphosis of banks: Bank 1.0, which operates through traditional methods; Bank 2.0, which enhances operations by implementing information and communication technologies (ICT); and Bank 3.0, which adapts to market demands by focusing on four key areas: mobility, socialization, personalization, and proactivity. With the advent of the 4.0 industrial revolution (building the digital economy) and the technological advancements of revolutions 5.0 and 6.0, the banking industry, according to the opinion of experts from Huawei (2022), enters the era of Bank 4.0, characterized by full digitalization of banks. Bank 4.0 integrates IT and AI technologies, enabling the delivery of integrated banking products and services that are accessible to individual customers anytime and anywhere. The primary drivers of innovation at this stage include the digitization of banking activities, the enhancement of banking security, the introduction of banking self-service, hyper-personalization of services, and the overall improvement of the customer experience (Smartlockr, 2022).

The benefits brought by the digitization of the banking system are the following:

- more competent and faster data-driven decisions;
- attracting customers, their retention and raising the level of experience with customers by personalizing actions and customer loyalty;
- increasing efficiency as a result of automation and reducing operational costs;
- training the released staff in improving the relationship with customers.

In order to obtain these benefits, banks must solve the following problems they face in the digitization process (World Economic Forum, 2022):

- at the initial stage, digitization requires a large initial investment, which the bank must have;
- the clients' consent regarding having control over their personal data (GDPR);
- issues related to social inequities arising from digitization (the population's access to digital services - only 62.5% of the global population are Internet users);

- ensuring the synergistic effect of digitization in the banking field with sustainable development (circular economy, green economy), because in this way circular opportunities are created for the development of banking products/services and customer involvement (Filip, 2022).

Thus, in the context of digitization, as well as under the pressure of reducing profits and changing customer preferences, specialists in the field believe that banks must act on all dimensions of the innovative process, starting with the radical modification of the business model. According to the analysis of PwC and Strategy&, three models of innovative banking were identified (Belciu, 2018):

Platform banks: Banks that share access to their customers with fintechs and other competitors. This differs from traditional banking, where banks control the entire value chain, do not integrate offers from other providers, and do not allow third parties access to their customers. Platforms act as an interface between customers, products, and external specialized service providers.

Digital banks: Licensed financial institutions distinguished by the extensive digitization of services, as well as all front- and back-office processes. They offer users the ability to access financial data via the internet (desktop), mobile phone, or other devices and ATMs. Digital banking involves high levels of process automation and web-based services and may include application-programming interfaces (APIs), which enable cross-institutional service delivery (Digital Banking, n.a; Virtual Banking, n.a).

Banks OEM (Original Equipment Manufacturer) banks that tend to focus on doing what they do the best and use external suppliers for certain services, especially in back-office and middle-office processes.

In connection with the implementation of the Bank 4.0 concept, complementary models of neo-banks (also called challenger banks) were established, which operate exclusively using online banking services, without networks of traditional physical offices (Bensley, 2022; Neobank, n.d.). Neo-banks are fintech companies that provide apps, software, and other technologies to streamline mobile and online banking, often being more agile and transparent than the megabanks. Banks form joint ventures with such firms to underwrite their financial products (Walden & Strohm, 2021). These fintechs generally specialize in specific financial products, such as checking and savings accounts. The spectrum of services offered by non-banks is narrower than that of traditional banks, and the main part of the income of these banking institutions is made up of commissions obtained from customers' debit card transactions. Likewise, non-banks provide standard and non-traditional online banking services (peer-to-peer payments, financial advisory bots, cryptocurrency transactions, and crowdfunding platforms to raise funds for specific financial projects or their intangible equivalents that are directly related to the project) (Walden & Strohm, 2021).

A current banking practice that is becoming a major source of innovation and reshaping the banking industry is open banking ("open banking data") or (open banking). Open banking is a system that gives third-party financial service providers open access to banking data about consumers (with their consent), their transactions, and other financial data from banks and non-banking financial institutions, through the use of application programming interfaces (APIs) (Investopedia, n.d.). APIs of third-party providers (typically tech startups and online financial service providers) may subsequently use the customer's shared data (and data about their financial counterparties).

Another challenge for banks is smart banking. In providing smart banking services, banks use technology to collect, store, and analyze customer data, in order to facilitate the use and management of customers' financial means, increasing the accessibility of personalized banking services, allowing users to access their accounts from anywhere using phones or other devices (Muscad, 2023).

Depending on the technologies and tools applied, smart banking can have many forms, such as: automated payments; budgeting tools; personalized advice; mobile banking activity (mobile banking, video banking); fraud protection: password protection, updated digital certificates, firewalls, and anti-malware systems; cloud computing; improved customer service; customizing functions with automation and artificial intelligence tools; developing instant payments (mobile wallets, cryptocurrency, point of sale (POS), and blockchain) (Huawei, 2022; IDFC First Bank, n.d.).

It is evident that the global banking industry has developed and assimilated a vast array of new tools and technologies. According to expert Zuzanna Pajorska, the introduction of these new technologies is fundamentally changing the daily operations of financial institutions and the overall role of banks. She highlights that "transformational concepts such as AI, blockchain, NFT, AR, and VR are now central topics in discussions about the future of the banking sector" (Huawei, 2022). The adoption of technologies like 5G, AI, the Internet of Things (IoT), and blockchain opens up numerous opportunities for developing intelligent banking services (Intelligent Financial Network, n.d.), with the innovation gap influencing the competitiveness of financial institutions.

A key driver in promoting innovation within the banking sector is the 5th generation mobile network, or 5G. 5G is a new global wireless standard designed to deliver low latency, reliable, and high-capacity data connections. Currently, mobile operators in over 125 countries are investing in 5G technology (Binesh, n.d.). The implementation of 5G will empower banks to leverage AI, including machine learning, thereby offering new possibilities for the banking sector (Binesh, n.d.), such as enhancing availability across all devices, enabling hyper-personalization, and integrating augmented and virtual reality experiences.

Artificial Intelligence (AI) refers to a wide range of technologies, such as machine learning, natural language processing, expert systems, computer vision, speech recognition, planning, robotics, and more (Dumasia, 2021). An expert in the field of technology, with a focus on AI, Joy Dumasia outlines five key applications of AI in the banking sector (Dumasia, 2021):

1. Customer Service/Engagement (Chatbots) – Chatbots offer a high return on investment, making them one of the most widely used AI applications. They efficiently handle commonly requested tasks, such as balance inquiries, accessing mini-statements, and transferring funds, which helps alleviate the pressure on other channels like contact centers and internet banking platforms.
2. Robotic Consultation (Robo-Advisors) – A robo-advisor evaluates a client's financial situation by analyzing shared data and their financial history. Based on this analysis and the client's objectives, the robo-advisor provides tailored recommendations for suitable investments, selecting both product classes and specific financial products or equities.
3. General Purpose/Predictive Analytics – AI is commonly applied in general-purpose natural language processing and predictive analytics. It can detect specific patterns and correlations in data that may uncover untapped sales opportunities, cross-selling possibilities, or important operational insights, all of which can have a direct positive impact on revenue.
4. Cybersecurity – AI significantly enhances the effectiveness of cybersecurity systems by analyzing data from previous threats and identifying patterns that, while seemingly unrelated, may predict potential internal or external attacks. This predictive capability allows for more proactive prevention of security breaches.
5. Credit Scoring/Direct Lending – AI assists alternative lenders in evaluating the creditworthiness of clients by analyzing both traditional and non-traditional data sources. This enables the development

of innovative lending systems, supported by robust credit scoring models, even for individuals or entities with limited credit histories. Prominent companies in this field include Affirm and GiniMachine.

Artificial intelligence is characterized in the following forms:

Machine learning (ML) consists of extracting meaningful information from raw data sets and provides accurate results for prediction. This information is used in solving complex and data-intensive problems that are critical to the banking sector. In addition, machine-learning algorithms are equipped to learn from data, processes, and techniques used to find different insights (Medium, n.d.). The areas of application of ML are:

- fraud detection based on the use of the machine learning algorithm;
- determining the customer's creditworthiness;
- improving the customer experience, for example, offering rewards based on transaction analysis etc.

Deep learning (DL) - consists of processing a wider range of information – including raw, unstructured data such as photos, news and handwritten notes. With enough data, DL can often produce more accurate results for certain products than traditional ML approaches (e.g. random forecast classifier). Interconnected layers of software-based computers known as "neurons" form a neural network that can ingest and process large amounts of data through multiple layers that extract increasingly complex features from the data. The network can then use what it has learned to determine new data.

The fields of application of DL, according to the opinion of experts in the field, are conducting marketing studies, customer relationship management (CRM), customer experience management (CXM or CEM) and risk management.

Data mining (data mining, DM) - is the process of extracting interesting, non-trivial, implicit, previously unknown and potentially useful patterns or knowledge from huge amounts of data. The data can be spatial data, multimedia data, time series data, text data, and web data. Data mining is used for (eCapital Advisors, n.d.):

1. - determine the probability that a loan will be repaid by the borrower;
2. - in the detection of bank fraud;
3. - detection of suspicious transactions.

Conclusion

As the global banking industry continues to evolve, banks face numerous challenges in driving the innovation process while maintaining competitiveness and customer loyalty. In order to ensure that banks remain operationally sound and competitive in this rapidly changing environment, banking regulators must play a pivotal role. They need to establish and enforce a robust supervisory system that not only addresses immediate risks but also anticipates future challenges. An effective regulatory framework is essential for overseeing the safe integration of new technologies, ensuring compliance with evolving financial regulations, and fostering innovation without compromising financial stability. Through proactive regulation, banking authorities can support the growth of the sector while safeguarding against potential risks that could undermine the integrity of the financial system.

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TOURISM AND POVERTY REDUCTION

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Abstract: Tourism is considered by many developing countries to be an important factor in economic progress and poverty reduction. It is therefore evident that the link between them is not automatic. It can only exist if tourism creates new jobs, establishes linkages – mainly with agriculture and services– and stimulates the development of basic infrastructure through the construction of access roads, ports and airports and the provision of financial services that benefit the entire economy.

Tourism development must also be part of a national strategy that provides a general, regulatory and institutional framework with adequate incentives to stimulate the development of supply in domestic markets. The extent to which the national strategy limits financial leakages that are detrimental to the country's economy, which usually is a chronic issue in the majority of developing countries, and the efforts made to lessen the negative impact of tourism on the environment and cultural heritage are also important. The way to make tourism more sustainable and contribute to the achievement of the sustainable development goals of developing countries remains an issue that requires urgent attention.

The fight against poverty has become inseparable from development. Although most analyses still focus mainly on its economic dimensions, poverty is now understood by researchers, but also by governmental and non-governmental institutions, as a complex multidimensional concept that challenges all disciplines. Due to its phenomenal growth in developing countries in recent decades, tourism is often considered by these same actors as a vector for the fight against poverty, of which "pro-poor" tourism remains the best-known example. Based on the scientific literature, this article offers an overview of research dealing with the relationships between tourism and poverty in developing countries.

Keywords: Tourism, poverty, development, regional development, sustainable development.

JEL Classification: O13, R11, Z32.

Introduction

Engine of growth, locomotive of economic and even sustainable development, factor of change, field conducive to intercultural exchanges, etc., are so many qualifiers designating the objectives assigned to tourism. The latest is to make it a factor of social and spatial equity to reconcile all territories, whether rich or poor.

The relationship between tourism and poverty certainly covers new dimensions. Is it a new paradigm or just the normal evolution of an activity with a strong economic and political content?

Sustainable, responsible, fair, supportive and even humanitarian, tourism is not only a multidimensional phenomenon. It is also complex, generating changes and structuring of social and territorial systems and producing new human relationships.

New meanings and values are then granted to tourism. When it is "sustainable", to take only this qualifier, it should also be so for the population it concerns. If this population maintains its forms of production, tourism should respect it as it is. The question then arises of the nature of this tourism, but also, and above all, of the balance (if it takes place) established by this population. But this balance can also be made of underemployment, unsatisfactory for this population in its entirety or at least for a part of it. Can tourism, however sustainable it may be, disrupt this balance made of underemployment or on the contrary contribute to its eradication? Indeed, tourism is sought after by many countries (mainly developing ones) for the benefits it would generate, particularly in terms of employment.

Today, the various national and international actors are displaying their expectations regarding tourism, which should not only be a sector for opening up countries and civilizations but also a vector for human and social development. Poverty reduction is increasingly becoming a major societal issue. It is thus the unifying mission of several sectors and various actors in social action, especially when poverty is linked to different socio-economic factors, in this case unemployment, illiteracy, infant mortality and environmental degradation, etc. In this fight against poverty, tourism can then be an opportunity to seize. By what means? With which actors? By relying on what philosophy? On what approaches? With what limits and risks? Or is tourism, on the contrary, only a "selfish", capitalist economic activity, causing injustice, misery, social vulnerability and sending the native back to an irreducible otherness; and therefore, could it ultimately only be a factor aggravating poverty in all its complexity?

Poverty is a major problem in developing countries and tourism is a new economic issue for most of these countries, but the relationships between the two remain ambiguous on several levels. Making these relationships more intelligible indeed requires special insight and in-depth reflection, because their scope covers several dimensions and involves a multitude of uncertainties. Poverty and its paradoxes lead us, firstly, to question the nature of the distribution of wealth due to tourism. What trade-offs then can be made to address potential inequalities?

The notion of border as a referent deserves to be questioned and analyzed, either between what is poor and what is not (Simmel, 1907; Selimanovski, 2008) and between what is intended to tourists and what is not, and of course between territories of poverty and tourist territories, between what is economic and what is social, between the competitive and the equitable, between territories of exclusion and territories of dependence (Scholz, 2005). These borders challenge more than ever the notion of territorial and social integration at different scales. They are not only spatial, economic and social, but also psychological and cultural representational.

Borders and integration would require appropriate approaches and intervention strategies capable of building bridges between the "rich" territories of tourism and the territories of poverty and exclusion, in other words between "lands of exclusion" and "lands of hope" (Bailly, 1997), to finally create spaces of understanding and cultures of sharing. How can the poor become real actors in tourism capable of reaping the dividends? And how, conversely, can tourism be made a lever for solidarity development and an instrument for reducing poverty?

Tourism is undoubtedly the economic sector par excellence that mobilizes human flows in the world for a labor-intensive activity and which occupies one of the first places, by its revenues, in international trade. But public policies, in the countries sending or receiving tourist flows, have long ignored the possibility of crossover and sharing between tourism policies seeking competitiveness and social policies seeking to be more equitable and supportive. How can these different policies be well articulated to serve poverty reduction or to produce "shared prosperity"? What strategies should be adopted? What roles should the different actors and cooperation organizations play? And how can the indisputable economic benefits of tourism be more precisely assessed?

Another aspect that deserves to be addressed in the context of the prospects for good coordination between tourism and poverty is that of the place of tourism in the development of territorial resources that can be mobilized for local and regional development. Under certain conditions, which remain to be specified, tourism can play an important role in the process of building the territorial resource, in the sense that it allows the revelation, by external actors, of resources likely to then enter into a process of specification and conservation, then development. It can enhance "ignored" resources or sometimes even those that have a handicap status such as snow, relief, sand dunes, sea waves, etc.

To address this issue, three axes have been included to describe, analyze, synthesize and explore the relationships between tourism and poverty. This involves firstly dealing with the theoretical and methodological positions of the relationship between tourism and human and social development. In a second axis, the emphasis is placed on the diagnosis that can address the opportunities and threats resulting from the interactions between tourism and poverty. A third axis attempts to identify the possibilities offered by tourism to combat poverty by proposing basic elements for developing strategies and links between these two sectors.

1 Tourism and poverty: what role for "pro-poor" tourism?

Tourism is one of the major socio-economic phenomena of the 21st century. Since the early 1950s, it has branched out, diversified and multiplied to the point of becoming one of the largest and fastest growing economic sectors in the world.

According to the first UNWTO World Tourism Barometer of the year, international tourism ended 2023 at 88% of pre-pandemic levels, with an estimated 1.3 billion international arrivals. The unleashing of remaining pent-up demand, increased air connectivity, and a stronger recovery of Asian markets and destinations, are expected to underpin a full recovery by the end of 2024. International tourism receipts reached USD 1.4 trillion in 2023 according to preliminary estimates, about 93% of the USD 1.5 trillion earned by destinations in 2019 (UNWTO, 2024).

In this context, most governments in the developed and developing countries consider tourism as a strategic economic activity and a tool for local development (Sharpley and Telfer, 2008; Duffy, 2002). Most countries that have developed a Poverty Reduction Strategy Paper (PRSP) cite tourism as a vector for economic growth, job creation and poverty reduction. The importance of this role is based on particularly impressive growth in so-called emerging and developing countries, whose share of international tourists has continued to grow over the last few decades. It is not surprising, under these conditions, to see the emergence over the last years of a discourse actively associating tourism with the fight against poverty, the best-known term of which is that of "pro-poor tourism" (PPT).

As Scheyvens (2011) suggests, the growing interest in PPT stems from the "development industry's" choice to place poverty reduction at the center of its actions. The energy deployed around the MDGs

contributed to the emergence of a certain number of so-called “pro-poor” approaches that explicitly focus on the poorest in a society, as exemplified by pro-poor growth or conservation strategies. Thus, beginning with the late 1990s, attention turned to a form of tourism that specifically targets the poor. Recognizing the central role of the market and the phenomenal growth of the tourism industry, these documents draw attention to ways to maximize tourism’s potential in combating poverty.

Pro-poor tourism can be defined as tourism which generates “net benefits” for the poor, which can be economic, social, environmental or cultural (Ashley et al., 2001). The definition does not refer to the distribution of these benefits. Thus, as long as the poor derive “net benefits”, tourism can be described as pro-poor. This type of tourism is therefore neither a specific product nor a particular sector of tourism, but rather an approach to the industry. The instigators of the “movement” have insisted from the beginning on the importance of the market and commercial viability as the basis for intervention, positioning tourism from the outset as a private sector activity operating within a capitalist framework with mixed effects.

The World Tourism Organization (UNWTO) and the United Nations Conference on Trade and Development (UNCTAD) have led the launch of the Sustainable Tourism –Eradication of Poverty (ST-EP) initiative (UNWTO, 2024).

The ST-EP initiative proposes seven mechanisms that the poor people can benefit from tourism (Yunis, 2004): 1) Employment of poor people by tourism enterprises; 2) Provision of goods and services to tourism enterprises by the poor or by enterprises employing the poor; 3) Direct sales of tourism products to visitors by the poor (informal economy); 4) Creation and management of tourism enterprises by the poor (formal economy); 5) Taxes or levies on income or profits from tourism, the proceeds of which benefit the poor; 6) Voluntary donations and aid from tourism enterprises and tourists; 7) Infrastructure investments stimulated by tourism and from which the poor can also benefit where they live. However, these mechanisms are almost all focused on the economic dimension of poverty, and the emphasis is on the destination rather than on ways to change relationships between actors at the national or global level. Several reports have been published by the UNWTO since the launch of this initiative and several projects have been initiated.

The existence of a consensus on the role that tourism has played so far in reducing poverty is however still not clear and Mitchell and Ashley (2010) identify three good reasons for taking an interest in it: 1) Tourism is an important component of the economy of most poor countries; 2) Growth prospects are very good for the future; 3) Tourism has demonstrated in the past that it can help the most deprived when the conditions are right. These elements demonstrate the importance and complexity of the issues underlying the relationship between tourism and the fight against poverty. Consequently, it would be useful to understand how scientific thinking on the subject is organized and to grasp the scope and limits of the analyses proposed by researchers.

2 The main research approaches

A review of the research themes in the field that links tourism and the fight against poverty allows us to note their heterogeneity. Indeed, the research is multiple in terms of the objects treated, the approaches used, the concepts mobilized and the units of analysis chosen. Whatever the research theme addressed the particularity of the research field that links tourism and the fight against poverty, and what distinguishes it from other research fields, is the use of particular theories and approaches. On this subject, Scheyvens (2011) demonstrates quite convincingly that the conception of the

relations between tourism and poverty is complex and varies according to the theoretical anchoring or the perspective adopted by the authors. The research work, but also the policies, strategies and projects that claim to be pro-poor tourism are influenced to varying degrees by a few theoretical perspectives.

According to the neoliberal perspective, tourism development is encouraged through market liberalization and some form of democratization and decentralization; through investments in developing countries that lead to an increased presence of foreign companies in these new tourist markets; and thus tourism is seen primarily as an economic sector that helps reduce or eliminate poverty in which public-private partnerships are encouraged.

If the definition of poverty were to be broadened to include, for example, socio-political dimensions, this "enthusiastic" and unqualified expansion of tourism could have negative repercussions on several social groups, whether marginalized or not. For his part, Butcher (2011) suggests that the integration of conservation and development objectives through ecotourism projects at a strictly local level limits the possibilities for communities to escape poverty. According to him, we should instead not be afraid to bet on the development of mass tourism and strong economic growth.

The critical perspective, on the contrary, presents tourism as a Trojan horse in areas that are poorly integrated into global capitalism, emphasizing the existence of a socio-economic gap between visitors and those visited. According to the alternative development perspective, tourism offers poor communities a way to diversify their livelihoods and future prospects. These communities are also invited to actively participate in the development of tourism projects, and the strengthening of their empowerment constitutes a central element of the expected benefits.

Finally, Scheyvens (2011) proposes a poststructuralist perspective that places tourism outside of a Manichean logic (tourism is good or bad). According to this approach, tourism is seen as a complex system within which communities, like other actors, can — and must — exercise a certain power by multiple means.

3 The potential role of tourism in economic growth and poverty reduction

The development of the tourism sector involves various actors ranging from government – which influences its development through intervention, infrastructure development and regulation – to the main players in the private sector. The latter include the many small and large local and foreign companies that provide equipment and services, such as hotels, restaurants, transport companies, local guides and providers of various leisure and entertainment services.

This diversity poses a difficult problem. On the one hand, it shows that unlike other sectors that are by nature enclaves, such as the extractive sector, tourism establishes relationships between sectors of the economy and, therefore, has a greater chance of contributing to economic diversification. On the other hand, the great diversity of actors and activities in the tourism sector makes it more difficult to inscribe this sector in the long term, which requires that each area or activity be sustainable. A plethora of policies and regulations, investments and training, are needed to inscribe all tourism activities in the long run and to sustain the tourism development.

The contribution of the tourism industry to economic growth, job creation, national capacity building and poverty reduction depends on the following factors:

- The degree to which the tourism sector is part of the national economy through its linkages with other sectors and its integration into regional and international value chains;

- The degree to which tourism revenues, including foreign exchange, are used to finance infrastructure development, support local businesses, particularly small and medium-sized enterprises (SMEs), and develop the skills and institutions needed to create a vibrant local economy;
- The policies and strategies adopted by the public authorities and the extent to which these provide incentives for increased domestic and foreign investment in tourism and for transfers of technology and know-how, and target areas where poor people live and work;
- National efforts to ensure that tourism follows the steps of sustainable development and reach economic, social and environmental issues.

The value chain of tourism can span many economic sectors. Promoting it will require building and operating hotels, restaurants and other tourism facilities through backward linkages and the provision of basic infrastructure services.

The tourism sector can also create an extensive network of downstream relationships with sectors that provide services consumed by tourists (financial services, telecommunications, retail services, recreational and cultural services, personal services, hotel services, security and health services). Also, countries that wish to consolidate their tourism industry will need to develop other supporting infrastructure, including airports, adequate roads, ports, hospitals and banks, which are essential to ensure access to quality services and create a competitive tourist destination.

However, building linkages cannot be achieved without an efficient national strategy that includes specific policies, regulatory and institutional frameworks, and sufficient incentives to stimulate private investment. Having a national strategy is essential, but equally important is the active involvement of governments in building the basic infrastructure. Developing countries that have been most successful in developing tourism industry are those that have set up a precise strategy that involves both the public and private sectors in investing and building the essential tourism infrastructure.

However, in many developing countries, links to tourism remain tenuous and underexploited. As a result, foreign investors, international tour operators and foreign airlines tend to capture most of the value added in the tourism sector, from which the poor derive only limited benefit. For example, Mitchell and Ashley suggest that at best, between 20-30% of total on-site tourist spending benefits the poor directly or through supply chains (Mitchell J. and Ashley C.).

Therefore, to design strategies for sustainable tourism, governments need to identify and assess potential leakages from tourism value chains into the economy. For example, agriculture is a major sector with close linkages to tourism, with hotels and restaurants requiring a steady and large supply of food and beverages. Tourists spend about a third of their expenditure on food (Telfer D. J. and Wall G.).

Conclusion

Tourism alone cannot eliminate poverty, but it can make a significant contribution to it. The impact of tourism on poverty reduction depends on a number of factors. For example, it depends on the type of tourism – mass tourism or specialized or exclusive tourism. The former is most likely to create more jobs, including semi-skilled jobs, and to provide opportunities for the poor or small businesses to sell goods and services directly to visitors. However, mass tourism may pose its own challenges related to pressure on the country's resources, the environment and the preservation of cultural heritage. It must be accompanied by a strategy to minimize any potential negative effects.

The impact of tourism on poverty reduction also depends on the level of spending that tourists make or are encouraged to make while they are there. This is important because discretionary spending

tends to benefit the poor (often through the informal economy) to a much higher extent than major expenditure items such as accommodation, tour operators and international travel.

Countries, particularly low-income developing countries, face a range of challenges and constraints in developing their tourism sectors. Some of these challenges are related to external factors beyond the control of national actors or governments. For example, tourism activities are sensitive to global and regional economic conditions (about periods of growth or recession) and to mitigate the disaster and epidemic events. These factors can significantly influence tourists' travel choices.

Tourism is a significant source of revenue for both the local and international economies. How to capture a larger share of this revenue is a continuing challenge for most poor countries that rely on tourism for their development. The share that is not retained in the local economy – leakage – limits multiplier effects and therefore reduces the positive economic impact and development potential of the sector. Leakage occurs when tourism-related goods and services need to be sourced from abroad. It may consist of profits and revenues paid abroad to international tour operators, the cost of imported goods and services, or interest payments.

Maximizing the potential of tourism industry implies coherent and comprehensive policy frameworks that must ensure that sustainable tourism is well established into the country's economic, social and environmental policies. It also requires strong tourism organizations that can coordinate with other government agencies and stakeholders such as local authorities, the private sector and NGOs. This is a challenging task, given that the sector is fragmented into many enterprises, particularly small, medium and micro-enterprises.

The promotion and marketing of tourist destinations requires a coordinated approach defined in collaboration with the private sector. Investment promotion agencies can play an important role in establishing contacts with foreign investors by interesting them in projects that are economically, socially and environmentally viable.

Cultural heritage is a key driver of tourism, but large crowds of visitors can pose a significant risk to the conservation of these sites. Developing partnerships with local communities is essential to the development of cultural heritage sites so that the impact of tourism on them can be assessed and managed. Tourism development can contribute to raising awareness of natural and cultural heritage and provide incentives to devote more resources to protecting and conserving this heritage. It can even contribute to the perpetuation, renewal and strengthening of traditions. However, it can also have negative consequences for the local population. At the outset of projects, it is important to consider economic measures to compensate for and mitigate the unavoidable effects.

Tourism can contribute to economic growth and poverty reduction in low-income developing countries. The sector's ability to create jobs and income, through the upstream and downstream linkages it creates, makes it an important sector for economic diversification and growth. However, the negative impacts it can have on the environment and culture cannot be ignored. If tourism is to become a source of long-term employment and income and contribute to sustainable development, the exploitation of this sector, including related activities, must also be sustainable, hence the need to develop ambitious strategies and policies.

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IMPACT OF GLOBALIZATION ON THE DEVELOPMENT OF INTERNATIONAL TOURISM

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Abstract: The modern world lives in an era of changes leading to global integration due to the introduction of high technologies and the creation of a global infrastructure. A characteristic feature of modernity is the high speed of changes, both on a global scale and within a separate industry or company. Globalization affects many types of business activity, including tourism.

The article discusses the impact of globalization on tourism. Through mutual influence, tourism and globalization contribute to each other's development, moving to newer levels. Globalization in tourism is defined by the author of the article as a process of a sharp increase in tourist flows, capital, services, information and technologies flows that are not always regulated by national governments.

Another peculiarity of the globalization process in the tourism industry is the use of the latest information and telecommunication technologies. Using the possibilities offered by Internet, the tourism business today actively offers its services online. This helps to increase efficiency and improve the work of companies, improve customer service, speed up all operational procedures, and create new marketing methods and distribution channels.

Now tourism has already become a way of life for many people, and this is reflected in the growth of tourist arrivals and income from tourism in various destinations around the world. This is one of the sources of income to the state treasury, the center of creating new jobs. Today, we can already see the formation of new trends in the development of international tourism, which are dictated by the influence of global processes and will determine its concept in the near future.

Keywords: globalization, globalization in tourism, international tourism, globalization process, global tourism market, globalization trends.

JEL Classification: F01, F6, Z32

1 Introduction

One of the most significant phenomena of our time has become globalization - a special phase of international relations, which is considered as a process of global economic, political and cultural integration and unification. The processes of globalization taking place in the world have affected tourism. Today, the main share of the market and influence in international tourism is concentrated in the hands of major transnational companies. Tourism plays an important role in solving social problems, creating additional jobs, providing employment and improving the quality of life of the population. Globalization in the field of tourism is also manifested in the development of mass types of recreation, unification of services, and the development of information technology. In the tourism market, the process of globalization is characterized by such features as: internationalization of

business activity, change of technology, modernization of transport infrastructure, creation of new mechanisms for regulating international tourism.

However, globalization provides both new opportunities and creates new difficulties, affecting all participants in the world economy. Thus, in the process of globalization, national, cultural and territorial identity is lost, awareness of regional interests is growing, which is manifested in the opposite process to globalization: regionalization. The relevance of the research topic lies in explaining the objective need for further development and improvement of the practical foundations for the development of international tourism in the modern world economy, taking into account the influence of globalization.

The influence of globalization on the world tourism market is reflected in the works of such scientists as Robertson R., Abalakov A. D., Afanasyev O. E., Voronin I. N., Kamenskaya L. A., Kolodiy N. F., Litvyakova K. V., Nikolaenko D. V., Pylaeva A. S., Sushchenko O. A. and others.

The methodological basis of the research was made up of general logical methods: analysis, generalization, systematization, analogy. The information basis was UNWTO data, as well as the results of researches conducted by various authors on this subject.

The tourism and hospitality industry has never reached such a level of development and played such an important role in international relations. Today, as never before, a large number of the planet's population and agents of economic relations are involved in it. Therefore, it seems important to consider the role of the tourism industry in the modern globally turbulent world, which does not simply provide for human needs for rest and entertainment (Афанасьев, О. Е., 2022).

2 Tourism in the conditions of globalization

Globalization can be called the leading trend of the modern world economy. In the broadest sense, the processes of globalization are characterized by the strengthening and complexity of mutual connections and mutual dependencies in the main areas of economic, political, and social life, acquiring a planetary scale. The growing interdependence of countries in the world occurs as a result of the increasing volume and diversity of cross-border movement of goods and services, as well as the rapid and widespread dissemination of all types of technology. The Spanish sociologist Manuel Castells defines the global economy as an economy capable of operating as a single system on a planetary scale in real time (Кастельс, М., 2000).

Globalization concerns both the economy and society. Tourism is one of the main sectors of the economy and, at the same time, an important element of social life. From the point of view of tourism, globalization can be defined as a process that unites people around the world, minimizing transportation costs, leveling borders, cultural and social barriers, facilitating access to new areas of knowledge and work (Афанасьев, О. Е., 2022).

The intensity of tourism development at the present stage, the global scope of the countries participating in this process, changes in stereotypes of perception of the surrounding world, the formation of new economic relations, both in the world market and between individual countries and regions, allow us to call tourism a "phenomenon" of the 21st century (Николаенко, Д. В., 2003). Today, international tourism acts not only as a source of income for sellers and satisfaction of spiritual and physical needs of buyers, but also as a link between countries, international regions, business circles of various states, as a source of dissemination of information about them in foreign markets.

The rapid development of means of communication, communications and the Internet, has affected the increase in the flow of international services and capital and the intensity of global movements. As a result, tourism and migration processes have led to the blurring of national and cultural boundaries. A modern tourist can safely be called a cosmopolitan of the era of globalization, carrying a credit card, not a backpack. And they develop their life strategies for the sake of movement and advancement. And if travel is a philosophical, cultural, even existential category associated with knowledge of the world, then tourism is an economic category denoting a certain consumer service, commodity, product, the creation and sale of which is determined by the laws of the market. The main criterion for evaluating such a product is its economic efficiency: a opportunity to get the maximum amount of pleasure, impressions for the minimum amount of money. A tourist, as a rule, needs positive impressions in exchange for the investment he made in a "holiday trip".

The processes of globalization in tourism are increasing the growth of tourist flows, flows of services, capital, information and technology. So according to the World Tourism Organization – UNWTO, the largest financial contribution was the travel and tourism sector in 2023, which amounted to 9.1% of global GDP (more than 9.9 trillion US dollars). In 2023, global tourism activity reached 88% of the pre-pandemic figure. 1.3 billion people went on trips abroad last year. International tourism revenues are estimated to reach 1.4 trillion US dollars in 2023, which is about 93% of the 1.5 trillion US dollars in 2019 (Международный туризм..., 2024).

In 2023, global international tourism receipts grew by 33.1% to reach 1.63 trillion US dollars, reflecting the strong recovery of many countries around the world from the pandemic, while domestic tourism receipts increased by more than 18% to reach almost 5 trillion US dollars. The results achieved in 2023 thus demonstrated people's passion for travel and laid the foundation and set the stage for 2024. According to UNWTO forecasts, 2024 will be a record year for the travel and tourism industry, with the sector's contribution to the global economy set to reach a record 11.1 trillion US dollars (Отрасль туризма..., 2024).

Tourism is one of the leading job creators in the global economy. International tourism provides employment, especially for young people and women, in both urban and rural areas. In 2023, the number of jobs worldwide in the sector amounted to 330 million, and in 2024 this value could reach almost 348 million (Международный туризм..., 2024).

The demand for tourism services in the context of globalization is growing and this leads to competition both in the hotel business and among other tourism facilities. A large number of international network corporations in the field of tourism services - transnational companies (TNCs) have appeared on the world market that meet the following conditions:

- the presence of foreign branches and subsidiaries;
- activities in many countries around the world;

a high share of the company's income and profits from foreign activities (Воронин, И.Н., Воронина, А.Б., 2009).

Big transnational companies include global integrated hotel chains, networks of tour operators and agencies, enterprises of various sectors of the economy associated with servicing the tourism business. These are transport companies, banking and insurance organizations, catering networks, entertainment companies and many others. In order to maximize profits and provide a comprehensive tourism service, such companies unite, for example, organizing charter air transportation, which is carried out by an airline at the request of a tour operator. In addition, joining international strategic

alliances and international networks enhances the innovative potential of tourism enterprises, provides access to new markets, new technologies and value chains, as well as the need to comply with international rules and standards, without which it is impossible to compete in the global tourism market today. Tourism has currently reached a fundamentally new technological level. The development and spread of information technology allows you to book tickets, hotels or apartments from anywhere in the world. With the help of online tour booking systems, travel packages can now be purchased without visiting the office of a travel company. This means that e-commerce is another feature of tourism in the context of globalization, and it structurally changes the production and distribution of tourism products. Now the producer can deliver the desired service or product directly to the consumer, bypassing intermediaries such as wholesale tour operators, travel agents. And this means that the need for distribution networks, wholesale tour operators and travel agents is minimized, or even eliminated altogether (Литвякова, К. В., 2022). In addition, the development of digital services for travelers allows tourists to assemble their own tourism product based on their leisure preferences and the price and quality parameters of the tourism product.

Thus, at the present stage, taking into account the processes of globalization, tourism is a multi-industry production complex and is characterized by the following factors (Figure 1).

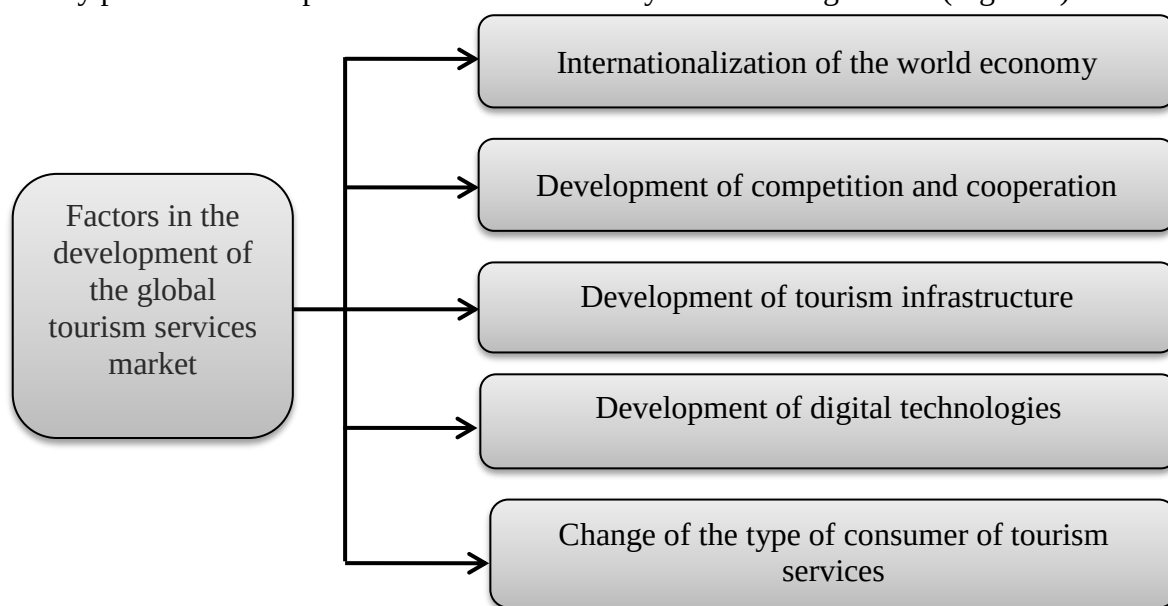


Figure 1. Key factors in the development of the global tourism services market

Source: elaborated by author based on [1; 7; 8]

However, it should be noted that along with the trends of globalization, which level the uniqueness of ethnic cultures and lead to the unification of norms and standards in tourism, there are counter trends of localization (regionalization), promoting a unique, nationally and regionally colored product to world markets. This is another feature of globalization. Regionalization can be characterized as the development, strengthening of economic, political and other ties between regions or states included in one region; the emergence of regional associations of states. Regionalism is defined as an approach to considering and solving economic, social, political and other problems from the point of view of the interests and needs of a particular region (Абалаков, А. Д., Панкеева, Н. С., 2011).

In the sphere of international trade in tourist services, 5 regions can be distinguished:

1. The European macroregion (countries of Western, Northern, Southern, Central, Eastern Europe, as well as countries of the Eastern Mediterranean: Israel, Cyprus, Turkey).
2. The American region (countries of North, South, Central America, island countries and territories of the Caribbean).
3. Asia and the Pacific region (East and Southeast Asia, Australia and Oceania).
4. African region (African countries except Egypt and Libya).
5. Middle East region (West and Southwest Asia, Egypt, Libya).

Today, the global tourism industry is developing dynamically, involving more and more regions. Thus, in 2023, the Middle East became the fastest growing region in terms of the number of international tourist trips, this is the only region that managed to overcome the pre-pandemic level. The number of international arrivals to Middle Eastern countries is 22% higher than in 2019. At the same time, the most visited region in the world remains the European region, where the number of foreign guests reached 94% of the 2019 level. UNWTO predicts faster growth in the coming years in the "new tourism frontier" countries, which include the Asia and the Pacific region, the Middle East and some of the more stable parts of Africa (Международный туризм..., 2024).

As a result of the interaction of the global and the local, the trend of "glocalization" has formed. Glocalization should be understood as a process of intertwining global and local processes of social development, which is very important for understanding globalization itself. The term "glocalization", according to a number of researchers, was introduced by the British professor Roland Robertson, who, based on the parallelism of the processes of globalization and localization, concluded that global and local trends are "ultimately complementary and interpenetrating each other" (Robertson, R. 1995).

The equivalence of regional and global directions of modern international tourism makes it a unique and powerful factor in economic development. International tourism, using the advantages of two trends in the development of the world economy, clearly demonstrates the advantages of applying a regional approach in the context of globalization: the uniqueness of regions and the cultural identity of local societies are transformed into a recognizable and popular tourist product reflecting the national specifics of a country or region.

Thus, the development of international tourism is both a consequence and one of the causes of globalization. The listed globalization processes have a significant impact on economic growth, increasing the country's competitiveness in the world markets, and improving the well-being of the population.

3 New trends in the global tourism system

The tourism industry today is one of the important markets for economic growth. It should be noted that the nature of production and consumption of tourism services in the era of globalization is changing. An analysis of various sources on the problem under study made it possible to determine the main trends in the global tourism system.

First of all, it should be noted that the development of the tourism industry is influenced by demographic and social factors. The average age of the population in economically developed countries is increasing today. People over 50 are becoming the dominant group in the tourism market and they can be called the engines of tourism development in the near future. This category of tourists is characterized by the presence of free cash and good health. There is also a change in consumer

behavior: the share of spontaneous trips is decreasing and today we can already observe careful selection and planning of a tourist trip. Today's traveler is well oriented and quite critical: offers and prices are compared and checked. The focus on service quality is growing, which means that the workload of tourism enterprises increases with the growth of the quality of the offer. In this regard, the optimal organization of the chain: booking-accommodation-departure is expected (Колодий, Н. Ф., 2016).

Changes in social conditions also bring about changes in travel periods. Today, the capabilities of communication technologies have expanded, booking is carried out in a short time, which allows for an increase in the number of consumer trips. Tourist trips are becoming shorter but more frequent. Travel agencies encourage consumer demand for such trips, since short-term tourists incur higher expenses per day of stay than a usual tourist. In addition, "interval trips" are in demand all year round, with some revival in March-April, September-October, smoothing out seasonal unevenness in the work of hotels and transport.

Specialized tourism by interests is acquiring special significance today, tourists increasingly prefer individual trips and choose them according to their own taste. These can be underwater caves, geysers, volcanoes. Travel in nature and ecotourism are also becoming a priority. The consequences of the pandemic and the current geopolitical situation have also affected the leisure preferences of tourists in favor of choosing "green" destinations. Many travelers began to think about the impact of tourism on the environment and local communities. Tourists prefer trips that have a minimal impact on nature. It is also important for them to feel that they support the economy of regions and local residents.

Glamping is increasingly being called one of the promising forms of tourism and recreation of the near future. "Glamping" is a relatively new term, the origin of which can be traced back to 2006 in the UK. Since then, it has gained popularity, combining the words "glamorous" and "camping": outdoor recreation with all the amenities and full hotel service. The concept of luxury camping quickly gained popularity on social networks, thanks to its nature and aesthetic appearance (Афанасьев, О. Е., 2020).

In an effort to create a unique offer for potential tourists, the owners of such tourist sites locate residential properties in picturesque natural places, using their own design solutions in developing the interior and exterior of the housing, introducing unique services. Thus, the objects can differ in shape, material of manufacture, interior and exterior decoration, location, level of comfort, and the innovations used. Thus, we can conclude that glamping is not just a fashionable, seasonal and fleeting phenomenon, but a long-term tourist project that is spreading annually throughout the world. According to Grand View Research, by 2025, the average growth of the glamping market in the world will be 12.5% (Островкин, Д. Л., Муртазин, А. В., 2022).

The next trend is focus on health and wellness. The modern tourist prioritizes hygiene issues, as well as various procedures aimed at protecting health. More and more attention is paid to a healthy lifestyle and satisfaction. The wellness industry and cosmetics should also comply with the same principles. Food products are also assessed according to their environmental friendliness and are focused on a value system: uniqueness, authenticity, health and the need for beauty.

Increased interest is shown in local color, cultural features, customs, and everyday life of foreign people. Such trips allow one to gain a deep understanding of other cultures and develop intercultural communication. Travelers are also increasingly interested in local cuisine: they want to get a unique culinary experience, enjoying the beauty of presentation, aroma and taste of food, as well as the

atmosphere of the place. When choosing a travel destination, many tourists are guided primarily by information about unique restaurants and unusual cuisine (Каменская, Л. А., Газзаев, Т. А., 2023). Another new trend in tourism that is changing the industry is virtual reality, thanks to which tourists can see famous landmarks, hotel interiors and its infrastructure without leaving home using online VR tours.

It should be noted that another important trend in the near future in tourism will be personalization: a growing marketing trend. Today, individualization is rapidly spreading in the tourism sector, and personalized experiences build trust, customer loyalty and improve the brand's ability to effectively communicate and interact with customers. Moreover, customers are beginning to demand at least a personal approach. About 60% of travelers believe that companies should personalize their shopping experience and base it on their behavior, personal preferences and past choices. With online retail sales of travel services predicted to grow significantly, personalization will continue to be a major theme in the travel and tourism sector (Пылаева А. С., 2023).

However, it should be remembered that the behavior of the modern consumer can be very contradictory. On the one hand, it may require high quality service, on the other hand, it may be the need for "all inclusive". In the system of offers for a modern client, the emotional aspect and the provision of such components as service, cleanliness, atmosphere and safety are very important. Consumer trust is built on the priorities of reliability and safety of the provision of services by companies in the tourism industry.

4 Conclusions

Among the current trends in the development of the world market in general and the tourism market in particular, globalization processes deserve special attention. According to many researchers, tourism today is one of the components of the globalization process. Through mutual influence, tourism and globalization contribute to each other's development, moving to newer levels. This article contains a theoretical justification for these processes. They are characterized by the following features: change of technologies, modernization of transport infrastructure, internationalization of business activity, creation of an international mechanism for regulating tourism. As these processes develop, active economic growth is observed in many countries of the world, in particular, due to an increase in tourist flows.

Globalization of tourism means the formation of a single tourist space and direct interdependence of all participants in tourist exchanges and international tourist activities. At the present stage, international tourism is acquiring the features of a global phenomenon, affecting almost all regions of the world. In addition, international tourism is developing together with other aspects of international life, responding to the socio-political and socio-economic situation. Today, interest in the tourism sector is being shown all over the world, comprehensive theoretical studies are being conducted, large regional, national and international projects are being implemented. The attention of public organizations and national governments is constantly drawn to this area. The stability of tourism requires the adoption of non-standard solutions, modernization of the tourism industry, and innovative approaches.

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SESSION II.

FUNDAMENTAL AND APPLIED ECONOMY

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THE PROFILE AND CHALLENGES OF PERSONS WITH DISABILITIES IN THE REPUBLIC OF MOLDOVA

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Abstract: The article analyzes the complexities and difficulties faced by people with disabilities in the social and economic context of the Republic of Moldova. Globally, disability affects approximately 15% of the population, while in Moldova, in 2023, 6.5% of the population, or 162,300 individuals, faced some form of disability, including 10,900 children. The article highlights the close link between disability and poverty, emphasizing that disability not only exacerbates the risk of poverty but that poverty also increases the likelihood of disability.

The methodology of the article included an analysis of specialized literature, statistical data, and the legal framework, with results presenting the distribution of people with disabilities based on age, living environment, and degrees of disability. Data show a high concentration of people with disabilities in rural areas (63%) and severe economic vulnerability, amplified by the fact that disability pensions are insufficient to cover the minimum subsistence level. In 2023, the average disability pension was far below the minimum necessary for a decent life. Urgent reforms are proposed in the social protection system and measures to improve the inclusion of people with disabilities through more effective policies and adequate financial support.

Keywords: persons with disabilities, social protection, poverty, quality of life, Republic of Moldova

JEL Classification: I38, Z13

Introduction

Over one billion people, or approximately 15% of the global population, live with some form of disability, according to estimates by the World Health Organization (WHO, 2021). Of these, only 5% have congenital disabilities, while the rest are acquired throughout life due to accidents, illnesses, or natural aging processes. Disability is, therefore, a universal component of human experience, influenced by social, economic, and political factors, as well as unpredictable events such as accidents and armed conflicts.

Disability represents a complex development issue, closely linked to poverty. Not only does it increase the risk of poverty, but poverty itself also raises the likelihood of disability. People with low incomes are more exposed to conditions that can lead to disabilities and have limited resources to regain their work capacity, perpetuating the cycle of poverty for themselves and their families. It is estimated that up to 50% of disability cases could be prevented through effective poverty reduction measures and improved living conditions.

The United Nations Development Programme highlights that 80% of people with disabilities live in developing countries, while the World Bank estimates that 20% of the world's poorest individuals are

people with disabilities (United Nations Development Programme, 2022; World Bank, 2020). These figures underscore the profound connection between disability and poverty.

In this context, an integrated approach becomes essential, including preventive measures, early intervention, and continuous support. It is necessary not only to formulate appropriate public policies and ensure adequate funding but also to change society's perception of people with disabilities.

Methods and materials

The research employed various methods, including the analysis of specialized literature, the comparative method, and scientific abstraction. Additionally, statistical data and the legal and regulatory framework in the field of disability protection were analyzed. Studies and reports on the situation of persons with disabilities in the Republic of Moldova, as well as those from the United Nations and the World Bank, were reviewed.

The informational support for the research was provided by national and international scientific publications, statistical data from the National Bureau of Statistics (NBS), the Ministry of Labor and Social Protection of the Republic of Moldova, and other online accessible resources.

Results and discussions

Disability refers to a condition in which a person, due to a physical or mental impairment, loses the ability to perform normal functions, either temporarily or permanently. According to Article 1 of the United Nations Convention on the Rights of Persons with Disabilities (2006), "Persons with disabilities include those who have long-term physical, mental, intellectual, or sensory impairments which, in interaction with various barriers, may hinder their full and effective participation in society on an equal basis with others" (EUAA). Disabilities can be physical (e.g., paralysis, limb loss, deafness), psychological (e.g., depression or post-traumatic stress disorder), or intellectual (e.g., learning disabilities). Some individuals are born with certain disabilities, while others acquire them as a result of accidents or illnesses.

According to data from the National Bureau of Statistics (NBS), in the Republic of Moldova in 2023, there were 162,300 registered persons with disabilities, including 10,900 children (NBS, 2022). This group represents 6.5% of the population, with children with disabilities accounting for approximately 2% of the total number of children in the country. Between 2019 and 2023, the total number of persons with disabilities decreased by 7.8%, while the number of children with disabilities increased by 2.8%. This trend can be attributed to factors such as declining birth rates and forced migration. Some individuals with disabilities, or those who might develop disabilities, choose to emigrate in search of better living conditions, which impacts demographic statistics.

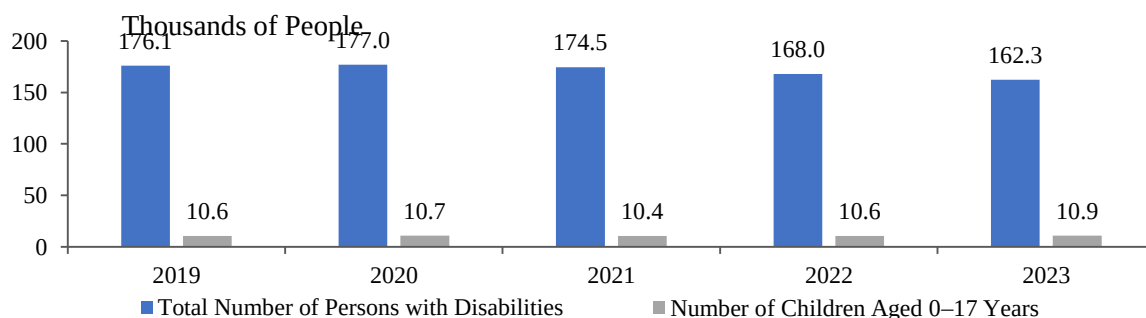
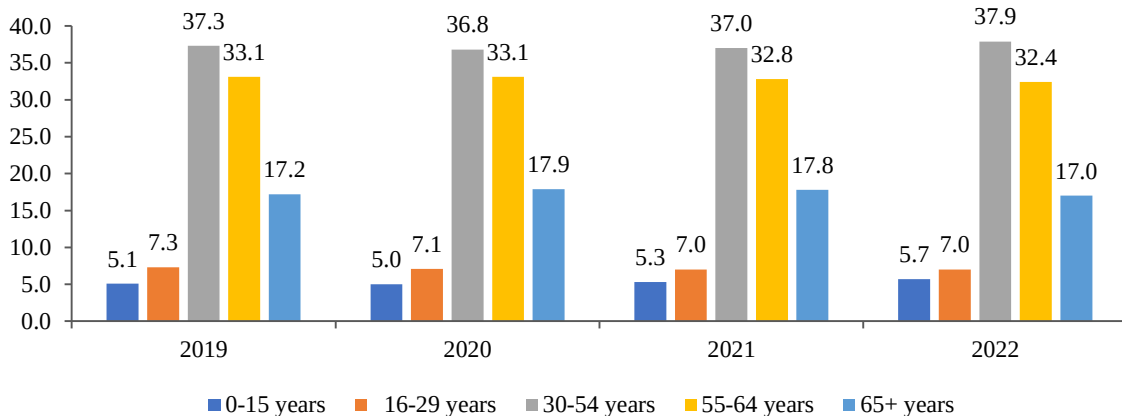


Figure 1. Number of recognized persons with disabilities in the Republic of Moldova as of January 1st

Source: Prepared by the author based on data from the National Bureau of Statistics (2022), Persons with disabilities in the Republic of Moldova in 2022.

Analyzing the age group distribution, it is observed that the majority of persons with disabilities fall within the 30–45 age range. The higher prevalence of disabilities in this age group indicates an increased incidence of challenging working conditions or chronic illnesses that affect this demographic. Specifically, approximately 37.9% of persons with disabilities are aged 30 to 45, 32.4% are between 55 and 64 years old, 17.0% are 65 years and older, 7.0% fall into the 16–29 age range, and



5.7% are children aged 0 to 15 years.

Figure 2. Distribution of persons with disabilities by age groups (%)

Source: Prepared by the author based on data from the National Bureau of Statistics (2022), Persons with disabilities in the Republic of Moldova in 2022.

Another alarming aspect is the disproportionate distribution of persons with disabilities based on their living environment. In rural areas, 63% of these individuals reside, reflecting limited access to medical, educational, and employment services. The lack of these resources significantly contributes to increased poverty and social exclusion among persons with disabilities in rural areas, further amplifying inequalities and difficulties in their social and professional integration.

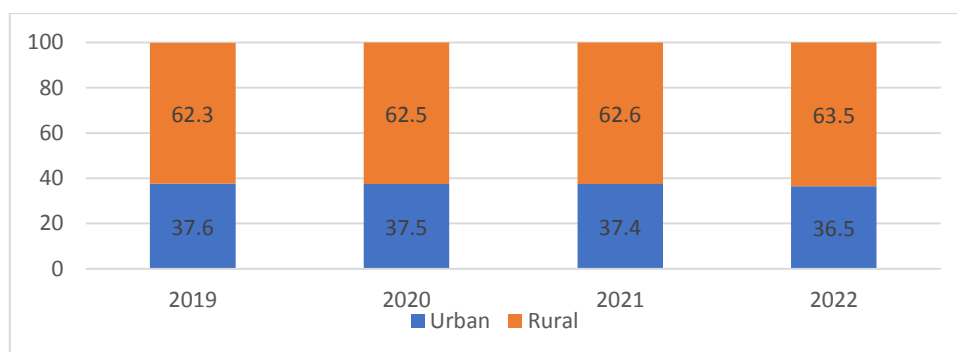


Figure 3. Distribution of persons with disabilities by residence environment (%)

Source: Prepared by the author based on data from the National Bureau of Statistics (2022), Persons with disabilities in the Republic of Moldova in 2022.

In the Republic of Moldova, the classification system for disabilities includes three main degrees, each reflecting the severity of functional impairments (Law No. 60 of March 30, 2012, on the Social Inclusion of Persons with Disabilities, Article 16):

- *Severe disability*: Severe functional impairments leading to activity limitations and participation restrictions, with a work capacity retained between 0–20%.
- *Accentuated disability*: Accentuated functional impairments leading to activity limitations and participation restrictions, with a work capacity retained between 25–40%.
- *Moderate disability*: Moderate functional impairments leading to activity limitations and participation restrictions, with a work capacity retained between 45–60%.

Analyzing the distribution of persons with disabilities by established degrees, it is observed that 56% fall into the category of accentuated disability, 28% have moderate disabilities, and 16% are considered to have severe disabilities. Compared to 2021, there is a noticeable increase in the proportion of persons with severe and moderate disabilities, while the share of those with accentuated disabilities has decreased.

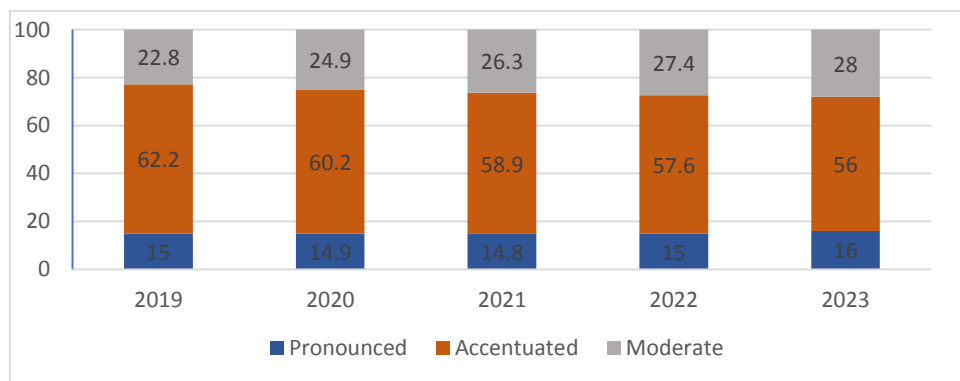


Figure 4. Distribution of persons with disabilities by degree of disability as of January 1st (%)

Source: Prepared by the author based on data from the Ministry of Labor and Social Protection of the Republic of Moldova (2022), Statistical compendium.

At the same time, there is an upward trend in the number of persons with primary disabilities in recent years. According to data from the National Council for the Determination of Disability and Work Capacity, in 2022, 14.2 thousand people requested evaluations, of which 12.1 thousand (85.0%) were recognized as having primary disabilities (NBS, 2022). Among them, 10.5 thousand were adults (86.8%), and 1.6 thousand were children (13.2%). The proportion of persons with primary disabilities was significantly higher in rural areas, reaching 62.8% in 2022.

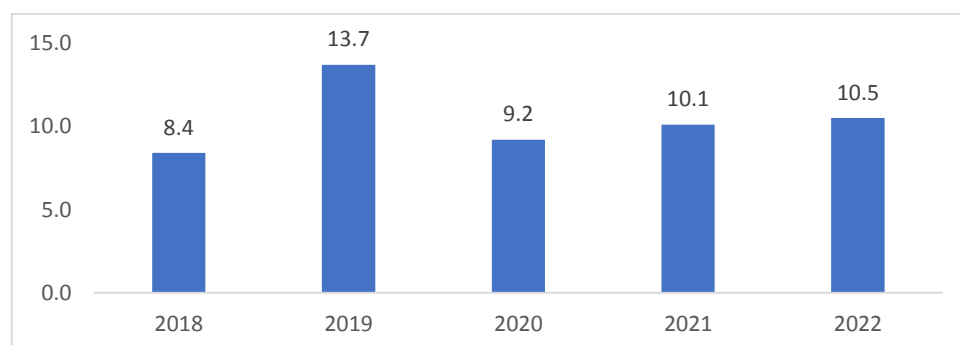


Figure 5. Number of adults with primary disabilities (thousands)

Source: Prepared by the author based on data from the National Bureau of Statistics (2022), Persons with disabilities in the Republic of Moldova in 2022.

The main causes leading to the recognition of primary disability were tumors (16.4%), disorders of the osteoarticular system, muscles, and connective tissue (16.0%), and circulatory system diseases (15.8%). Approximately one thousand individuals were diagnosed with primary disabilities due to mental and behavioral disorders (10.3%), while around seven hundred cases were attributed to nervous system diseases (7.6%). In urban areas, tumors were the predominant cause (19.3%), whereas in rural areas, disorders of the osteoarticular system, muscles, and connective tissue were more prevalent (16.9%).

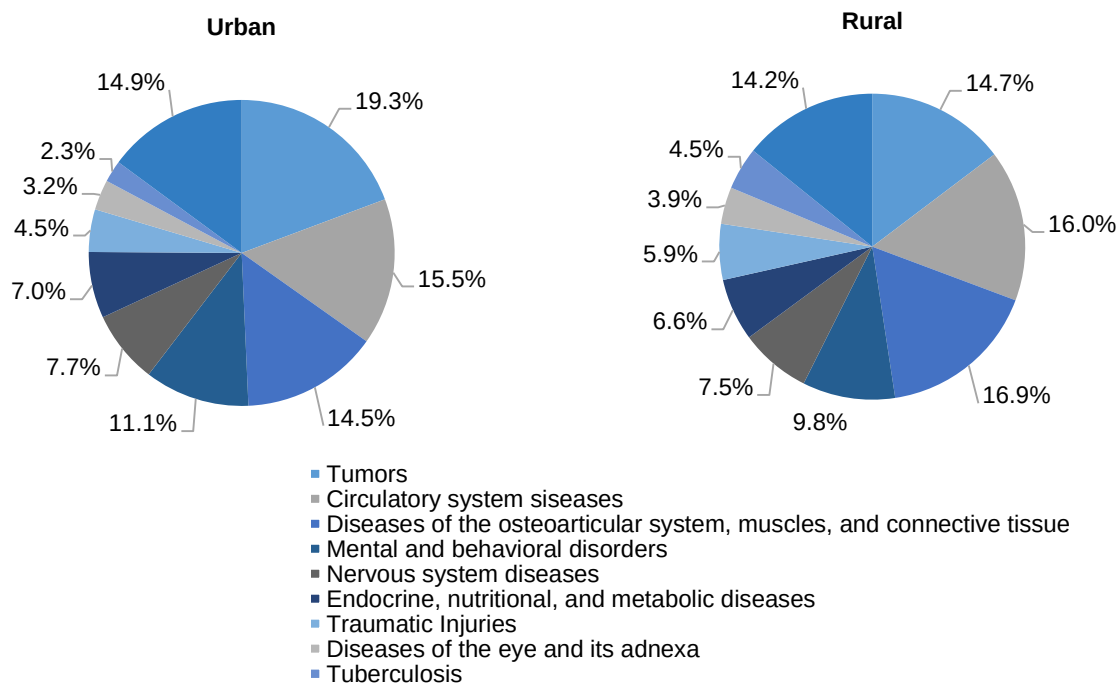


Figure 6. Structure of persons recognized with primary disabilities by residence and causes, 2022

Source: Prepared by the author based on data from the National Bureau of Statistics (2022), Persons with disabilities in the Republic of Moldova in 2022.

An analysis of the social protection of persons with disabilities in the Republic of Moldova shows that these individuals benefit from various types of assistance, including pensions and social allowances (such as social aid and compensation for the cold season), social services (home care, personal assistance), and facilities to access public services. However, the value of these benefits is often insufficient to meet the real needs of persons with disabilities.

According to data provided by the National Social Insurance House, as of January 1, 2023, the average disability pension was 2,104.3 lei, significantly lower than the average pension for all retirees, which was 3,156.4 lei (CNAS, 2023). This significant disparity highlights the inequity in the pension system, where persons with disabilities receive lower amounts despite often having greater financial needs.

The pension amount varies depending on the degree of disability but remains insufficient in all cases. Persons with moderate disabilities receive an average of 1,572.2 lei, those with accentuated disabilities receive 2,260.4 lei, and those with severe disabilities receive 2,557.6 lei. Although these pensions are differentiated based on the severity of the disability, they fail to cover the complex needs and high costs associated with disabilities.

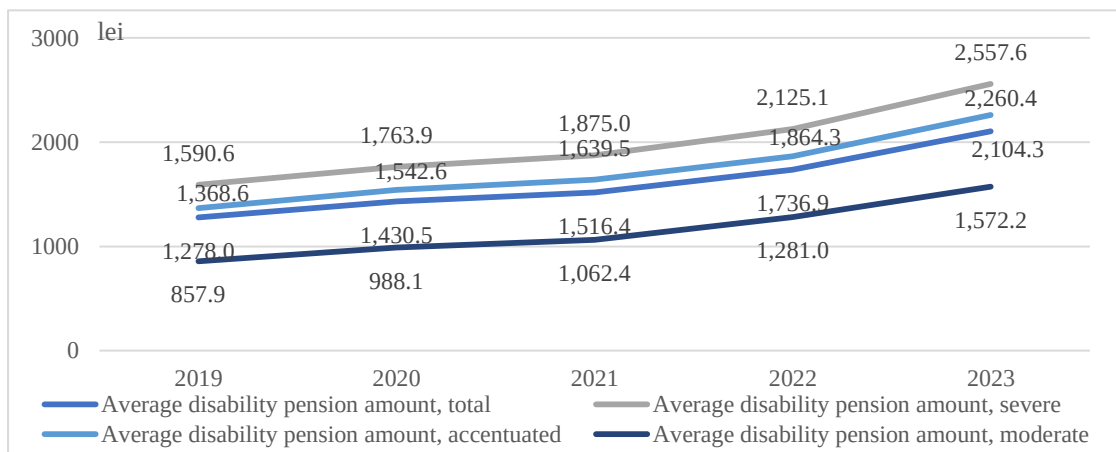


Figure 7. Average disability pension by categories of pensions as of January 1st

Source: Prepared by the author based on data from the National Bureau of Statistics (2022), Persons with disabilities in the Republic of Moldova in 2022.

It is also crucial to emphasize that, in 2023, the subsistence minimum in the Republic of Moldova was set at 2,877.1 lei per month per person. In contrast, the average disability pension, at just 2,104.3 lei, covered approximately 73% of this amount, highlighting a significant shortfall in the income necessary to meet essential needs such as food, clothing, housing, utilities, and other basic expenses. These data clearly show that disability pensions, regardless of the degree of severity, fail to cover the minimum expenses necessary for an adequate standard of living. The situation is even more alarming for persons with moderate disabilities, whose pensions are considerably below the subsistence minimum, exposing them to heightened vulnerability to poverty and social exclusion. The lack of adequate financial resources exacerbates the socio-economic integration challenges faced by this vulnerable group, underscoring the urgent need for reforms in the social protection system (Gutium, 2021).

This economic reality is not just a matter of statistics; it reflects the daily difficulties faced by thousands of individuals. For those living with disabilities, each day brings new challenges, and the lack of adequate financial support only worsens the situation. They often have to choose between fundamental necessities such as food or medication, paying utilities, or purchasing hygiene products. The financial deficit undermines not only physical health but also dignity and quality of life, turning daily existence into a continuous struggle for survival.

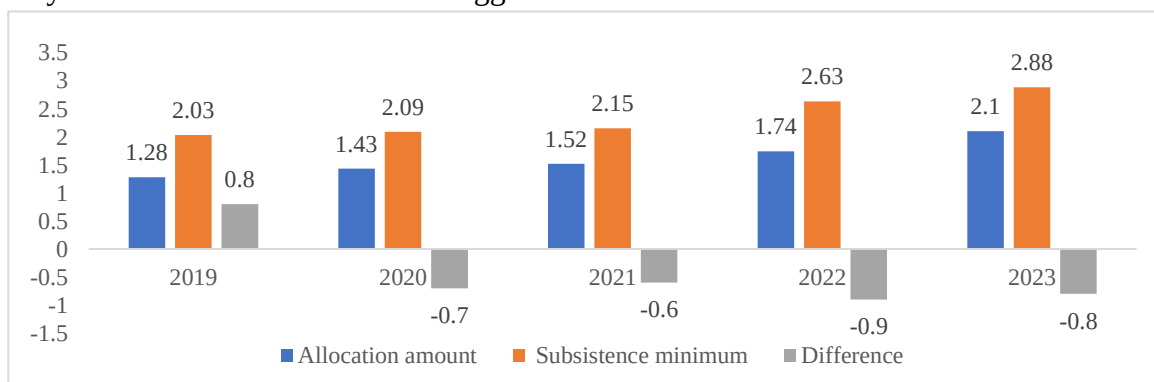


Figure 8. Difference between the average monthly disability pension and the subsistence minimum (thousands of lei)

Source: Prepared by the author based on data from the National Bureau of Statistics (2023), Subsistence minimum by population categories, years, environments, and semesters.

Persons with disabilities face a significantly higher risk of poverty compared to those without disabilities. According to data from the Household Budget Survey conducted by the NBS in 2023, the absolute poverty rate among persons with disabilities was 42%, 11.5 percentage points higher than the rate for persons without disabilities (30.5%).

Poverty does not only affect persons with disabilities at an individual level but also the households in which they live. Large families, especially those that include persons with disabilities, are at a heightened risk of poverty. Current social benefits fail to ensure a minimum national income level for persons with disabilities, as they are directed toward individual beneficiaries and do not account for the needs of the household as a whole. Although financial assistance is differentiated by categories of disabilities, it is based on a principle of "deservingness" rather than objective criteria of necessity, limiting the effectiveness of support in reducing poverty among these individuals and their families. Another critical aspect to address is the employment level of persons with disabilities, which directly reflects the challenges they face in the labor market. According to NBS data, in 2022, only 15.2% of persons with disabilities in the Republic of Moldova were employed, compared to 40.5% of persons without disabilities. This significant disparity highlights the major barriers that persons with disabilities must overcome to access employment.

One of the primary factors contributing to this situation is the lack of necessary workplace adaptations, such as physical accessibility and adjustments to job tasks based on employees' individual capacities (Balan, 2021). Additionally, employers' prejudices regarding the abilities of persons with disabilities constitute a major obstacle to their employment, further limiting their chances of integration into the labor market. By comparison, Eurostat statistics show that in the European Union, the employment rate of persons with disabilities is 50.8%, compared to 75% for persons without disabilities (European Commission, 2021).

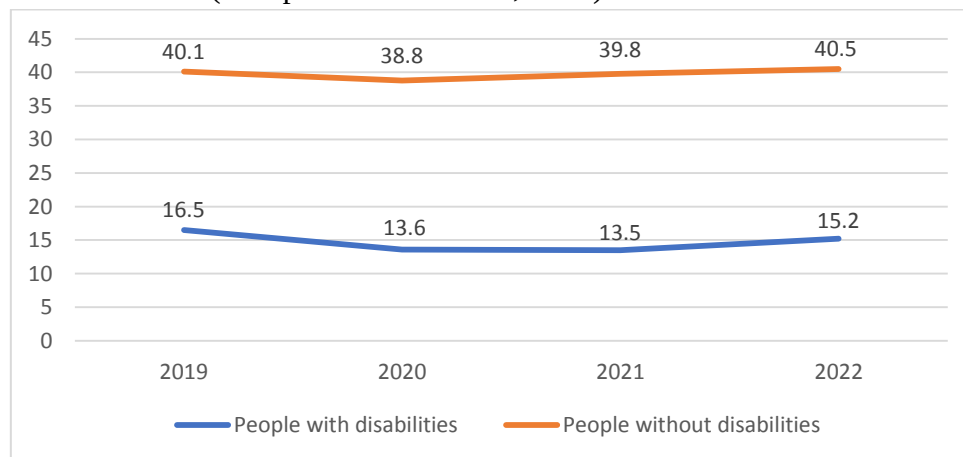


Figure 9. Employment rate of persons with and without disabilities (%)

Source: Prepared by the author based on data from the National Bureau of Statistics (2022), Persons with disabilities in the Republic of Moldova in 2022.

On the other hand, employed persons with disabilities are predominantly found in low-productivity sectors, such as agriculture. NBS data indicates that approximately 34.2% of employed persons with disabilities work in the agricultural sector, a field characterized by low productivity that requires minimal qualifications and skills. This highlights a concerning trend, especially considering that only

10% of persons with disabilities have higher education, which limits their access to better-paying jobs and often compels them to work in precarious conditions.

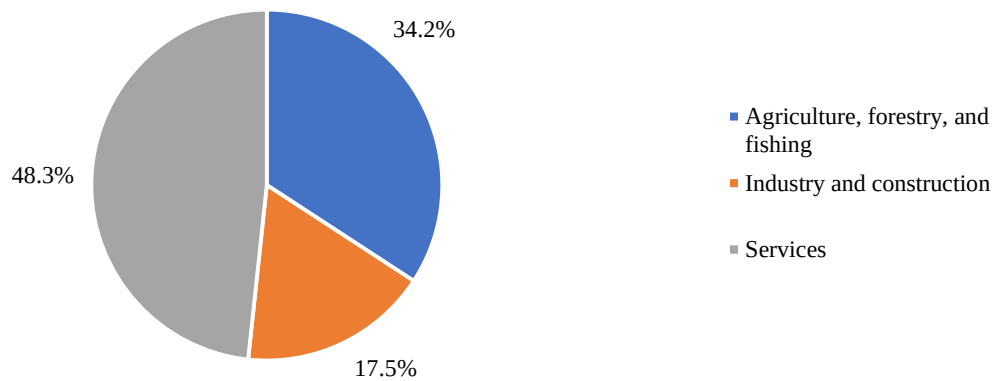


Figure 10. Employed persons with disabilities by economic sectors, 2022

Source: Prepared by the author based on data from the National Bureau of Statistics (2022), Persons with disabilities in the Republic of Moldova in 2022.

These realities underscore the urgent need to implement more effective measures for labor market inclusion. Such measures should include not only workplace adaptations that address the individual needs of persons with disabilities but also vocational training and education programs that facilitate their integration into higher-productivity economic sectors and better working conditions.

To improve the situation of people with disabilities in the labor market, it is important to implement concrete and effective measures, such as:

- Providing clear financial incentives to employers, such as partial or total exemptions from income tax and social security contributions. These fiscal benefits would encourage the employment of people with disabilities and reduce economic barriers for companies.
- Authorities must play an important role in creating an accessible and adapted work environment for people with disabilities. This includes not only adjusting workplaces to their needs but also efficiently using budgetary resources for projects that directly impact inclusion.
- The state could partially subsidize the salaries of people with disabilities, thus reducing the financial burden on employers. This measure would increase the attractiveness of hiring people with disabilities and contribute to raising the employment rate among them.
- Although the legislation sets a 5% employment quota for companies with more than 20 employees, its implementation is often ineffective. Introducing real sanctions for employers who do not comply with the employment quotas would stimulate compliance. The funds obtained could be used to create new jobs or finance professional integration programs (Balan, 2021).
- Developing training and retraining programs for people with disabilities to increase their chances of integration into the labor market. Encouraging employers to develop such initiatives would contribute to creating an inclusive and competitive work environment.

- Implementation of an integrated employment policy system that includes rehabilitation, vocational training, counseling, and active support in the job search process, with the aim of ensuring the effective integration of people with disabilities into the labor market (Shevchenko, 2013).

The implementation of these measures would lead to an increased employment rate among people with disabilities and better integration into the labor market. Additionally, it is essential to adopt further measures to reduce poverty and improve the quality of life for people with disabilities, such as:

- Establishing a subsistence minimum tailored to the needs of people with disabilities. Currently, the National Bureau of Statistics (NBS) annually sets the subsistence minimum for various population categories (children, pensioners, working-age adults), but there is no specific minimum for people with disabilities. They often have additional needs, such as medical expenses, assistive equipment, or caregiving services. A tailored subsistence minimum should reflect these specificities. Regular assessments of actual living costs and adjusting social benefits based on inflation would ensure a decent and inclusive standard of living for this group.
- Adjusting disability pensions to the level of the subsistence minimum. Aligning disability pensions with the subsistence minimum would help reduce poverty among people with disabilities and their families. A review of eligibility criteria and the implementation of a transparent calculation mechanism are necessary to eliminate current inequities in the pension system.
- Developing essential infrastructure and services in rural areas. Expanding and adapting health and education infrastructure (health centers, accessible schools) in rural areas would improve access to basic services for people with disabilities. Additionally, mobility programs would facilitate access to educational and employment opportunities, thus reducing regional disparities.
- Implementing support programs for families caring for individuals with severe disabilities. These programs should provide not only financial assistance but also educational resources and psychological support for caregivers. Community support initiatives could encourage experience sharing among families, helping enhance caregivers' capacity to cope with daily challenges.

Conclusions

The analysis of the situation of persons with disabilities in the Republic of Moldova highlights several critical aspects that require attention and serious interventions. First, the age group distribution reveals a significant prevalence of disabilities among individuals aged 30 to 45 years. This suggests a strong correlation between working conditions, chronic illnesses, and the onset of disabilities. Furthermore, the high number of persons with disabilities in rural areas underscores the need to improve access to medical, educational, and employment opportunities in these disadvantaged regions.

Although the total number of persons with disabilities has decreased in recent years, the alarming increase in the number of children with disabilities indicates an urgent need to intensify preventive measures and provide adequate support to families facing these challenges.

Data on pensions and other forms of social protection for persons with disabilities reveal a significant gap between the real needs of these individuals and the financial support provided. The average disability pension remains below the subsistence minimum, which affects the quality of life of those affected and contributes to the perpetuation of poverty.

In this context, it is important that public policies in the Republic of Moldova adopt an integrated approach to address all aspects faced by persons with disabilities. These policies should aim not only at improving health and social assistance services but also at facilitating access to education and

employment opportunities, particularly in rural areas. Only through a comprehensive and consistent approach can we ensure a real improvement in living conditions for persons with disabilities and a deeper integration of these individuals into society.

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SHARING ECONOMY: PROFOUND TRANSFORMATIONS IN GLOBAL BUSINESS PARADIGMS

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Abstract: The article explores the conceptual foundations and defining characteristics of the sharing economy, focusing on its implications, benefits, and challenges. The sharing economy, characterized by the efficient use of underutilized resources, transparency, trust, and reciprocity, contrasts with traditional economic models by fostering peer-to-peer interactions facilitated by digital platforms. These platforms, such as Airbnb and Uber, have disrupted traditional markets by offering more flexible, accessible, and cost-effective services.

The study highlights that the rapid growth of peer-to-peer platforms is driven by technological innovation and the increasing demand for flexibility. It also identifies the sharing economy's influence on various sectors, including transportation, accommodation, and professional services, primarily in North America and Western Europe. The findings underscore that collaborative consumption, a key component of the sharing economy, contributes to the development of a circular economy, supports the reduction of overconsumption, and provides financial relief to individuals, especially during economic downturns, such as the COVID-19 pandemic.

However, the study also points out the challenges posed by the sharing economy, including regulatory issues, unfair competition, and the risk of monopolistic practices. The lack of clear regulations and the potential for misuse of personal data are significant concerns among consumers. The article concludes that while the sharing economy offers substantial benefits, it also necessitates careful consideration of regulatory frameworks to ensure fair competition and consumer protection.

Keywords: sharing economy, collaborative consumption, collaborative platforms, business models, disruptive innovation, regulatory framework.

JEL Classification: L86, O33, L26, K23, D71, Q01

1 Introductory and defining concepts

The sharing economy represents a novel market model, or rather, an extension of existing models, bolstered by online tools, grounded in trust and collaboration. Primarily, the sharing economy entails the transformation of traditional market behaviors into collaborative consumption patterns, ensuring a more efficient and sustainable utilization of resources, thereby aligning with the principles of the circular economy and engendering business models compatible with it.

The sharing economy model encompasses the sharing of all aspects related to the creation, production, distribution, trade, negotiation, and consumption of goods and services. The effective functioning of the sharing economy model relies significantly on information technologies, the Internet, and digital platforms, which indisputably facilitate the distribution, sharing, and reuse of goods and services.

The shared or collaborative economy emerged around the mid-2000s but gained momentum and flourished alongside the development of internet-associated technologies such as big data, social media, smartphones, and so forth.

However, the shared economy remains a contested phenomenon, lacking a definitive precision, as there is no common understanding of the shared economy. Various terms associated with this concept are used in the academic literature, such as collaborative consumption, access-based consumption, collaborative or peer-to-peer economy. Nevertheless, before reaching a consensus definition, it is necessary to delve deeper into the various notions inherent to the shared economy to grasp the term "shared economy," increasingly reflected in specialized literature in recent years.

The term "sharing economy" was first mentioned in 2008 and denotes "collaborative consumption through sharing, exchanging, and renting resources without owning the goods" (Puschmann and Alt, 2016). Broadly, the sharing economy entails both commercial and non-commercial sharing of goods and services, coordinated through online platforms without the transfer of ownership (Anwar, 2023, p.74).

The term "sharing economy" is used interchangeably with collaborative economy, collaborative consumption, gig economy, and platform economy (Anwar, 2023, p.76). The collaborative economy represents a socio-economic system built around the sharing of human, physical, and intellectual resources (Matofska, 2016). This new type of economy typically operates through online platforms, allowing consumers access to a diverse range of goods and services, as well as the utilization of excess goods and services within an economy (Anwar, 2023).

Author Stephen Miller defines "Collaborative Economy as an economic model in which people generate and share goods, services, space, and money among themselves" (Barbu et al., 2018). Botsman also considers the collaborative economy as an economic model, but specifies that it is developed through the internet, based on sharing, exchanging, trading, or renting products/services, enabling access to ownership (Botsman, 2014). The sharing economy emerges as a result of a new era, in which underutilized resources are transformed into services, made available for rent or hire, peer-to-peer, through online platforms and smartphones (Cusumano, 2015).

Lastly, the sharing economy facilitates communal ownership, localized production, cooperation, the functioning of small businesses, and the regeneration of economic and natural abundance. Additionally, the collaborative economy encourages innovative ways of sharing underutilized assets. From the foregoing, we conclude that the sharing economy represents an expanding ecosystem, based on customers' temporary access to shared products and services, embodying collaborative consumption, achieved through sharing, exchanging, or renting resources, without the transfer of ownership rights over the resources.

At the EU level, the term collaborative economy is utilized, which is defined in the European Commission's 2016 Communication "A European agenda for the collaborative economy" as follows: "the collaborative economy refers to business models where activities are facilitated by collaborative platforms, which create an open market for the temporary use of goods or services often provided by individuals" (European Commission, 2016). Moreover, the communication underscores that the collaborative economy is an evolving phenomenon, a process that could potentially alter the formulated definition in the future, depending on the evolution of the collaborative economy.

Subsequently, in 2018, the European Commission conducted a study monitoring the collaborative economy at the sector level in member states, as a result of which the definition of the collaborative economy was modified: "A collaborative-based economy relies on business models where individuals

(service providers) offer unused goods, services, or resources, with or without compensation, to other individuals or enterprises (clients) through a collaborative online platform that facilitates their contacts and transactions" (Study to Monitor the Economic Development of the Collaborative Economy, 2018).

2 Advantages and disadvantages of the sharing economy. Characteristic features

The conceptual notions reflected above allow us to outline some defining traits of the sharing economy as follows: the sharing economy enables the utilization of underutilized resources from the traditional economy; it offers lower prices; it provides access to unused assets, but not ownership of them; it is characterized by transparency, trust, and reciprocity, tending to be disruptive. By "disruptive innovation," we mean the process by which a product or service initially enters the market through a simple application in the fringe area of the market and then continuously captures market share, replacing traditional competitors. We observe that the sharing phenomenon significantly differs from classical trading prototypes, as it involves interactions among strangers and transcends a geographically defined community. Exchange, often monetary, is facilitated by online platforms and shaped into a business model.

Peer-to-peer platforms offer consumers the opportunity to utilize underutilized inventory through cost-sharing. The rapid growth of peer-to-peer platforms is driven by two key factors: 1) technological innovation and 2) the need for flexibility. On the one hand, technological innovations ease the market entry for providers, facilitate search listings for consumers, and maintain low transaction costs. On the other hand, demand for flexibility is another hallmark of collaborative platforms; for instance, drivers at Uber can easily add or withdraw from the pool of available drivers through an application, similarly, other providers can readily list and remove the selection of goods or services they offer (Onete et al., 2018, p.765).

Collaborative consumption encompasses three distinct systems within the value chain: "product service, redistribution markets, and collaborative lifestyles" (Anwar, 2023). The realms of the sharing economy and collaborative consumption are particularly valued in North America and Western Europe, as a result of shifting consumption patterns and lifestyles. The primary collaborative platforms that capitalize on collaborative consumption include Airbnb, Uber, CouchSurfing, Flexicar, Freecycle, HomeExchange, NetJets, OhSoWe, Shared Earth, Trust Cloud, WhipCar, Zaarly, Ziilch, Zilok, ZimRides, and Zipcar.

Accelerating at an increasingly rapid pace, the sharing economy not only offers benefits but also raises regulatory issues, shifting the paradigm in the traditional markets it addresses. In this regard, the European Commission in its 2016 Communication specified and delineated the categories of participants involved in collaborative business, namely:

1. Service providers, who can be individuals or professionals, occasionally sharing their assets, resources, time, or skills;
2. Users (clients);
3. Intermediaries, who connect service providers with users and facilitate transactions between the two parties (European Commission, 2016).

Intermediaries represent collaborative platforms, which are defined by the European Commission as an enterprise operating in a multifaceted market, using the Internet to interact between two or more groups of users, thereby generating value for at least one of the mentioned groups. Platforms are those

intermediaries that facilitate contacts and transactions between service providers and clients (European Commission, 2016). In this context, it is noteworthy that the Commission excludes from the category of collaborative platforms those platforms that produce, sell, or provide goods and services as a professional activity, such as platforms through which traditional products and services are offered for sale (e.g., eBay, Amazon, OLX); platforms through which companies providing professional car rental services sell these goods and services as their main activity under a professional license; mixed platforms that offer only a small part of their activities within a collaborative economy model (e.g., Booking.com).

Therefore, collaborative platforms are those in which the majority of transactions represent a specific business model of the sharing economy, such as Airbnb, Uber, CouchSurfing, Flexicar, Freecycle, HomeExchange, NetJets, OhSoWe, and Shared Earth, meaning they are considered part of the sharing economy.

Thus, the online collaborative platform is a professional (an enterprise) that connects providers of goods or services with users (clients, consumers). Online platforms can be classified based on the resources they provide access to: platforms that offer access to information or digital content (e.g., Google, TripAdvisor); platforms that offer access to personal data or other private digital content, such as social networks (e.g., Facebook, LinkedIn); platforms that offer access to goods and services, such as those in "traditional" e-commerce (e.g., eBay, Amazon, Alibaba); platforms that offer access to labor or specific knowledge/skills of individuals (e.g., Upwork); platforms that offer access to capital, such as crowdfunding platforms (e.g., Kickstarter) or payment systems (e.g., PayPal, Bitcoin). The sharing economy generates advantages and benefits, including: facilitating new consumption patterns; introducing new services to the market at affordable prices, stimulating positive competitiveness and innovation; contributing to the development of the circular economy; individuals can earn additional income; fostering social and community connections; contributing to alleviating social problems such as overconsumption and poverty; contributing to poverty alleviation; enabling the incorporation of participatory and inclusive models; leading to the entry of new economic actors into the market, thus generating a larger and more varied supply from which consumers can benefit. In 2018, a Eurobarometer survey on collaborative economy among European consumers was conducted, reflecting consumers' perceptions regarding the advantages and disadvantages of using collaborative platforms.

According to the survey, Romanian consumers who have utilized services from collaborative platforms consider the most significant advantage of these platforms (compared to services provided through traditional channels) to be convenient access to services (65%), availability of ratings and reviews from other users (50%), a wider range of services (49%), and the fact that services are cheaper or free (45%). On the other hand, the opportunity to interact with interesting people (38%) and the possibility to exchange services without payment (27%) are considered less important advantages of services offered through collaborative platforms among Romanian users (Consiliul Concurenței România, 2020).

Additionally, the sharing economy also presents some disadvantages, such as: Unfair competition caused by the emergence of these types of collaborative businesses compared to traditional ones; Lack of clear regulation, which both causes and favors the expansion of shared business models; and favors the emergence of monopolies in some sectors, etc.

From the perspective of consumers in most European Union member states, the lack of clarity regarding who is responsible in case of a problem is the most frequently mentioned disadvantage by respondents (Consiliul Concurenței România, 2020). Additionally, respondents are concerned about misleading ratings and reviews from other users (36%); abusive use of personal data (30%); lack of trust in service providers (29%); services not meeting expectations (27%); issues related to payments or the online booking process (25%) (Consiliul Concurenței România, 2020).

3. Collaborative business models

The sharing economy emerged in the mid-2000s, experiencing accelerated development alongside the rise of the internet and associated technologies. However, its significant growth was propelled by the crisis of 2008-2009, during which individuals were compelled to make savings. Collaborative economy intensified the pace and scope of activities that people were engaging in previously (e.g., car rentals, public libraries, etc.). Against the backdrop of changing demand and technological means of supply, most successful startups in the field emerged. Among the pioneering companies with collaborative business models were Uber and Airbnb, with Uber being founded in 2009, estimated to have over 110 million users globally today. According to www.wikipedia.org, Uber is a multinational American company headquartered in San Francisco, founded in 2009, and operating in over 785 metropolitan areas worldwide. According to Uber's data, from 2009 to 2018, 4 billion rides were completed (15 million rides daily). The company provides a range of "digital services aimed at facilitating interaction between people" under the term ride-sharing, but according to the decision of the Court of Justice of the European Union in December 2017, Uber is considered a component of the urban transport services market.

Currently, there is a rapid growth in the utilization of the sharing economy by car rental companies, including DriveMyCarRentals, Flexicar, Getaround, Livop, RentNRoll, RVshare, Tamyca, WhipCar, and Zipcar (North America, Europe), due to the implementation of consumer targeting strategies and shifts in consumer lifestyles. Zipcar remains the leader in this car rental market. In this context, it is important to mention that the basic sharing model is strongly influenced by value chains, corporate growth, consumer loyalty, and niche markets.

Airbnb, an American company headquartered in San Francisco, California, considered the pioneer of the sharing economy in accommodation services, operates an online platform through which rooms, houses, and apartments can be rented directly from the owner anywhere in the world, offering rental services in about 190 countries. The considerable growth of the company is attributed to its introduction of the concept of collaborative economy based on connecting individuals who want to rent out their properties and those who want to rent them on a short-term basis. Airbnb uses data to expand its services, such as during holiday periods, which constitutes an advantage for the company. The company describes itself as a trusted community marketplace for people to list, discover, and reserve unique accommodations worldwide, exemplifying a peer-to-peer market in the sharing economy. Prospective guests list their rooms or apartments on the Airbnb platform, setting their own price per night, weekly, or monthly, and offering accommodation to guests. Airbnb generates revenue from both guests and hosts for this service: guests pay a service fee of 9-12% for each booking they make, depending on the length of stay, while hosts pay a service fee of 3% to cover payment processing costs. Since its launch in 2008, the Airbnb online marketplace has experienced rapid growth, with over three million properties worldwide and over 160 million customers (Onete et al., 2018, p.769).

The business model of Airbnb currently operates with minimal regulatory controls in most locations, and therefore both hosts and guests have incentives to use signaling mechanisms to build trust and maximize the likelihood of a successful booking. To reinforce this behavior, Airbnb has built an online reputation system that allows and encourages participants to rate and review each completed stay. Guests use the ratings to evaluate the features of their stay.

Online booking of accommodations with private individuals is very common in the United Kingdom and Luxembourg. Approximately 1 in 3 individuals aged 16 to 74 have booked from private individuals through a website or app in the United Kingdom (34%), while 1 in 5 individuals in Luxembourg (22%), Ireland (21%), Malta, and the Netherlands (each 20%) have done so. In contrast, the Czech Republic (1%) recorded the lowest proportion among member states, followed by Cyprus (4%), Portugal and Romania (6% each), as well as Croatia (7%) (Onete et al., 2018, p.772).

It is worth noting that collaborative economy models can be applied across a wide range of markets; however, certain economic sectors are more prone to adopting collaborative models, especially in the personal transportation and short-term accommodation markets.

In the European economy, 651 collaborative platforms operating within the EU have been identified, with 42 originating from the USA. It is worth noting that the majority of platforms operate only within the member states, with only 42 operating internationally. In this context, we mention 15 platforms operating in the transportation services sector (Hero and Foodora from Germany, Takeaway from the Netherlands, Deliveroo and JustEat from the United Kingdom, BlaBlaCar from France, and Bolt from Estonia); 10 collaborative platforms in the short-term accommodation services sector, with the most well-known platforms being Wimdu from Germany and HomeStay from Ireland; 13 collaborative platforms in the professional services sector; and 13 collaborative platforms in the financial services sector, including Funding Circle from the United Kingdom, Ulule from France, Bondora from Estonia, and Twino and Mintos, both from Latvia (Consiliul Concurenței România, 2020).

It is noteworthy that the level of development of the collaborative economy in a country is not determined solely by the number of collaborative platforms; other indicators, such as the evolution over time of the number of platforms present, the share of collaborative economy revenues in GDP, or the share of the number of employees in this sector in total employment, are also used for this purpose. According to calculations by the European Commission, the most substantial contribution of the collaborative economy to GDP is found in Estonia (0.88% of GDP), Poland (0.64%), Latvia (0.63%), Luxembourg (0.44%), and the Czech Republic (0.43%). In this ranking, Romania ranks last, with the collaborative economy generating a contribution of only 0.05% of GDP in 2016, along with Slovenia and Belgium (0.04%) (Consiliul Concurenței România, 2020).

The main shared business models in Romania are as follows:

1. Shared workspaces (Coworker.com): The platform facilitates the finding of available workspaces in a particular city for freelance workers, providing information on offerings such as price, facilities, customer reviews, etc.
2. Online skills: Contracting various household or professional services (LiberProfi, Fiverr, UpWork, Freelancer, PeoplePerHour). LiberProfi is a Romanian online platform that connects service providers (typically programmers, copywriters, designers) with potential clients. According to the platform's website, LiberProfi does not have an escrow system and does not collect commissions. The client pays a subscription fee upfront, which allows them to post a certain number of projects plus other benefits.

3. Financial services: Reward-based crowdfunding (Kickstarter, Indiegogo). The platform allows individuals to request funds for an idea, a startup, or charitable causes. Specifically, the platform connects people with innovative ideas with those willing to finance such projects. The platform operates on a reward system for donors. Depending on the amount paid, donors receive various types of gifts (e.g., the new product created) from the funding applicant (Consiliul Concurenței România, 2020).

4. Shared economy and competition

The rapid pace characteristic of the development of the shared economy globally, as well as the impact of collaborative platforms on consumers (the entry of new innovative competitors generating lower prices and better services) - all raise challenges regarding the application of competition policy. From a competitive perspective, the new collaborative business models exert significant pressure on traditional business models, often offering lower price levels, bringing significant unused resources into the economy for increasingly demanding consumers, and using complex algorithms to determine a dynamic price level, taking into account market factors. Thus, the mere existence of Uber and its economic activity is not anti-competitive in the sense of competition legislation, as it does not harm consumer welfare. Moreover, Uber provides a reliable and affordable transportation option, serving areas neglected by traditional operators. On the one hand, traditional service providers should be encouraged to exploit new technologies. When consumers find a legal offer that meets their contemporary needs and requirements, we can speak of the existence of competitive markets.

From a competitive perspective, collaborative platforms and new business models present a series of advantages, but also require the vigilance of competition authorities. Collaborative business models exert significant competitive pressure on traditional business models, being "disruptive" in nature, often offering lower price levels as a result of using complex algorithms.

Collaborative platforms must maintain a neutral, transparent, and rigorous role regarding the moderation of reviews and the rating system and intervene when it falls below a certain threshold, on the demand or supply side of services. At the same time, rating systems should lead to discouraging harmful behaviors from market participants, reducing risks resulting from informational asymmetries for consumers and asset owners, and ultimately ensuring quality services.

According to a study conducted by the Competition Council of Romania (2020), recommendations regarding the regulation of the shared economy in Romania have been proposed to protect consumer interests, facilitate easy access for service providers, and increase market competition.

1) The application of the flexibility principle in regulations for markets exposed to innovation (transport, tourism, financial services, etc.). The increasing importance of platforms, digitalization, technological convergence, and the implementation of disruptive innovations are current trends that bring significant benefits to the economy and society as a whole but can also lead to situations that require a change in the traditional paradigm of market analysis and even regulatory models for certain sectors. In this regard, it is essential for the authorities responsible for implementing public policies targeting markets affected by innovation to consider, first and foremost, the long-term interests of consumers.

2) Maintaining a rigorous level of review systems within collaborative platforms, namely online review and rating systems, represents a tool that contributes to increasing trust within the shared economy.

3) Increasing competition among collaborative platforms through multi-homing—the use of multiple platforms by users or providers leads to increased competition between collaborative platforms for them, both on the supply side (in the case of ride-hailing, drivers, or in the case of short-term accommodation platforms, homeowners) and on the demand side, for the end consumers of services. From this perspective, multi-homing reduces the chances of a platform becoming dominant in a market due to network effects.

4) Flexibilization of market access conditions and streamlining control within traditional services to protect consumers and increase competition represent one of the main factors that have led to the increase in the number of users of collaborative platforms for urban transport services.

5) Increasing the level of technological innovation among traditional services. It is noted that the use of e-hailing applications is on the rise, through which the consumer has access to a larger number of service providers, significantly reducing search and wait times and generating a varied offering in terms of tariffs and quality by accessing evaluations made by previous clients on the services in question. At the same time, the period of inactivity for taxi drivers is reduced, especially during time intervals with low demand, which contributes to the efficiency of their activity.

5. Regulatory challenges

The shared economy is not sufficiently regulated, and the activity of companies in these markets is partially covered by the regulatory framework of traditional markets. Although this business model has not reached the scale in EU countries as in the USA, the unprecedented development of technologies has nonetheless led to an accelerated development of collaborative models in EU countries, raising regulatory issues in this domain.

Regulatory and promotional issues surrounding the shared economy in EU countries began with the European Commission's communication "European Agenda for the Collaborative Economy" (European Commission, 2016), which presents the main directions and guidelines to support all actors involved in the collaborative economy: consumers, businesses, and public authorities. The communication emphasizes that a competitive economy requires innovation, and the collaborative economy represents an opportunity for consumers, businesses, and entrepreneurs, provided it is understood correctly, which dictates the necessity of regulating shared business models. Through the Commission's communication, member states were urged to review their internal regulations in line with the European guidelines outlined in the communication.

The most pressing regulatory issues concerning the regulation of the collaborative economy pertain to consumer protection, labor protection, and taxation. The aim of European Union legislation in the field of commercialization and consumer protection is to protect the more vulnerable party in the transaction, namely the consumer (Iacob, 2017).

A significant issue regarding the regulation of the collaborative economy in the European Union concerns the advancement of requirements for service providers operating within collaborative platforms to access the market. In this regard, the Commission recommends that "requirements must be justified and proportionate, taking into account the specificities of the business model and the innovative services in question, without favoring one business model over another" (European Commission, 2016). The regulatory framework must be flexible, facilitating the entry of companies with a wide range of options for consumers at lower prices.

Studies conducted in sectors of the economy where collaborative business models are practiced in EU countries indicate the existence of disruptive risk, i.e., the replacement of traditional business methods with collaborative business models (Iacob, 2017). Relevant examples in this regard include passenger transport services such as Uber vs. Taxi, or short-term accommodation services such as Airbnb/HomeAway vs. hotel accommodation services. Considering these aspects, as well as the rapid evolution of collaborative businesses, the EU has expressed concerns regarding the EU's primary rules on competition law and the effects produced by collaborative businesses. These concerns specifically target the prohibition of practices that restrict competition in the market, whether traditional or innovative. This category includes vertical agreements, decisions of various business associations, concerted practices, as well as the unilateral conduct of dominant undertakings that act abusively (Iacob, 2017).

Considering the significant benefits that the collaborative economy can bring to the European economy by harnessing innovations and providing an alternative to traditional markets, we observe that European Union regulations tend to support innovation and competitiveness and ensure consumer protection, as well as support for the consistent enforcement of competition law.

6. Conclusions

We consider the primary advantage of the sharing economy to lie in the more efficient allocation of resources in the economy, as it enables the utilization of idle assets such as real estate, automobiles, capital, etc. Consequently, the development of the sharing economy leads to the creation of new jobs, provides additional benefits for consumers, and generates additional competitive pressure on traditional companies. However, the sharing economy also entails risks, especially from a competitive standpoint, which is explained by the concentration of a large number of participants on a single platform. This could potentially lead to the establishment of a dominant position for a platform, thereby limiting competition, and making it difficult for new platforms to enter the market.

Another crucial factor emerging in the development of the sharing economy pertains to the regulation of services provided through collaborative platforms. It is observed that in European countries, collaborative business models develop more rapidly where conditions are less restrictive compared to states where collaborative platforms fall under the scope of legislation governing traditional services or operate in the gray area of non-regulation.

In European states, the European Commission's communication "A European agenda for the collaborative economy" has expressed encouragement for the development of the collaborative economy, emphasizing the benefits of these business models: improving labor conditions and fostering economic growth through embracing innovation in the economy. At the same time, adherence to the following conditions is necessary: respecting and protecting consumer rights, revising national regulations according to the new guidelines outlined in the Communication, as well as ensuring tax compliance by service providers and intermediaries.

We believe that the sharing economy and the traditional economy will reach a favorable compromise: either the sharing economy becomes more regulated, or developments in the sharing economy (such as collaboration mechanisms in accessing products, digital, and mobile services) will be implemented in the "traditional economy".

If the sharing economy succeeds in better satisfying the needs of customers than the traditional economy, consumers will transition to the sharing economy. In this case, we should not be surprised

by the paradigm shift and the transition from ownership to access. We do not anticipate that either of the consumption models based on ownership or access will disappear. Both models will continue to coexist, expanding the range of consumption options available.

How can these two models coexist? Companies practicing the sharing economy must not overlook the factors that support satisfaction and purchase intention; products and services in the sharing economy must be widely available, generate significant savings for consumers, and be useful. Traditional companies must take into account and capitalize on the innovations that have contributed to the development of the sharing economy, facilitating access to their products and services. Regulation of the sharing economy must accurately identify taxable income sources while simultaneously stimulating innovation and protecting consumers. Overregulation in this sector can significantly diminish entrepreneurial initiatives. The objectives of regulatory policies can materialize in measures aimed at environmental protection, more judicious resource use, and the promotion of the circular economy (Barbu et al., 2018).

The sharing economy represents the intentional expression of lifestyle, through the values, beliefs, attitudes, and behaviors it claims. The interaction between social, technological, and economic structures is determined by the needs and desires of consumers.

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THE DEVELOPMENT OF THE EUROPEAN UNION COUNTRIES UNDER THE INFLUENCE OF THE DIGITAL TRANSFORMATION

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Abstract: The main purpose of the study is to determine the main trends of the socio-economic development of the EU countries under the influence of the digital transformation. The modern world has already taken some steps towards a new technological, economic and social reality.

The European Commission's Digital Compass plan sets out goals for a successful digital transformation in Europe by 2030. The 2030 target of the Digital Compass is that at least 80% of citizens have at least basic digital skills, at least 90% of small and medium-sized enterprises in the EU should have a basic level of digital intensity, all key public services for citizens and businesses should be fully online by 2030.

Based on the analysis from specialized literature and statistical data, it was possible to present the situation in the field of digital transformation of the EU states.

The key aspects of socio-economic development indicators in the field of human capital, connectivity, integration of digital technology, digital public services are analyzed in this paper.

Several indicators are analyzed such as: digitally skilled population and highly skilled digital professionals, secure and sustainable digital infrastructures, the degree of digital intensity of business processes, the use of Cloud computing, Big data, Artificial intelligence by enterprises, the share of businesses that sell online and the digitalisation of public services. Our study provides an overview of the current state of adoption of digital transformation by EU society and trends in their further development.

Developments in the digital economy and society cannot be achieved through isolated improvements in particular areas but through concerted improvement in all areas.

Keywords: digital transformation, digital skills, connectivity, digital technology, digital public services

JEL: O3, O52, P52

1 Introduction

The digital transformation of the European Union countries is important for recovery, prosperity, security, competitiveness and the well-being of societies. This transformation is also necessary to achieve the transition to a climate-neutral, circular and resilient economy. “The EU's objective is to be digitally sovereign and to implement digital policies that enable citizens and businesses to benefit from a sustainable and more prosperous digital future.” (Policy Programme, 2021)

The digital transformation of European Union is essential for: economic growth, competitiveness, security, social well-being.

Economic Growth

Digitalization fosters innovation by enabling new business models, startups, and technologies, thus contributing to economic growth and job creation.

Competitiveness

A digitally advanced Europe can better compete globally, especially with large economies such as US and China, by enhancing its technological capabilities and innovation potential.

Security

With the rise of digitalization, cybersecurity is becoming a prerequisite for protection against cyber threats. The EU's focus on building robust cybersecurity frameworks is critical for safeguarding digital infrastructure.

Social Well-being

Ensuring all citizens have access to digital technologies and skills is important for social equity and reducing the digital divide. This includes access to high-speed internet, digital literacy programs, and affordable digital devices.

Member States' progress in digitization is reflected in the annual Digital Economy and Society Index (DESI) reports. According to the annual report for 2022, “most Member States are making progress in digital transformation, but the adoption of key digital technologies such as artificial intelligence (AI) and big data (Big Data) by businesses is still low” (Digital Economy, 2022). More and more services are being moved online, so low levels of digital skills are hindering future development. Among the EU countries, the leaders in digital transformations continue to be Denmark, Finland, the Netherlands and Sweden. But digital challenges remain for most leaders as well. Overall, the EU member states continue to improve their level of digitization. Some Member States that started from lower levels are implementing digitization at a faster pace. Thus Italy, Greece and Poland have substantially improved their DESI scores thanks to funding and investment.

The European Parliament and the Council of the EU have reached an agreement on the *2030 Policy Agenda: Path to the Digital Decade*. This program aims for the European Union to achieve its goals in the digital transformation of the societies and economies of the member states in accordance with EU values, promoting digital policies centered on the human factor, which will empower citizens and businesses.

“To achieve the objectives set in the 2030 Policy Program in all Member States, EUR 127 billion is allocated for digital reforms” (2030 Policy Programme, 2021).

The path to the digital decade sets out common objectives and digital principles for member states. The proposed objectives are structured in four cardinal directions: *a digitally qualified population and highly qualified digital professionals, secure and sustainable digital infrastructures, the digital transformation of enterprises and the digitization of public services*.

Achieving these objectives will increase the competitiveness of the member states globally. “The current geopolitical context makes the implementation of innovative technologies, digital infrastructures and the strengthening of cyber security even more relevant” (2030 Policy Programme, 2021).

The Path to the Digital Decade sets out concrete digital objectives that the European Union should achieve by the end of the decade. The path to the digital decade emphasizes EU values and security. “Only a digitally sovereign EU can shape its digital transformation in line with European values” (2030 Policy Programme, 2021).

Member States must invest in their own digital transformation and help increase innovative potential and reduce the EU's external dependencies.

“Until 2022, 25 digital development plans have been approved by the Council of the European Union. By 2022, the amount allocated in these plans was EUR 490 billion of which EUR 325 billion in grants and EUR 165 billion in loans” (Digital Economy, 2022).

Each Member State must dedicate at least 20% of the total allocation of its Recovery Plan to measures contributing to the digital transition. Estimated spending on digital transformation per Member State is presented in figure 1.

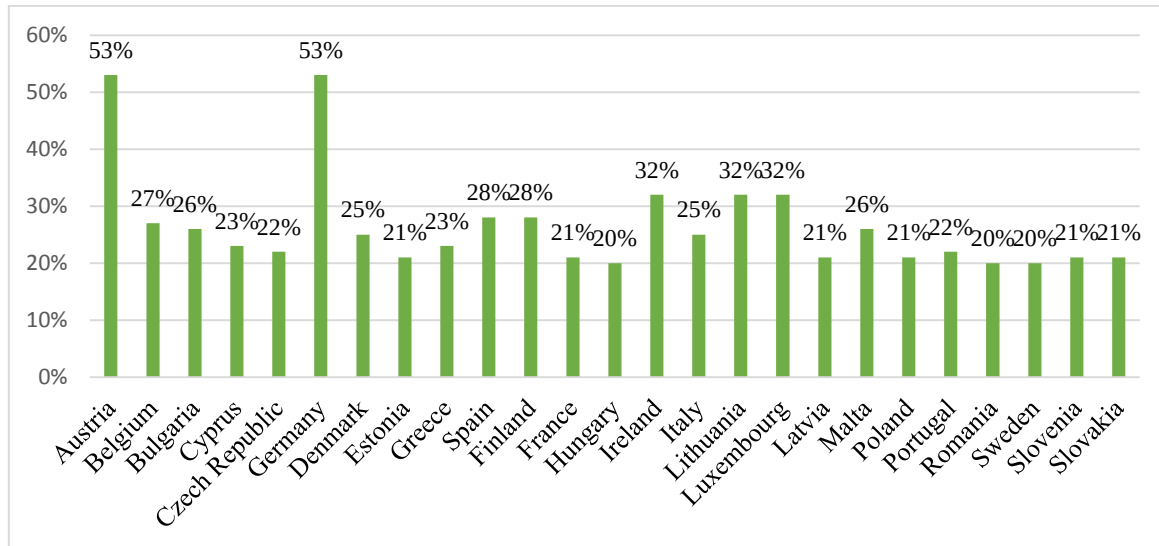


Figure 1 Contribution to digital objectives

Source: European Commission Digital Economy and Society Index (DESI) 2022

“Of the EUR 127 billion earmarked for digital reforms, 13% aims to promote the launch of very high capacity networks (VHCN), 37% digitization of public services and government processes, 19% digitization of enterprises, especially SMEs, 17% the development of basic and advanced digital skills and 14% R&D related to digitization and the implementation of advanced technologies” (Digital Economy, 2022). Investments and reforms will make an important contribution to the set goals of digital development.

2 Priority directions

2.1 A digitally skilled population and highly skilled digital professionals

This priority direction aims to foster a society where everyone, from everyday citizens to specialized experts, possesses the necessary digital skills to thrive in a technology-driven world. It involves two main components: *digitally skilled population*, *highly skilled digital professionals*.

Digitally Skilled Population

- Ensuring that all members of society, regardless of age, education, or occupation, have basic digital skills. This includes understanding how to use digital devices, navigate the internet safely, and access digital services.
- Providing resources and opportunities for marginalized groups, such as the elderly or those in remote areas, to develop digital skills.
- Promoting continuous learning and upskilling to keep up with rapidly changing technology, emphasizing the importance of adaptability in a digital world.

Highly Skilled Digital Professionals

Developing specialized programs in higher education and vocational training institutions to produce professionals with advanced digital skills, such as software development, data science, cybersecurity, and AI.

“While 87% of people (aged 16-74) used the internet regularly in 2023, only 54% possessed at least basic digital skills. The Netherlands and Finland are leaders in the EU, where 79% of the population possess basic digital skills. Romania and Bulgaria lag behind, this indicator constituting around 30%” (Digital Economy, 2022). “A large part of the EU population still lacks basic digital skills, even though most jobs require such skills. The proposed objective for 2030 is for at least 80% of citizens to have basic digital skills” (Digital Education, 2020).

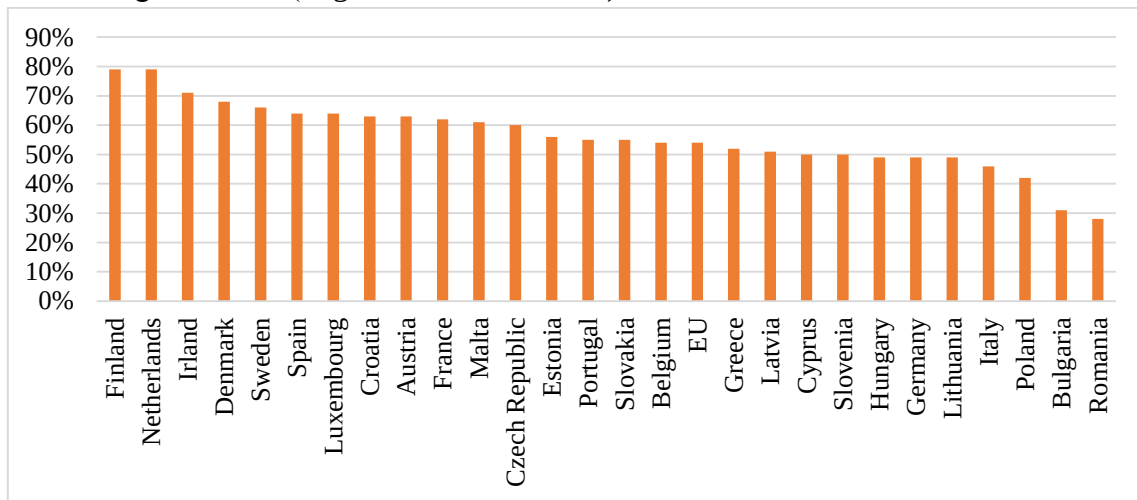


Figure 2. Basic digital skills (% of people), 2023

Source: Eurostat, ICT usage in households and by individuals in Households and by Individuals, 2024

There is a general shortage of ICT specialists in the EU labor market. New jobs are emerging that require such specialists, and the number of vacancies continues to grow. “During 2020, 55% of businesses that recruited or attempted to recruit ICT specialists reported difficulties in filling such vacancies”.

The Path to the Digital Decade program aims to increase the number of ICT professionals employed in the EU to at least “20 million by 2030, up from 8.9 million in 2021 (corresponding to 4.5% of the workforce)”. Although there has been steady growth since 2013, acceleration is needed to achieve the set targets. As of 2021, Sweden - with 8% and Finland - with 7.4% have the highest proportion of ICT specialists in the workforce (Digital Economy, 2022).

2.2 Priority direction: secure and sustainable digital infrastructures

The focus on secure and sustainable digital infrastructures for EU Member States highlights several priorities and strategic directions for ensuring a technologically advanced digital ecosystem. Key priorities are: strengthening cybersecurity, green and sustainable digital transformation, resilient and interconnected digital infrastructures.

Strengthening cybersecurity requires implementing common standards cybersecurity in Member States to ensure protection against cyber threats.

The green and sustainable digital transformation requires promoting the use of energy-efficient technologies and renewable energy sources in data centres, following the objectives of the EU's "European Green Deal".

Interconnected digital infrastructures require accelerating the deployment of secure 5G networks and investing in 6G research to ensure high-speed communication across the EU.

A sustainable digital infrastructure for connectivity and capacity is needed to ensure Europe's digital leadership. to process large volumes of data.

“Excellent connectivity for everyone in the EU, including in rural and remote areas, will enable all citizens and businesses in Europe to benefit from the opportunities offered by the digital decade” (Digital Economy, 2022). Society’s needs for bandwidth available for downloading and uploads are constantly increasing. “By 2030, networks with speeds expressed in gigabits should be available on affordable terms for everyone who needs such capacity” (Digital Economy, 2022).

While the EU has full broadband coverage, only 70% of households can benefit from fixed Very High Capacity Network (VHCN) connectivity with the potential to deliver gigabit speeds. High-capacity fixed network connectivity includes FTTP (fibre-to-the-premises) and DOCSIS 3.1 cable (data over cable service interface specification) technologies. “FTTP coverage increased from 43% in 2020 to 50% in 2021, while DOCSIS 3.1 coverage increased from 28% in 2020 to 32% in 2021. Coverage of fixed connectivity to the rural very high capacity network improved, also from 29% in 2020 to 37% in 2021” (Broadband coverage, 2021). Malta, Luxembourg, Denmark, Spain, Latvia, the Netherlands and Portugal are the most advanced Member States in terms of total fixed VHCN coverage, all with more than 90% of households covered. Conversely, in Greece, only 1 in 5 households have access to fixed VHCN. *The Path to the Digital Decade* program sets the goal that gigabit networks will be available to all households by 2030.

Table 1. Fixed Very High Capacity Network (VHCN) coverage, % of EU households, 2017-2023

2017	2018	2019	2020	2021	2022	2023
25.16%	29.16%	33.29%	50.06%	59.78%	70.20%	73.40%

Source: IHS Market, Broadband coverage in Europe studies, 2024

5G coverage has increased to 66% of populated areas in the EU. “There is a need for new services with a high economic and societal value, such as connected and automated mobility, advanced manufacturing, smart energy systems or e-health” (Digital Economy, 2022). Connected cars, telephones, the Internet, high-performance computers require microprocessors. Europe's production of state-of-the-art and durable microprocessors should represent at least 20% of global production by 2030.

2.3 Priority direction: digital transformation of enterprises

Digital transformation is a key priority for the European Union. Digital transformation for enterprises encompasses a wide range of strategies, initiatives and policies aimed at stimulating innovation, improving productivity and supporting the digital ecosystem. The main directions are: *digitization of SMEs, start-ups and innovation ecosystems*.

Digitization of SMEs includes providing support to small and medium-sized enterprises (SMEs) to adopt digital technologies, creating the SME Digitization Fund and providing technical assistance in the formation of Digital Innovation Hubs (DIH).

It is important to financially support start-ups and their access to digital innovation hubs.

All new technologies will be at the heart of new products, new manufacturing processes and new business models. “The transformation of businesses will depend on their ability to adopt new digital

technologies. By 2030, at least 75% of European businesses should have used cloud computing services, big data and artificial intelligence. By 2030, over 90% of European SMEs should have achieved at least a basic level of digital intensity” (Digital Economy, 2022).

In 2022, only 55% of small and medium-sized enterprises (SMEs) have reached a basic level of digital adoption. Sweden and Finland have the most digitalized SMEs, with 86% and 82%, respectively, with a basic level of digital intensity, while Romania and Bulgaria have the lowest rates of digitalisation of SMEs. “To achieve the objectives of the Roadmap to the Digital Decade, at least 90% of SMEs in the EU must have a basic level of digital intensity by 2030” (Digital Economy, 2022).

“Although businesses are increasingly digitized, the use of advanced digital technologies remains low. Although already 38,9% of enterprises relied on Cloud Computing services, only 8% used artificial intelligence - AI (artificial intelligence) and 33,2% used large volumes of data (Big Data) in 2023” (Shaping Europe’s Digital Future, 2024). According to the program The path to the digital decade, at least 75% of companies must adopt AI, Cloud Computing and Big Data technologies by 2030.

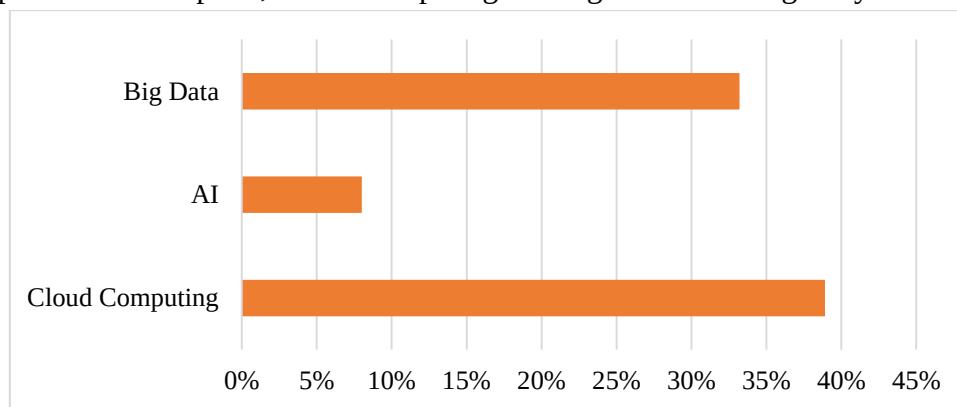


Figure 3. Adoption of advanced technologies (% of enterprises) in the EU, 2023

Source: Shaping Europe’s Digital Future, 2024

There is a substantial gap between large companies and SMEs, not only in the use of advanced technologies, but also in basic digital solutions, such as having an Enterprise Resource Planning (ERP) software package and involvement in electronic commerce. Finland, Denmark and Sweden rank highest in digital business transformation.

2.4 Priority direction: digitization of public services

Digitization of public services is a key priority for the European Union as it seeks to modernize its governance, improve efficiency, and provide better services to its citizens. The main objectives are:

- create a unified digital market in the EU where goods, services, and capital can move freely;
- strengthen the EU's digital sovereignty and ensure a safe, inclusive, and open digital environment;
- facilitate seamless digital interactions across EU public administrations;
- leverage data and AI for better governance and public service delivery;
- enhance the security and trustworthiness of digital public services.

The digitization of public services is central to the EU's vision of a modern, efficient, and citizen-centered governance model.

“By 2030, democratic life and public services online will need to be fully accessible to everyone, and everyone will need to benefit from a best-in-class digital environment that will provide easy-to-use, efficient and personalized services and tools, with high security standards” (Policy Programme,

2022). DESI monitors online public services by scoring Member States. Quality scores reached 75 out of 100 for digital public services for citizens and 82 out of 100 for businesses in 2021. Estonia, Finland, Malta and the Netherlands have the highest scores for Digital Public Services in DESI, while Romania and Greece have the smallest ones. The Path to the Digital Decade program sets the goal that all key public services for citizens and businesses will be fully online by 2030.

In the top of the over performing countries is Italy, with an increase of 2.2% between 2017 and 2022. It is followed by Germany, Ireland, France and Poland. In the group with slower development are Latvia, Luxembourg, Romania, Belgium, Slovakia and Estonia (2030 Policy Programme, 2021).

Figure 4 shows the DESI 2022 ranking of the Member States. Finland, Denmark, the Netherlands and Sweden have the most advanced digital economies in the EU, followed by Ireland, Malta and Spain. Romania, Bulgaria and Greece have the lowest DESI scores.

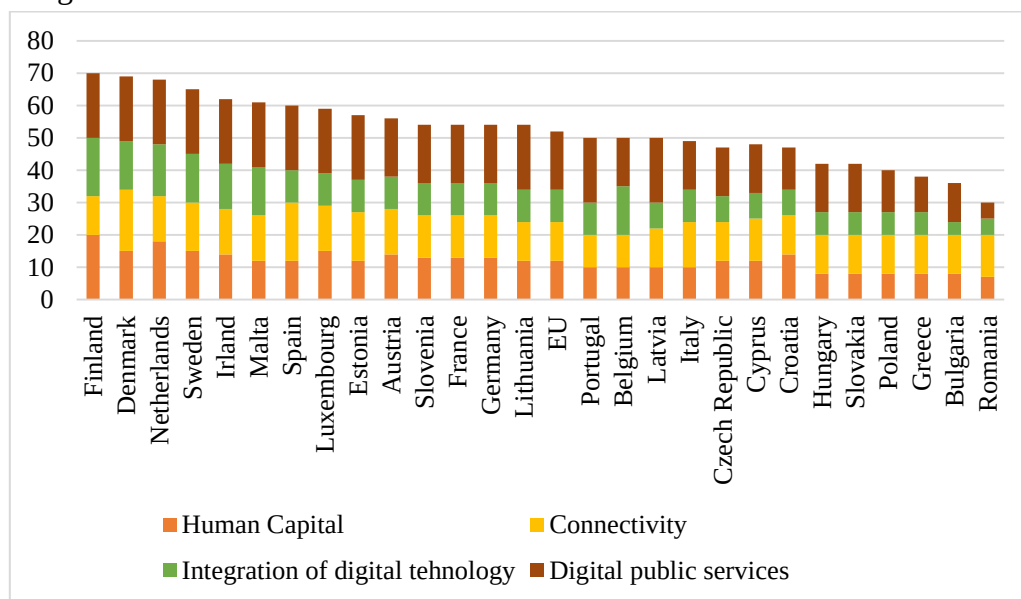


Figure 4. Fixed Very High Capacity Network (VHCN) coverage, % of households in the EU, 2014-2021

Source: European Commission Digital Economy and Society Index (DESI) 2022

3 Conclusion

Digital transformation is important for the development of EU member states, as it drives economic growth, enhances competitiveness, and improves public services. Strengthening the EU's digital sovereignty is essential for maintaining technological leadership and ensuring that the region can protect its digital assets, data, and infrastructure.

The digital transformation is necessary to strengthen the EU's digital sovereignty by capitalizing on its strengths and reducing its weaknesses, maintaining open markets and global cooperation.

All available instruments from industrial, trade and competition, skills and education, research and innovation policies and long-term funding instruments must be used to facilitate the digital transformation. Achieving these objectives requires a joint effort from all member states and at the level of the European Union, accompanied by joint investments. Investments in multinational projects are of major importance. They will enable industry to be at the forefront of innovation and compete globally, and the European Union to strengthen its digital sovereignty.

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EFFICIENCY OF INVEST IN A GAS GENERATOR IN MOLDOVA

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Abstract: For many years, the Republic of Moldova has been facing an energy crisis, both in terms of high energy supply prices and the stability of energy supply. There is a need to develop domestic energy sources, and in addition to renewable energy sources, it is necessary to explore investments in electricity generation from traditional energy sources. This article examines the possibility of investing in a gas generator from Rolls-Royce. The possibility of generating electricity and thermal energy has been examined, and the payback period of the generator has been calculated in terms of the sale of electricity and thermal energy. The article also calculates the payback period in terms of energy savings, assuming a reduction in consumption by the economic agent. An investment analysis has been conducted. A sensitivity analysis between electricity prices for sale to the grid and gas purchase prices has been performed. The possibilities of the state purchasing electricity during peak hours not from the Romanian Opcom exchange but from gas generator owners, under the condition of increasing the purchase price during peak hours as on the exchange, have been explored. We will also determine the minimum capacities of such generators capable of replacing electricity purchases on the exchange. Opportunities, forecasts, and risks for development in this sector will be identified. As a result, investments in gas generators under certain conditions may prove to be highly effective. This strategy will allow the country to reduce its dependence on imported electricity, decrease reliance on voltage fluctuations in the power system, spur the development of biogas production, enhance the country's energy security, create additional employment opportunities, and contribute to the growth of the gross domestic product.

Keywords: electricity, renewable energy, investments, energy prices, industry.

JEL Classification: Q42, Q43, Q47.

Introduction

Moldova does not have its own fossil resources; most of it imports. Moldova imports 96% of the required fuel, spending significant resources on this. (Быкова Е.В., 2013). In the production of thermal and electrical energy, neither the most advanced nor the most economical technologies are used. Energy today is like an artery for most sectors of the economy.

In recent years, the world and the region have experienced a crisis with rising energy prices, as well as the risk of their uninterrupted supply and possible shortages in the market. This is partly due to external factors, and partly due to insufficient funding from the state and economic agents. The development of energy technologies largely determines the rate of economic growth and its sectoral structure in the long term, affecting the value of relative and absolute production costs in the country. Investments in energy will lead to GDP growth directly through the formation of additional enterprises or production facilities, will lead to lower energy prices due to increased competition between suppliers, will lead to a reduction in consumption due to technology, and this will reduce the cost of products.

2. Research methodology

In recent years, due to the risk of insufficient supply of electricity and its possible termination by external and internal partners, as well as the risks of a possible increase in energy prices, there is a need for electricity production in Moldova. At the same time, we are seeing a significant increase in investments in renewable energy sources (RES), as well as an increase in production capacity from RES, but due to the fact that these energy sources for the most part do not have constant electricity generation, Moldova is forced to purchase the missing volumes of electricity on the exchange at higher prices than with long-term contracts. Therefore, in addition to investments in renewable energy sources, there is a need to invest in generators using traditional fuels such as natural gas. We will analyze the effectiveness of investment in a Rolls-Royce MTU 20V4000 GS generator.

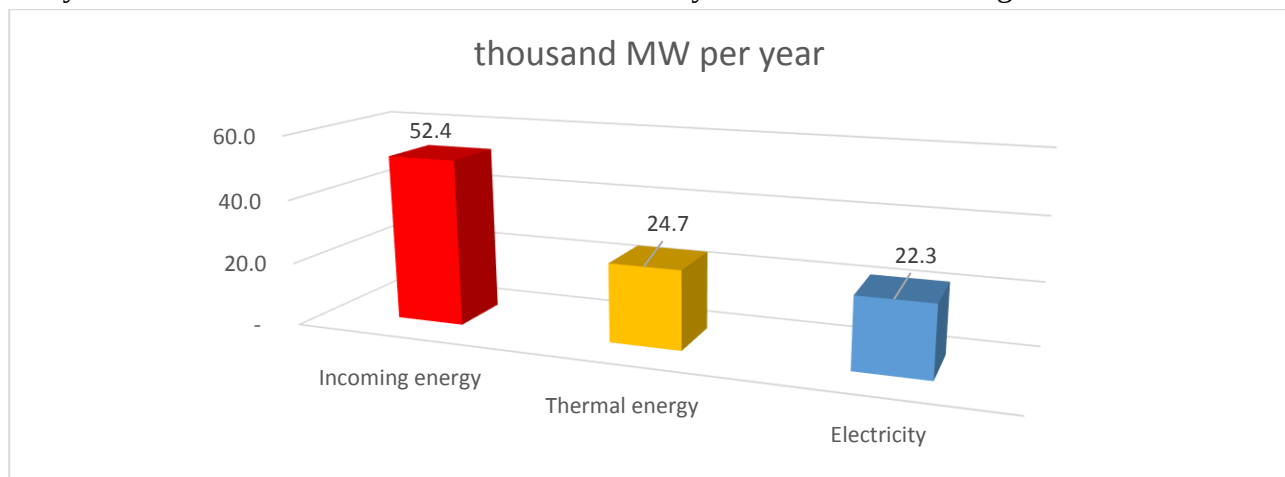


Figure 1. Incoming and outgoing energy from one generator throughout the year.

Source: prepared by authors based on data from the Technical Data Sheet

According to Figure 1, we see that almost half of the energy supplied to the generator in the form of gas combustion goes into thermal energy, and 42.5% goes into generating electricity.

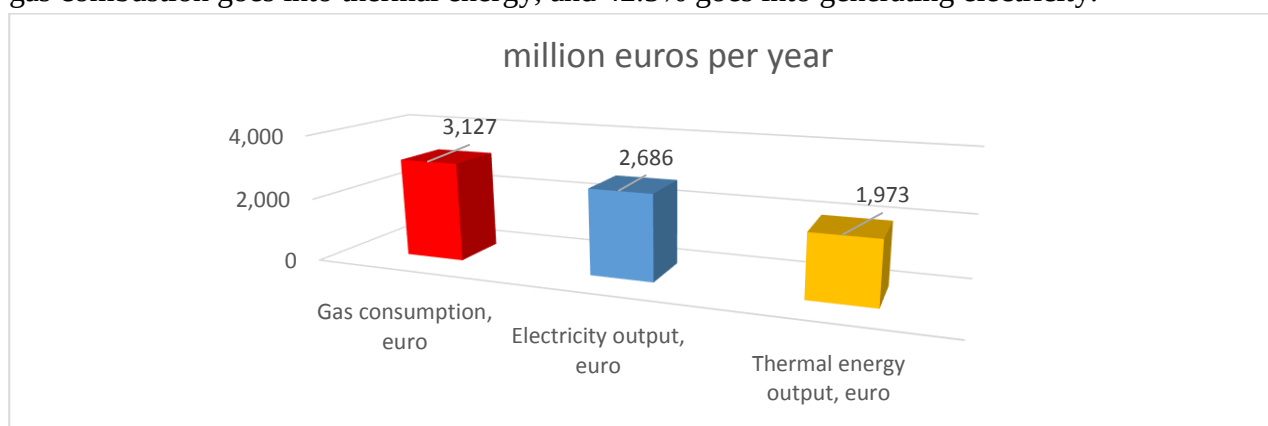


Figure 2. Purchase and sale of all received and produced energy in euros

Source: prepared by authors based on data from the National Energy Regulatory Agency./ Technical Data Sheet/Moldovagaz/Energocom

According to Figure 2, we see that by selling all generated electricity at the minimum selling price from electricity distributors at 2.34 lei per kWh, we will receive 2,686 million euros, as well as by selling all thermal energy with a 15% discount to the minimum selling price from suppliers' thermal

energy in the amount of 1824 lei per 1 Gcal we will receive 1973 million euros. In total, we cover the cost of gas consumption at the rate of 570 cubic meters of gas per hour at a selling price on the market of 12.15 lei per 1 cubic meter.

Table.1 Calculation of return on investment for the sale of all thermal and electrical energy.

Indicators		1 year	2 year	3 year	4 year	5 year	6 year	7 year	8 year	9 year	10 year
Investment in generator, euro	1 450 000										
Additional investments in installation, pipes, cells, piping, design, etc., euro	350 000										
Electricity production MW/year		22 271	22 271	22 271	22 271	22 271	22 271	22 271	22 271	22 271	22 271
Thermal energy production, Gcal/year		21 240	21 240	21 240	21 240	21 240	21 240	21 240	21 240	21 240	21 240
Gas consumption, m3 year		4 993 200	4 993 200	4 993 200	4 993 200	4 993 200	4 993 200	4 993 200	4 993 200	4 993 200	4 993 200
Sales income, euro		4 659 069	4 659 069	4 659 069	4 659 069	4 659 069	4 659 069	4 659 069	4 659 069	4 659 069	4 659 069
Sales of electricity, euro		2 686 250	2 686 250	2 686 250	2 686 250	2 686 250	2 686 250	2 686 250	2 686 250	2 686 250	2 686 250
Sales of thermal energy, euro		1 972 818	1 972 818	1 972 818	1 972 818	1 972 818	1 972 818	1 972 818	1 972 818	1 972 818	1 972 818
Costs, euro		3 513 556	3 513 556	3 513 556	3 513 556	3 513 556	3 513 556	3 513 556	3 513 556	3 513 556	3 513 556
Gas consumption costs, euros		3 126 708	3 126 708	3 126 708	3 126 708	3 126 708	3 126 708	3 126 708	3 126 708	3 126 708	3 126 708
Operating expenses (salaries, repairs, oils, maintenance), euro		255 188	255 188	255 188	255 188	255 188	255 188	255 188	255 188	255 188	255 188
Taxes		131 661	131 661	131 661	131 661	131 661	131 661	131 661	131 661	131 661	131 661
Cumulative Income and Expenses, euro		1 145 512	2 291 024	3 436 537	4 582 049	5 727 561	6 873 073	8 018 586	9 164 098	10 309 610	11 455 122
Payback, years											1,58

Source: prepared by authors based on data from the National Energy Regulatory Agency./ Technical Data Sheet/Moldovagaz/GEE/Energocom

According to table 1, we see that 1.8 million euros are needed for the purchase and installation of a generator. By selling all generated electricity at 2.34 lei per kWh, as well as all thermal energy at 1,550.4 lei per 1 Gcal, operating 365 days a year and 24 hours a day, we will receive an income of 4.7 million euros per year, with in this case, the cost of gas consumption during energy production, as well as operating expenses and taxes will amount to 3.5 million euros.

The return on investment in this case will be 1.58 years.

Table.2 Calculation of return on investment for the sale of all electrical energy and heat during the heating season.

Indicators		1 year	2 year	3 year	4 year	5 year	6 year	7 year	8 year	9 year	10 year
Investment in generator, euro	1 450 000										
Additional investments in installation, pipes, cells, piping, design, etc., euro	350 000										
Electricity production MW/year		22 271	22 271	22 271	22 271	22 271	22 271	22 271	22 271	22 271	22 271
Thermal energy production, Gcal/year		10 475	10 475	10 475	10 475	10 475	10 475	10 475	10 475	10 475	10 475
Gas consumption, m3 year		4 993 200	4 993 200	4 993 200	4 993 200	4 993 200	4 993 200	4 993 200	4 993 200	4 993 200	4 993 200
Number of days of sale of thermal energy		180	180	180	180	180	180	180	180	180	180
Sales income, euro		3 659 147	3 659 147	3 659 147	3 659 147	3 659 147	3 659 147	3 659 147	3 659 147	3 659 147	3 659 147
Sales of electricity, euro		2 686 250	2 686 250	2 686 250	2 686 250	2 686 250	2 686 250	2 686 250	2 686 250	2 686 250	2 686 250
Sales of thermal energy, euro		972 897	972 897	972 897	972 897	972 897	972 897	972 897	972 897	972 897	972 897
Costs, euro		3 393 566	3 393 566	3 393 566	3 393 566	3 393 566	3 393 566	3 393 566	3 393 566	3 393 566	3 393 566
Gas consumption costs, euros		3 126 708	3 126 708	3 126 708	3 126 708	3 126 708	3 126 708	3 126 708	3 126 708	3 126 708	3 126 708
Operating expenses (salaries, repairs, oils, maintenance), euro		255 188	255 188	255 188	255 188	255 188	255 188	255 188	255 188	255 188	255 188
Taxes		11 670	11 670	11 670	11 670	11 670	11 670	11 670	11 670	11 670	11 670
Cumulative Income and Expenses, euro		265 581	531 162	796 743	1 062 325	1 327 906	1 593 487	1 859 068	2 124 649	2 390 230	2 655 812
Payback, years											6,53

Source: prepared by authors based on data from the National Energy Regulatory Agency./ Technical Data Sheet/Moldovagaz/GEE/Energocom

According to the table, we see that if the company implementing the investment can sell thermal energy only during the heating season (October-April) and all the electricity produced, then the annual income will be 3.7 million euros, while the costs will be 3.4 million Euro. The return on investment with this scheme of work will be 6.5 years.

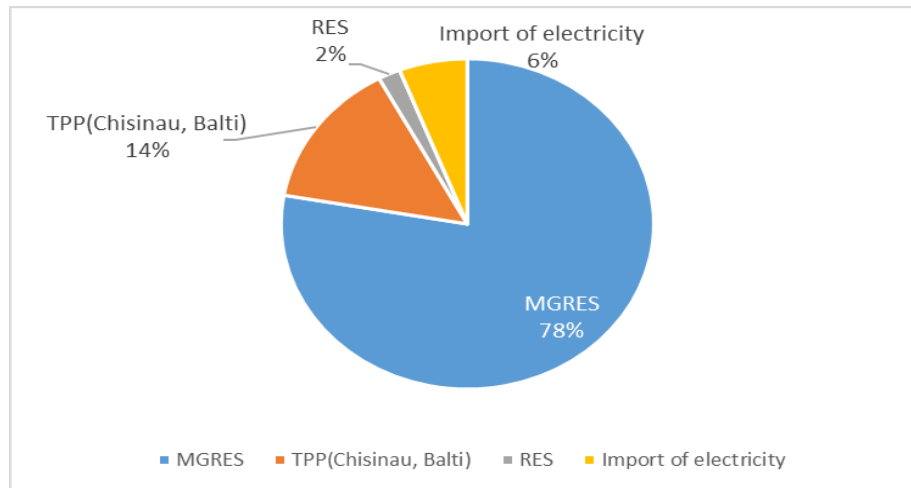


Figure 3. Structure of electricity purchases by the state company Energocom in 2023.

Source: prepared by authors based on data from Energocom

According to Figure 3, we see that the Energocom company (the main supplier of electricity for distribution networks) purchased 78% of electricity from the Moldavian State District Power Plant, it is also worth highlighting the import of electricity in the structure of 6% or 250,000 MGWh. The share of imports was dominated by electricity purchased on the Romanian exchange Opcom.

Table. 3 Purchase of electricity from Energocom and the need for generators

Sources,MWh	2023 year
MGRES	3 278 475
Thermal Power Plant (Chisinau, Balti)	605 216
RES	81 000
Import of electricity	250 000
Total	4 214 691
Gas generator production	22 271
Gas generator production during peak hours	5 568
Number of generators to cover imports	45

Source: prepared by authors based on data from the Technical Data Sheet /Energocom

From the table we see that to cover the import of electricity, which mainly occurs during peak hours (6 hours a day), 45 units of such generators are needed.

Table. 4 Calculation of return on investment for the sale of all electrical energy and heat during the heating season, during peak hours, electrical energy at import prices.

Indicators		1 year	2 year	3 year	4 year	5 year	6 year	7 year	8 year	9 year	10 year
Investment in generator, euro	1 450 000										
Additional investments in installation, pipes, cells, piping, design, etc., euro	350 000										
Off-peak electricity production MW/year		16 703	16 703	16 703	16 703	16 703	16 703	16 703	16 703	16 703	16 703
Electricity production during peak hours MW/year		5 568	5 568	5 568	5 568	5 568	5 568	5 568	5 568	5 568	5 568
Thermal energy production, Gcal/year		4 993 200	4 993 200	4 993 200	4 993 200	4 993 200	4 993 200	4 993 200	4 993 200	4 993 200	4 993 200
Gas consumption, m3 year		1 450 000	1 450 000	1 450 000	1 450 000	1 450 000	1 450 000	1 450 000	1 450 000	1 450 000	1 450 000
Number of days of sale of thermal energy		180	180	180	180	180	180	180	180	180	180
Peak hours per year for electricity consumption		2 190	2 190	2 190	2 190	2 190	2 190	2 190	2 190	2 190	2 190
Sales income, euro		4 010 752	4 010 752	4 010 752	4 010 752	4 010 752	4 010 752	4 010 752	4 010 752	4 010 752	4 010 752
Sale of electricity outside peak hours, euro		2 014 688	2 014 688	2 014 688	2 014 688	2 014 688	2 014 688	2 014 688	2 014 688	2 014 688	2 014 688
Sale of electricity during peak hours, euro		1 023 168	1 023 168	1 023 168	1 023 168	1 023 168	1 023 168	1 023 168	1 023 168	1 023 168	1 023 168
Sales of thermal energy, euro		972 897	972 897	972 897	972 897	972 897	972 897	972 897	972 897	972 897	972 897
Costs, euro		3 435 758	3 435 758	3 435 758	3 435 758	3 435 758	3 435 758	3 435 758	3 435 758	3 435 758	3 435 758
Gas consumption costs, euros		3 126 708	3 126 708	3 126 708	3 126 708	3 126 708	3 126 708	3 126 708	3 126 708	3 126 708	3 126 708
Operating expenses (salaries, repairs, oils, maintenance), euro		255 188	255 188	255 188	255 188	255 188	255 188	255 188	255 188	255 188	255 188
Taxes		53 863	53 863	53 863	53 863	53 863	53 863	53 863	53 863	53 863	53 863
Cumulative Income and Expenses, euro		574 994	1 149 988	1 724 982	2 299 975	2 874 969	3 449 963	4 024 957	4 599 951	5 174 945	5 749 939
Payback, years											3,53

Source: prepared by authors based on data from the National Energy Regulatory Agency./ Technical Data Sheet/Moldovagaz/GEE/Energocom

The table shows that to calculate the payback, we used the sale of thermal energy during the heating season at a price of 1,550.4 lei per Gcal, also if Energocom during peak hours purchased electricity not on the exchange, but from an investor in gas generators at the minimum price as on the exchange in 2024, which is 200 euros per 1 MW, assuming that daily consumption during peak hours is 6 hours, the rest of the electricity we calculate at a price of 2.34 lei per 1 KW.

As a result, sales income will be 4 010 thousand euros per year, costs will be 3 436 thousand euros. The payback period for this type of work will be 3.5 years.

Table. 5 Sensitivity analysis for gas and electricity. Profit per year in euros

		Gas price, lei															
Electricity price, lei		6	8	11	12	13	14	15	16	17	18						
	2,4	1 832 982	1 379 991	700 504	474 008	247 513	21 017	- 233 498	- 490 880	- 748 261	- 1 005 643						
	2,3	1 757 216	1 304 225	624 738	398 242	171 747	- 62 215	- 319 596	- 576 978	- 834 359	- 1 091 741						
	2,2	1 681 450	1 228 459	548 972	322 476	95 981	- 148 313	- 405 694	- 663 075	- 920 457	- 1 177 838						
	2,1	1 605 684	1 152 693	473 206	246 710	20 215	- 234 410	- 491 792	- 749 173	- 1 006 555	- 1 263 936						
	2	1 529 918	1 076 927	397 440	170 944	- 63 127	- 320 508	- 577 889	- 835 271	- 1 092 652	- 1 350 034						
	1,9	1 454 152	1 001 161	321 674	95 178	- 149 224	- 406 606	- 663 987	- 921 369	- 1 178 750	- 1 436 132						
	1,8	1 378 386	925 395	245 908	19 412	- 235 322	- 492 704	- 750 085	- 1 007 466	- 1 264 848	- 1 522 229						
	1,7	1 302 620	849 629	170 142	- 64 038	- 321 420	- 578 801	- 836 183	- 1 093 564	- 1 350 946	- 1 608 327						
	1,6	1 226 854	773 863	94 376	- 150 136	- 407 518	- 664 899	- 922 281	- 1 179 662	- 1 437 043	- 1 694 425						
	1,5	1 151 088	698 097	18 610	- 236 234	- 493 615	- 750 997	- 1 008 378	- 1 265 760	- 1 523 141	- 1 780 523						
	1,4	1 075 322	622 331	- 64 950	- 322 332	- 579 713	- 837 095	- 1 094 476	- 1 351 857	- 1 609 239	- 1 866 620						
	1,3	999 556	546 565	- 151 048	- 408 429	- 665 811	- 923 192	- 1 180 574	- 1 437 955	- 1 695 337	- 1 952 718						
	1,2	923 790	470 799	- 237 146	- 494 527	- 751 909	- 1 009 290	- 1 266 672	- 1 524 053	- 1 781 434	- 2 038 816						
	1,1	848 024	395 033	- 323 244	- 580 625	- 838 006	- 1 095 388	- 1 352 769	- 1 610 151	- 1 867 532	- 2 124 914						
	1	772 258	319 267	- 409 341	- 666 723	- 924 104	- 1 181 486	- 1 438 867	- 1 696 249	- 1 953 630	- 2 211 011						
	0,9	696 492	243 501	- 495 439	- 752 821	- 1 010 202	- 1 267 583	- 1 524 965	- 1 782 346	- 2 039 728	- 2 297 109						
	0,8	620 726	167 735	- 581 537	- 838 918	- 1 096 300	- 1 353 681	- 1 611 063	- 1 868 444	- 2 125 825	- 2 383 207						

Source: prepared by authors based on data from the National Energy Regulatory Agency./ Technical Data Sheet/Moldovagaz

The table presents a sensitivity analysis of changes in electricity prices and gas prices, according to the work scheme from Table 4. In this table we see how a decrease in purchase prices for gas can lead to an increase in profits from the production of a gas generator, as well as how an increase in sales prices for electricity also promotes profit growth

Conclusions

Investments are an important element of the country's economic development. In this context, the economic policy of the Republic of Moldova for the medium and long term should be focused on increasing investment and maintaining it at a high level. Investments by enterprises in small gas generators make it possible to ensure an uninterrupted flow of electricity, especially during peak hours, as well as at times when electricity generation from renewable energy sources is unstable. From the state's point of view, the country's energy security is improving. At the same time, companies implementing this type of investment run the risk of being unable to sell the generated energy, primarily thermal energy. At the same time, the state should legally allow the purchase of electricity during peak hours from such enterprises at the price of imports on the exchange; this will allow companies to be more willing to invest in this kind of generators, which provides additional income to companies, creates jobs, and increases GDP. Even if electricity is purchased during peak hours at import prices, there is a risk with the sale of thermal energy, for example, they cannot connect to heating plants and not everyone will be able to buy this energy from heat suppliers for consumers. Therefore, enterprises where there is a high own consumption of thermal energy have the greatest opportunity to invest in such generators. In Moldova these are distilleries, glass factories, brick factories. At the same time, the payback may be insufficient and to stimulate this kind of investment, the state should guarantee the purchase of electricity during peak hours at the price of imports from the exchange, the purchase of the rest of the electricity at a standard price, provide grants and subsidies, and facilitate the conditions for the purchase of thermal energy from state heating plants.

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SESSION III.

**EUROPEAN INTEGRATION, MULTICULTURALITY
AND INTERNATIONAL ECONOMIC RELATIONS**

ALIGNING BUSINESS ENGLISH INSTRUCTION WITH THE KNOWLEDGE ECONOMY: INCREASING PERFORMANCE OF A GLOBAL WORKFORCE

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Abstract: The global market for professional skills and competencies has undergone a radical transformation due to the shift from an industrial to a knowledge economy. Managing and applying information has become as important as technical expertise in this new economy. This article discusses how Business English training can be changed to focus not only on the language but also on different aspects needed in the interconnected and information-rich business world. We believe that the integration of new methods of teaching English for business, particularly within the framework of games like Virtual Reality (VR) simulation and interactive software, will provide students with the skills they need to succeed in the knowledge economy.

Keywords: knowledge economy, business English, virtual reality (VR) simulations, interactive software, strategic thinking, cultural awareness

JEL Classification: A2; L85; P46

Introduction

Needless to say, that the transition from an industrial to a knowledge economy has led to a paradigm shift in the skills needed to be successful in the global job market today. In this economy, the skills to manage, analyze, and apply information are as vital as technical know-how. Communication, decision-making, and cultural competence are now integral to professional success as businesses operate in a globalized environment. As a result, Business English teaching needs to respond to these expanded competencies with targeted pedagogical strategies, shifting the focus from just proficiency to mission-critical capabilities such as strategic leadership, stakeholder communication, and cross-cultural awareness.

The following article looks into how Business English education can be improved by integrating new pedagogical tools like the use of VR simulations and interactive software that will help foster Business English in an age of knowledge economy. We argue that immersion in these types of technologies offers learners rich, real-world learning experiences, which can considerably enhance their strategic thinking, communication, and cross-cultural skills — all of which are essential competencies for success in the globalized business world of today.

1. Prerequisite: The Knowledge Economy and Its Implications for Business English Instruction

Intellectual skills and the ability to make use of information are well compensated in the knowledge economy. Merely possessing technical knowledge is thus insufficient for professionals, who also need

to have high-order communication and strategic decision-making skills in such an economy. To ensure that Business English instruction remains up to date, the following competencies must come to the fore based on these changes:

Knowledge Economy: This refers to the current economic environment where value is driven by intellectual capabilities rather than physical resources. Business English learners should be able to analyze business data, make strategic decisions, and effectively communicate their decisions (Brennan, 2019).

Communication: Business professionals need to communicate clearly and persuasively across different environments. Business English courses should not only teach the language of international business but also promote higher-level communication skills around negotiation, presentation, and cross-cultural communication (Reynolds, 2021).

Cultural Competence: As businesses globalize, there needs to be professionals who can comfortably work across cultural contexts. English for business learners need to learn how to be sensitive to cultural diversity and adjust their manner of interaction (Liu & Matsumoto, 2020).

2. Business English Teaching: Innovative Pedagogical Techniques

As such, these requirements point towards an innovation of pedagogical tools in Business English education; immersion and instructiveness. VR modeling and interactive software are particularly useful in providing realistic in-business situations (and related activities) that require linguistic as well as cognitive skills. They put learners in real-world scenarios where they can practice and hone their skills in a controlled but dynamic environment.

2.1 Simulations of Virtual Reality (VR)

Virtual reality technology enables learners to encounter business scenarios within which they can practice their language skills and strategic decision-making skills. Among community and commercial VR platforms for Business English instruction, here are some of the most promising:

vSim for Business: This platform provides simulations that allow learners to engage in international business negotiations, interact with virtual avatars portraying colleagues from diverse cultural backgrounds, and refine their negotiation and presentation skills. Research indicates VR simulations are effective in enhancing language retention and boosting learners' confidence in using business language (Anderson & Boyle, 2018).

VirBELA: Providing a virtual world in which students can attend conferences, hold meetings, and collaborate on projects with virtual colleagues. Research shows that Moore includes immersive VR environments where learning traditionally gained (in Venkatesh et al., 2017) helps learners gain real-world business experience without the hassle of in-person meetings (Khan et al., 2020).

Business Simulations: OpenSimSim: Though focused on scientific simulations at present, Labster has expanded into business scenarios and offers interactive VR environments in which learners can practice business decision-making, financial management, and strategic planning. A previous study from Xu et al. showed VR-based simulations can improve decision-making skills as learners can experiment with strategies and see the consequences of their decisions without real-life repercussions (2022).

2.2 Interactive Software

Role of Interactive Software in Business English: Simulating Business Processes and Situations

Interactive software simulates business processes and decision-making scenarios. Some examples include:

SimCity for Business: This simulation game provides the opportunity for learners to run a virtual business, make decisions, and react to changes in the market. Such projects stimulate critical thinking and strategic problem-solving skills (Wang, 2017).

Rosetta Stone Business English: This app offers interactive lessons on business-specific communication, including skills such as writing reports, giving presentations, and writing business proposals. Aligned with this consideration, several previous studies have demonstrated the active use of mobile technology such as interactive language apps to be effective in supporting language proficiency development and have also proven beneficial in helping learners retain vocabulary and grammar structures (Lee, 2020).

Harvard Business Publishing Education: Harvard case studies are interactive case studies and business simulations that challenge learners to analyze real-world business problems and make decisions accordingly. This encourages skills such as strategic thinking and communication through the provision of complex scenarios and analysis that must then be communicated (Harvard Business Publishing, 2019).

3. Bridging the Worlds of Business English and the Knowledge Economy

When we incorporate VR and interactive software in Business English instruction, we can directly target the competencies needed to thrive in the knowledge economy:

Strategic Thinking & Decision-Making: Virtual reality simulations and interactive software help learners learn to analyze complicated metrics and data, make choices, and project the consequences of their actions. It allows learners to evaluate business situations in real time, leading to a deeper understanding of the strategic processes (Baker & Wuest, 2020).

Communication Skills: Interactive virtual business scenarios allow learners to practice their communication skills in a variety of professional settings. VR simulations offer a safe space for refining negotiation skills, assertiveness, cultural sensitivity, and even presentation skills, which will increase confidence and translate into better performance in real business scenarios (Kim & Lee, 2021).

The Diversity of Avatars: Virtual avatars representing a variety of cultural backgrounds and business environments help learners become aware of and navigate cultural differences. Interactive tools create a space for learners to practice cross-cultural communication and understand how to align with various business environments (Liu & Matsumoto, 2020).

4. Implementing Ideas for Teachers

Educators should consider these strategies to get the most out of VR and interactive software:

Align with Learning Objectives: The use of VR software and interactive programmes needs to address learning objectives exactly, such as strategic communication, decision-making, and cross-cultural awareness.

Support and Training: As these tools become available, provide training on how to use them effectively so that both instructors and learners can maximize the new capabilities the technology offers (Friedman & Strauss, 2022).

Encourage Reflection: Unlike other forms of learning, VR or interactive software is an immersive experience that the learner cannot simply walk away from and forget; therefore, it is vital that they are encouraged to reflect on what they have just undertaken so that they can gain a greater

understanding of how the skills they were practicing relate back to their place in an actual working environment.

5. Challenges and Considerations

The potential of VR and interactive software is enormous, but there remain a number of hurdles in their integration:

Price: VR generally has a big cost in equipment and software. Educators can look for funding opportunities, education discounts, or partnerships with tech providers to alleviate costs.

Technical Infrastructure: Educators or course facilitators need to ensure that they have the right hardware and technical support to effectively implement these tools.

Particular Challenge: Educators and learners may take time to adapt to new technology. Therefore, training and user support is one of the most important aspects of overcoming this challenge.

Conclusion

Aligning Business English instruction with the demands of the knowledge economy calls for the integration of innovative pedagogical tools that bridge theory and practice. VR simulations and interactive software can help improve learners' strategies, communication skills, and cultural sensibilities. The business world is changing; educators need to better prepare students to meet the challenges we are facing in the globalized, information-driven marketplace, and to thrive in our knowledge economy through these technologies.

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LIMITS AND OPPORTUNITIES OF ARTIFICIAL INTELLIGENCE IN THE REPUBLIC OF MOLDOVA

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Abstract: Artificial intelligence and its related elements represent a major challenge for the global economy. The Republic of Moldova, being a young state, with a developing economy in the process of European integration, is even more interested in the advantages and challenges that technology and artificial intelligence bring. In this paper, the authors propose to analyze the challenges faced by this field in the Republic of Moldova and which are the areas that need the implementation of AI as a catalyst in their development. Today, the Republic of Moldova faces two main challenges: the war in Ukraine and its negative consequences on our country's economy and security and the significant effort to align with European standards in the current harsh conditions. In this context, we believe that the correct implementation of artificial intelligence technologies are useful in terms of avoiding errors, stopping fake news, propaganda, increasing the productivity of the human factor and improving the business environment. Considering that just some years ago, the majority of the country's population was completely unfamiliar with the term artificial intelligence, today, implementing it is a challenge and a necessity, aiming to grow and develop the country.

Keywords: Artificial intelligence, security, technologies, tools

JEL Classification: O3, O5

1 Introduction

In recent years, the world's economies have undergone radical transformations that have changed not only the level of economic development but also visions, concepts, and mentalities. It happened due to several factors, but the decisive one we consider is technological change with all its related elements. The speed at which AI technology is developing is astonishing. For example, ChatGPT was launched in November 2022. Four months later, OpenAI released a new large language model, or LLM, called GPT-4. In May 2023, Google announced several new AI-powered features, including Search Generative Experience and a new LLM called PaLM2 that powers the Bard chatbot. It is considered that the potential of artificial intelligence is so great that its use will unlock and generate trillions of dollars in national economies (Mckensey, 2023) That is why, in this article, the author aims to analyze how artificial intelligence technology has revolutionized the world and why it is an indispensable phenomenon in all economies, including the Republic of Moldova.

It is essential to present some theoretical notions of this concept to analyze the limits and opportunities of artificial intelligence (AI) in all its spheres of action. It is good to distinguish between human intelligence, the brain's ability to create something, and the human being's ability to invent or innovate. At the same time, Artificial Intelligence tries to imitate human abilities through various

machines and technologies. In other words, AI is the ability of machines and technologies to perform computing, storing, planning, and problem-solving functions instead of humans. Over the years, the replacement of manual labor with artificial intelligence has brought a string of benefits in all aspects of life, starting from increasing labor productivity and competitiveness, which in turn have generated economic growth, and ending with easing daily human activities, transportation, travel, remote connectivity, studies, and education.

The father of AI is considered to be Professor John McCarthy, one of the organizers of the Dartmouth research project in 1956, which gave birth to AI as a specific field and defined "AI" as "the science and engineering of creating intelligent machines" (McCarthy, 2007). Thus, computers and artificial intelligence have gone hand in hand and totally changed our world. Even if the history is short, the effects are enormous. Figure 1 shows the evolution of computer technology and how quickly things have changed, as the phone model created two years ago already seems outdated.

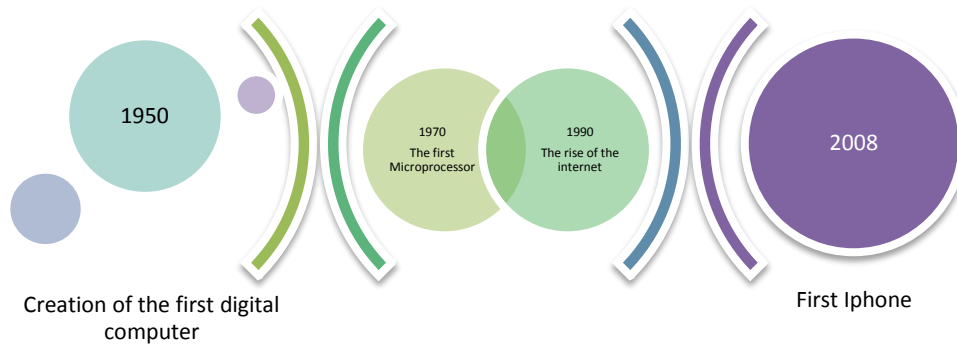


Figure 1: Chronological development of computer technology

Source: authors own study

Analyzing the connection between computers and artificial intelligence, some computer scientists have strived to make machines as intelligent as humans from the very beginning. Figure 2 shows the chronological evolution of artificial intelligence (AI) systems and their role in humankind.



Figure 2. Chronological development of artificial intelligence systems

Source: authors own study

The first system is Theseus. It was built by Claude Shannon in the 1950s as a remote-controlled mouse that could find its way out of a maze and remember its course. In seven decades, artificial intelligence's capabilities have changed constantly, with extraordinary effects on all aspects of life. While the early systems focused on generating images of faces, these newer models have extended their capabilities to generate text images based on almost any request. There are programs that turn images into text in seconds or vice versa, recognize voices, identify any information you need, do market research in a short time compared to a survey physically done by an individual, solve problems, edit summaries, etc.

What we have presented above is only a micro part of this complex system. The cooperation between the development of technology and artificial intelligence is strongly connected because the more sophisticated these machines are the better the software and AI elements work, such as Minerva program (solves problems at the university level), PaLM (elaborates sophisticated texts), Chat GPT, DALL-E (images with text description), NEO (setting viewing preferences in social networks), etc. (WEF, 2022) The fact is that artificial intelligence is in the process of development and more complex programs will emerge. The European Commission suggests in various reports that Artificial Intelligence (AI) is considered a "defining technology of the future." (EC, 2020)

1. The advantages, limits, and opportunities of artificial intelligence in the world's economies

As previously mentioned, artificial intelligence is indispensable in the evolution of any economy, regardless of its level of development. According to International Monetary Fund (IMF, 2024) estimates, artificial intelligence is poised to reshape the global economy. On the downside, it could threaten 33% of jobs in advanced economies, 24% in emerging economies, and 18% in low-income countries. On the positive side, however, it has enormous potential to increase the productivity of existing jobs, for which AI can be a complementary tool, and to create new jobs and industries. Most emerging market economies and low-income countries have a lower share of high-skilled employment than advanced economies. Therefore, they are likely to be less affected by AI and face fewer immediate disruptions. At the same time, many of these countries do not have the infrastructure or skilled workforce to capitalize on AI's benefits, which could exacerbate inequality between nations. Meanwhile, artificial intelligence is already an everyday reality for consumers, businesses, and governments globally. As one of the most transformative technologies, artificial intelligence is helping users reach new levels of creativity, productivity, and effectiveness. A recent survey indicated that two-thirds (67%) of IT leaders prioritize AI for their business, and one-third (33%) consider it a top priority. Similarly, 72% of companies surveyed say they will significantly increase their investment in AI in the coming years. (WEF, 2023)

According to Goldman Sachs Research (GDS, 2023), breakthroughs in generative artificial intelligence can potentially bring radical changes to the global economy. As tools that utilize advances in natural language processing make their way into businesses and society, they could drive a 7% (or nearly \$7 trillion) increase in global GDP and boost productivity growth by 1.5% over the next ten years. Despite the significant uncertainty about artificial intelligence's potential, its capacity to generate content reflects a major breakthrough with crucial macroeconomic effects.

We aim to analyze several important sectors of national economies that are directly influenced by AI development:

- ***The role of artificial intelligence on business impacting the economy*** – In recent years, the business community has increasingly realized the importance of technology in accelerating company growth and development, which in turn generates economic growth. Artificial intelligence is successfully used in many segments of companies, such as sales, marketing and promotion, product creation and design, research and development, human resource management, accounting and analysis, and planning and control. For example, applying AI in marketing to generate creative content, such as personalized emails, social media posts, and promotional content in various environments, can automatically create cost savings for companies. The Mckensey Company conducted a study on several companies that found that using 63 programs from AI covering 16 jobs could generate a total value of between \$2.6 trillion and \$4.4 trillion annually when applied across industries. Overall, they estimated that artificial intelligence could generate between 9.5 and 15.4 trillion dollars in global GDP. The study also emphasized that the widespread use of AI in various industries could perform "detailed work tasks" such as "communicating with others about operational plans or activities." It would significantly enhance productivity growth and company competitiveness. (Mckensey, 2023)
- ***The impact of artificial intelligence on the labor market*** – According to several studies, AI can stimulate growth by replacing labor as a scarce resource with capital, which can be considered an unlimited resource for producing goods, services, and ideas. Studies have revealed that up to 300 million jobs worldwide could be affected in the coming years. AI could automate 25% of the entire labor market. Economists at the American Investment Bank predict that AI will replace humans in 46% of administrative tasks, 44% of legal jobs, and 37% of architectural and engineering professions. The effects will likely be felt more in advanced rather than emerging economies. (Trabelsi, 2024) The difference between countries reflects various reasons: the time it takes to integrate technological capabilities into solutions that can automate individual work activities, the cost of these technologies compared to the cost of human labor in different occupations and countries around the world, and the time it takes to spread the technologies throughout the economy. All this depends mainly on the decisions that will be taken on investment, deployment, and regulation;
- ***Artificial intelligence and education*** – If used correctly, artificial intelligence (AI) can potentially transform education. With its help, it is accelerating the transition to Education 4.0, a future-oriented teaching and learning framework that delivers the skills, attitudes, and values essential for the future. To unlock the transformative potential of these technologies to improve learning outcomes, Education 4.0 focuses on four key strategies: generating high-quality information and tools, engaging influential education leaders, mobilizing the global education industry, and accelerating strong national public-private partnerships. (WEF, 2024) Concrete methods used by AI in education are: educational chatbots, virtual assistants for teachers, automatic translation and interpretation systems, etc. (for example Grammarly, DeepL, Duolingo, Coursera, Knewton).
How can we identify the limits or advantages of using artificial intelligence in the world's economies, including Moldova? There are several specific criteria, and depending on their level of development, we can deduce the degree of utilization of artificial intelligence. The following aspects determine the level of readiness of countries to use it:
 - ***Digital infrastructure*** – as mentioned in Figure 1, artificial intelligence develops together with compatible technical resources and hardware. Determining the compatible technical infrastructure needed for intensive processing is the first step toward preparing for AI;

- *Data* – AI models require large amounts of data to generate realistic content. Building a solid base of quality data is essential to generating relevant results;
- *Workforce development* – Artificial intelligence will have implications for the workforce in all industries, yet the aim is not to replace it entirely but to enhance it. Successful AI is about enhancing – not replacing – the human workforce. However, there will be significant demand for AI skills. Government and business must invest in human talent and skills;
- *Ethics* – While generative AI has the potential to profoundly change the way we live and work, it is not without risks. There are ethical concerns, such as the potential for biased or harmful content. It is important to prioritize responsible and ethical innovation from the outset.

The analysis of the AI Preparedness Index (AIPI), a study conducted by the International Monetary Fund in 174 countries, based on a complex set of indicators such as countries' digital infrastructure, human capital and labor market policies, innovation and economic integration, and regulation and ethics, found that the countries with the highest preparedness in the use of AI are developed countries, with an index of 0.68 out of 0.8, emerging countries rank at a level of 0.46, while the less developed ones around 0.32. The gaps are evident, as underdeveloped countries face considerable difficulties in their digital infrastructure due to a lack of innovation, lack of internet access, weak digital skills of the population, vulnerability, weak security, etc.

2. The necessity of using artificial intelligence in the Republic of Moldova

Starting from the idea that the Republic of Moldova is a developing country with a GDP per capita of approximately 5000 dollars, according to UNCTAD data for 2023, and according to the AI Preparedness Index (AIPI) 2023, developed by the IMF, the Republic of Moldova has an index of 0.48 out of 0.8, classifying it in the low-income countries category, it is clear that the use of Artificial Intelligence is a necessity, but it comes with several challenges. Although the Republic of Moldova signed the Council of Europe Framework Convention on Artificial Intelligence, Human Rights, Democracy, and the Rule of Law on September 5, 2024, in Vilnius, our country is at an early stage in this field, being obliged to create a solid national framework of regulations and policies for artificial intelligence systems. For the Republic of Moldova, using artificial intelligence elements would bring significant advantages to the labor market by replacing employees in various sectors, especially agriculture, which can be transformed into an intelligent and highly productive one. Artificial intelligence would help the government and its subordinate institutions manage public policies more effectively. At the same time, being a vulnerable country in terms of security, with a border war, the innovative elements of AI would allow the identification of false alerts and prevent information risks and cyber-attacks. Furthermore, the widespread use of artificial intelligence in the business environment would increase the export competitiveness of Moldovan products, especially in the current conditions of being a candidate country to the European Union, and this would increase the visibility of our country on the world market, which would lead to long-term and sustainable economic growth.

However, what difficulties does the Republic of Moldova face in implementing elements of artificial intelligence compared to developed countries? There are several aspects mentioned here:

- The average low incomes of the population, while we know that software, support programs are quite expensive;
- Low human digital skills in innovative technology;

- In schools, universities, vocational training programs in this field are only at the initial stage, or are missing entirely;
- Lack of qualified employees in the field of artificial intelligence, which needs people to manage data, algorithms, processes.

In order to increase the use of artificial intelligence in the Republic of Moldova, it is necessary for the state to realize the added value that this sector can generate. This will encourage the business environment through various policies to widely implement innovation and elements of artificial intelligence, which are so complex and can increase labor productivity and competitiveness..

Conclusion

In conclusion, we can say that artificial intelligence is a phenomenon that cannot be stopped as it continues to shape the world at an enormous speed. Even if it brings various drawbacks, it is time to turn them into opportunities. Artificial intelligence must be approached as something that enhances rather than reduces, as something that improves rather than excludes. To extract the maximum benefits from artificial intelligence, it is necessary to cultivate a strong learning system based on developing the analytical, synthesizing, creative, and inventive skills of Generation Z, Alpha, as they are the most ready to embrace innovation in all spheres of life.

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THE PARTICIPATION OF DEVELOPING COUNTRIES IN THE INTERNATIONAL TRADE SYSTEM

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Abstract: The aim of this article is to highlight the growing role of developing countries and the strategies to strengthen their positions within the international trade system. The research employs a logical, systematic approach, along with comparative methods, scientific analysis, and synthesis. The informational support is drawn from official documents of the IMF, World Bank, WTO, UNCTAD, and the European Commission, as well as international statistical data and specialized publications from various countries.

International trade significantly impacts member countries, stimulating economic growth, promoting technological progress, facilitating competition, mitigating economic shocks, and creating jobs. A number of countries, particularly China and India, where trade liberalization was not an end in itself but rather a tool for national economic development, have achieved significant success, becoming economic giants and attaining economic growth rates generally higher than the global average.

However, the current internal and international policy mechanisms have not helped most of the least developed countries overcome the major developmental challenges they face. One of the WTO's objectives remains the creation of a mechanism to facilitate greater integration of developing countries into international trade. To enhance the participation of developing countries in the international trade system, the main areas of negotiation and cooperation within the WTO include: flexibility in industrial development, e-commerce for development, duty-free and quota-free market access for the least developed countries, regional trade agreements, and preferential trade agreements.

Keywords: developing countries, international trade, export, trade tensions, WTO.

JEL Classification: F10, F14

1 Introduction

International trade is a powerful driver of growth and development for countries, fostering innovation, enhancing competitiveness, creating new jobs, providing access to new goods, and ultimately improving the quality of life for the population. One of the key players in the development of this field is the World Trade Organization (WTO), established in 1995 as a result of the Uruguay Round of multilateral trade negotiations.

Developing countries make up two-thirds of the WTO's membership. Supporting their greater integration into global trade is a major priority for the Organization. WTO agreements contain special provisions to help developing countries implement them, while WTO technical assistance and other initiatives supported by the Organization aim to increase these countries' trade capacity (Organisation Mondiale du Commerce, 2023).

2 China and India – Leaders of the Developing Countries Group

In the 2000s, during a period of accelerated globalization, there was a clear trend of shifting activity in global goods markets, and to a lesser extent in services markets, from developed economies to emerging ones, primarily in favor of China. From 1990 to 2022, the share of developing countries in global exports increased from 16% to 46.6% (World Bank Group, 2023). In the last two decades, these countries have become much more integrated into global markets, creating greater economic spillover effects for the rest of the world. Currently, the major emerging economies of the G20 are increasingly influencing the global economy.

This is happening at a time when, internationally, free trade—one of the WTO's main priorities—is no longer the primary goal of developed countries, as they are no longer willing to compete with a number of developing countries, particularly China, which has maintained its leading position in global trade for over ten consecutive years. China's total imports and exports in 2023 amounted to \$5.9 trillion (Sea News, 2024). In the last decade, this country's strategy for positioning itself on the world stage has shifted towards an economy more focused on producing high value-added goods, including expanding the infrastructure that supports trade development at the regional and international levels (Curtea de Conturi Europeană, 2020, p.13).

In the context of current geopolitical tensions and global instability, developed countries are now forced to protect their own markets. Ensuring supply chains becomes a priority over minimizing costs, and bilateral or regional trade agreements will support foreign and environmental policies. Offshoring is being replaced by "friendshoring"—the desire to source parts and products manufactured in friendly countries. Thus, the United States and the European Union are trying to limit China's access to key technologies to protect their markets from cheap, subsidized Chinese products by imposing high import tariffs on China.

A recent point of conflict is Chinese electric vehicles. The speed of the unfolding of this new wave of conflict is evidenced by the timing of the announcement of additional tariffs by the EU and the countermeasures adopted by China. On June 12, 2024, the European Commission announced that it would impose anti-dumping duties of up to 38.1% on imported Chinese electric vehicles starting in July, and on July 4, it officially imposed additional temporary duties on imported Chinese electric vehicles. According to the Commission's decision, the additional duties individually affected three Chinese electric vehicle brands. The duty for the BYD brand, in addition to the existing one, is set at 17.4%, for Geely at 19.9%, and for SAIC at 37.6%. Electric cars from other Chinese brands that cooperated during the investigation into state subsidies are now subject to an additional duty of 20.8%. The duty for other brands was set at 37.6% (Stan, 2024).

As noted by Reuters, after the European Commission announced on June 12, 2024, that it would impose anti-dumping duties of up to 38.1% on imported Chinese electric vehicles starting in July, global food companies expected retaliatory measures from China. China's response was swift. In the same month, China launched an anti-dumping investigation into imports of pork and pork products from the European Union.

The EU annually exports pork worth approximately three billion euros to China, about half of China's total imports in this product category. Based on 2023 data, the leading EU suppliers are Spain (€1.5 billion), the Netherlands (€620 million), Denmark (€550 million), and France (€358 million). Tariff barriers on European pork could lead to their market share in China being taken over by other major suppliers such as the US, Russia, and Brazil.

Moreover, in response to the imposition of additional duties, on July 18, China began hearings on an anti-dumping investigation into the import of brandy produced in the European Union. Thus, the growing alarm over China's industrial overcapacity, which is flooding the EU with cheap products, including electric vehicles, is opening a new front in the trade war between the West and Beijing, which began when Washington imposed import tariffs in 2018 (Cash, 2024). Trade tensions with the US and the EU, as well as restrictions on access to key technologies, are negatively affecting China's foreign trade and slowing its economic growth. On March 5, 2024, during the session of the National People's Congress, the Chinese government presented a GDP growth target for 2024 of approximately 5%. Currently, Western economists are at least skeptical that Beijing will achieve this target without additional stimulus measures, such as increased public spending, tax cuts, or increased support for small and medium-sized enterprises. China's GDP grew by 5.2% in 2023.

The trend is evident. From Deng Xiaoping's economic reforms in 1978 until the early 2010s, China's average annual GDP growth rate was about 10%, with GDP growing by 6.8% in 2016 and 6% in 2019 (Eurostat, 2024). From 2020 to 2022, China's average annual growth rate was about 4.6%. In 2022, the Chinese economy slowed to its lowest rate of 3% since the 1970s, and China's population declined for the first time since 1961 (Герасимов, 2023).

The International Monetary Fund expects China's economy to gradually slow down in the coming years. Thus, in the medium term, economic growth will slow down—to 3.3% by 2029. The Chinese government's main goals are comprehensive measures to stimulate changes in the real estate sector and provide macroeconomic support to increase domestic demand and reduce the risks of decline. Ensuring high-quality growth will require large-scale structural reforms (Abdel-Latif, et al., 2023).

The only way to maintain high growth rates in the long term is to transform into a productive economy driven by innovation and optimization. But, obviously, renewable energy sources as well as the digitalization of the economy in the near future will not be able to replace the importance for economic growth of the real estate sector as it was before the crisis. The Chinese economy certainly has room for growth—the service sector in China is responsible for half of the country's total GDP and 48% of jobs, while in developed countries, these figures are close to 80%, and about 1 billion people in China still do not have incomes that correspond to the middle class by international standards (Терентьев, 2024).

For Westerners, India could be an alternative to China in terms of investment and production. Economic growth in this country is higher than in China, loans are accelerating, the quality of Indian banks is better than that of Chinese banks, demographics are favorable, foreign direct investment is increasing, and Indian households are putting some of their savings into domestic equities (Rezzonico, 2023).

There is growing interest in India from multinational corporations. In recent years, Western companies have been caught up in the trend of seeking a replacement for China as the world's manufacturing hub. This strategy is known as "China plus one" or "supply chain diversification." It involves a refusal to invest exclusively in China and aims to diversify the business operations and supply chains of corporations by locating production centers in other countries. Several developing countries, including Vietnam, Mexico, Thailand, and Malaysia, are vying for the status of a "plus one" market. However, the most attractive candidate at the moment is India. The government is attracting investment by providing incentives to foreign manufacturers to locate in the country under the "Make in India" and "Self-Sufficient India" programs. India's demographic advantages play an

important role in the positive dynamics of GDP—for example, the large number of young people of working age. Income growth (India's middle class numbers over 400 million people) is driving consumer demand, which experts call one of the main engines of economic growth in India (Drut, Heissat, 2024). Another engine of growth is structural reforms targeting the digital, financial, and fiscal sectors (Basset, 2024).

In 2024, India is the fastest-growing economy in the world among G20 members. India's GDP currently stands at approximately \$3.7 trillion. The Republic is the third-largest economy in the world in terms of GDP based on purchasing power parity and became the fifth-largest economy in terms of nominal GDP as of 2022. According to India's Ministry of Finance, GDP growth for the fiscal year 2023-2024 is 7.6%. The IMF estimated India's contribution to global economic growth in 2023 at 16%. In the current fiscal year 2024-2025, the Reserve Bank of India has estimated GDP growth at 7%, while the IMF estimated growth at 6.8%. IMF Executive Director for India, Krishnamurthy Subramanian, stated that the country will remain "a driver of global growth in the foreseeable future" (Perruche, 2024).

By 2030, the Indian government has set an ambitious goal of becoming the world's third-largest economy. Economists project that if India maintains its current growth trajectory, it could achieve this milestone as early as 2027. Looking further ahead, by 2047, which marks the centenary of India's independence, the country's leadership aims to transform India into a "Vixit Bharat," or developed nation, with an economy valued at over \$30 trillion.

As the most populous country globally, India holds a significant competitive advantage over other nations. This demographic strength, combined with consistent economic growth, positions India to surpass Germany and Japan to become the third-largest economy around 2030, following only the United States and China (Government of India, 2024).

3 Successes and Challenges for Developing Countries in International Trade

While China and India lead the group of developing countries, surpassing developed countries in several indicators, the group of developing countries as a whole is highly heterogeneous but exhibits positive dynamics in international trade.

According to the WTO Report "Participation of Developing Economies in the Global Trading System," published in 2024, the top 15 developing exporters accounted for 38% of global merchandise exports and 82% of merchandise exports from developing economies in 2022. Semiconductors remained the primary product category in exports from developing economies, but crude oil exports significantly increased in value between 2020 and 2022. The top 15 exporters accounted for 26% of global commercial services exports and 80% of commercial services exports from developing economies.

In 2021, the European Union, the United States, and China were the main destinations for commercial services exports from developing economies, with shares of 19%, 15%, and 10%, respectively. In recent years, nearly half of commercial services exports have been South-South trade, with developing Asian economies continuing to account for the largest share. Some types of services exports performed relatively well during the pandemic, but travel services exports still showed a significant lag in 2022 compared to 2019.

Overall, developing economies have increased their share of global goods and services exports, but many struggle to expand their participation in international trade. One of the challenges is the

dependence of many of these economies on commodity exports. Given that the prices of many commodities are subject to fluctuations, exporters are exposed to significant income volatility. Moreover, trade costs are higher for companies in developing economies than for those in developed economies across all major sectors, including services. However, there are areas where developing economies can improve the resilience of their exports. For example, between 2014 and 2022, digitally delivered services exports from developing economies doubled from \$500 billion to \$1 trillion and were particularly resilient during the pandemic. In many developing economies, less than half of the population has access to the internet, making the opportunities offered by digital trade inaccessible (Organisation Mondiale du Commerce, 2024a).

On the path to development, these countries face several challenges that can slow their progress. One of the most severe is instability, which is particularly pronounced in Africa, where the rate of instability is ten times higher than in Asia. Another factor is the abundance of natural resources: the more natural resources a country has, the more opportunities it has for development, and vice versa. Developing countries lag significantly behind in technology, education, and the quality of institutions. They also face major social issues: a massive gap in healthy life expectancy compared to developed countries, a growing number of poor people, and incredible levels of inequality. These problems hinder not only stable economic growth but also the improvement of the quality of life for their citizens. In addition, modern technologies such as robotics pose additional challenges for developing countries by displacing workers in various sectors of the economy (Groupe de la Banque Mondiale, 2023).

Regrettably, current domestic and international policy mechanisms have not helped most of the least developed countries overcome the major development challenges they face. The continued existence of the category of least developed countries and the apparent divergence within it—with most least developed countries entering the 2020s with significantly underutilized potential—is exacerbated by the ongoing effects of the global COVID-19 crisis and associated risks. There is a new sense of urgency in addressing underdevelopment in the least developed countries, and there is now an opportunity to refocus on the sustainable transformation of development realities in the least developed countries (UNCTAD, 2021, p.20).

4 WTO Support Measures

For WTO membership to better support development, three main conditions must be met:

1. **Unconditional acceptance by developing countries** of a basic set of market access rules, including most-favored-nation treatment, commitments to future tariff reductions, and acceptance of all WTO rules.
2. **Allowing countries to waive "non-basic" WTO rules** when pursuing development objectives in the context of multilateral consultations with representatives of trade and development organizations (donors, financial institutions) regarding the effectiveness and impact of relevant policy measures. Evaluations of these measures should consider their potential negative impact and be published in the countries concerned to enhance government accountability.
3. **Abandoning discriminatory trade preferences** as a form of "trade facilitation" and increasing grant funding, especially for the poorest countries, to boost trade supply capacity and the competitiveness of local enterprises, and to redistribute some of the benefits of trade liberalization (Хукман, 2005).

Within the WTO, the possibility of extending special treatment in future agreements has been raised, but some developed countries are pushing for a revision of the notion of special and differential treatment (SDT). The least developed countries have an interest in maintaining the multilateral trading system, as this is an area where SDT, formulated by the international community for the least developed countries, has strengthened unity regarding the recognition of the least developed countries category and their treatment. Possible goals and objectives that could be considered for inclusion in the new Agenda include the following:

1. **Adoption of various elements of several proposals** already made by the group of least developed countries within the WTO, including commitments to jointly act to make SDT a permanent feature of future WTO agreements.
2. **Measures linking the scope and scale of tariff reductions, rules of origin, and administrative procedures** for duty-free and quota-free market access with the productive and institutional capacities of the least developed countries. This would facilitate their full utilization by the least developed countries and increase their capacity to boost the growth of the national business base and international investment.
3. **International support measures aimed at facilitating the use of new opportunities** for regional and sub-regional integration, such as the African Continental Free Trade Area (AfCFTA), the South Asian Free Trade Area (SAFTA), and the Regional Comprehensive Economic Partnership (RCEP) (UNCTAD, 2021, p.26).

Currently, there are 45 least developed countries, of which 15 are in the process of graduating from this category, partly due to support provided within the international trading system. Eleven are WTO members: Bangladesh, Cambodia, Djibouti, the Solomon Islands, Myanmar, Nepal, Uganda, Lao PDR, Rwanda, Senegal, and Tanzania. Two are in the process of WTO accession, Comoros and Sao Tome and Principe. The other two are Kiribati and Tuvalu (Organisation Mondiale du Commerce, 2024b).

In a new WTO report on the participation of developing economies in the global trading system, the WTO Secretariat found that trade in goods and commercial services from developing economies has recovered from the pandemic-induced decline. Some types of commercial services exports held up relatively well during the pandemic, but travel services exports remained significantly behind in 2022 compared to 2019. Developing economies continue to face challenges in participating in international trade, such as dependence on commodity exports and higher trade costs (Organisation Mondiale du Commerce, 2024c).

Given the current challenges, the main directions for negotiation and cooperation within the WTO to boost the participation of developing countries in the international trading system include: flexibility in industrial development, e-commerce for development, duty-free and quota-free market access for the least developed countries, regional trade agreements, and preferential trade agreements.

5 Conclusions

Overall, the group of developing countries, which is highly heterogeneous, is consolidating its position within the international trading system.

China, the world's second-largest economy, remains a leader in international trade. However, in the face of slowing economic growth and trade tensions with key partners such as the US and the EU, it is gradually moving towards exhausting its export-oriented economic model.

At the same time, while China's growth is slowing, India is showing remarkable economic health in a global context. As China's growth decelerates and demand for Chinese products declines in Europe, India is likely to integrate more into global production chains. According to several financial institutions, India is on track to surpass Germany and Japan to become the world's third-largest economy by 2027.

The strengthening of international trade is partly due to the acceleration of South-South trade, which has offset the sluggishness in high-income economies. More than half of the exports from developing countries are now directed towards other developing countries.

To achieve sustained growth and overcome instability—a major issue—developing countries must undertake structural reforms. Notably, developing countries are increasingly shifting towards services, including in international trade, as economic transformations driven by the services sector offer new opportunities for development and innovation. Furthermore, greater integration between manufacturing and services increases the competitiveness of exports.

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A STUDY ON DEVELOPING CROSS-CULTURAL COMMUNICATION SKILLS IN BUSINESS ENGLISH

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Abstract: This study investigates the development of cross-cultural communication skills in Business English education, which is crucial for navigating the choppy waters of global business interactions. Using a qualitative research approach, it takes a close look at current teaching practices through classroom observations, instructor interviews, and teaching material analysis at the Academy of Economic Studies of Moldova. The findings show that while Business English courses are starting to see the light regarding the importance of cross-cultural communication, there are still bumps in the road when it comes to effectively weaving these skills into the curriculum. Instructors are pulling out all the stops with strategies like role-plays and case studies, but they still face hurdles such as diverse student backgrounds, limited resources and a limited number of hours. The work suggests a framework for boosting cross-cultural communication in Business English curricula, especially for the International Relations Faculty, highlighting the need for culturally diverse content and more practical exercises that reflect real-world business scenarios. This research adds to the field by offering a treasure trove of insights into best practices and suggesting ways to improve Business English programs to better prepare learners for the demands of a globalized business world.

Key words: cross-cultural communication, business English, language teaching, curriculum development, globalization, intercultural competence

JEL Classification: A23

Introduction

In today's globalized business environment, English has emerged as the primary lingua franca, facilitating communication across diverse national and cultural boundaries. This global integration underscores the importance of proficiency in English for professionals working in international business settings. However, effective communication in such contexts extends beyond linguistic abilities, as cross-cultural communication skills are crucial in ensuring meaningful interactions. For instance, understanding the differing cultural attitudes toward hierarchy and decision-making can greatly influence the outcome of business negotiations. Non-native English speakers often face challenges not only in mastering the language but also in navigating cultural nuances that affect communication, such as the use of indirect speech or varying expectations around politeness. These complexities underscore the growing demand for Business English courses that emphasize both language proficiency and cultural competence. For example, many multinational corporations now require employees to undergo specialized training that addresses both areas, recognizing that successful communication in global markets involves understanding both what is said and how it is

said. ‘Ready or not, English is now the global language of business. More and more multinational companies are mandating English as the common corporate language—Airbus, Daimler-Chrysler, Fast Retailing, Nokia, Renault, Samsung, SAP, Technicolor, and Microsoft in Beijing, to name a few—in an attempt to facilitate communication and performance across geographically diverse functions and business endeavours.’ (Neeley, 2012) By equipping professionals with these skills, such courses play a critical role in enhancing business effectiveness in multicultural environments.

Business English as a Foreign Language

Business English has evolved as a branch of English for Specific Purposes (ESP), initially focusing on language proficiency to meet the demands of global business communication. However, as business interactions increasingly occur in multicultural settings, the traditional focus on linguistic skills is insufficient. There is a growing recognition that cultural competence must be incorporated into Business English courses. For example, learners must not only master formal business language but also understand different cultural norms around communication, such as indirectness or the importance of relationship-building in some cultures.

Research Focus and Objectives

This article aims to explore effective strategies for developing cross-cultural communication skills within Business English education, recognizing the growing need for such competencies in today’s globalized economy. The primary objectives include identifying the key components of cross-cultural communication that are essential for Business English learners, such as cultural awareness, non-verbal communication, and the ability to navigate varying communication styles. For example, understanding how directness in communication is perceived differently across cultures is critical for successful business interactions (British Council, 2022). The study will also analyse current teaching practices in Business English programs, assessing their effectiveness in fostering these cross-cultural competencies. Existing methods, such as case studies and role-playing, are widely used but may not fully capture the complexity of real-world interactions. By evaluating these approaches, the article seeks to highlight potential gaps in pedagogy. Finally, the research will propose a comprehensive framework for integrating cross-cultural communication into Business English curricula. This framework could include modules on cultural theory, practical exercises simulating intercultural business scenarios, and assessments focusing on both language proficiency and cultural adaptability. By addressing these objectives, the article aims to contribute to the development of Business English education that prepares learners for the nuanced demands of global business communication.

The research envisaged the following questions:

- What are the essential cross-cultural communication skills needed for successful business interactions?
- How are these skills currently being addressed in Business English teaching at our university?
- What teaching strategies and activities are most effective in developing cross-cultural communication skills?

The essential cross-cultural communication skills required for successful business interactions include cultural awareness, adaptability, and an understanding of both verbal and non-verbal communication cues. For instance, being aware of how cultures perceive time management and directness can significantly impact the success of negotiations. Relationships between different cultural and linguistic groups – whether they are called ‘ethnic groups’, ‘nations’ or ‘states’ – are at the heart of diplomacy, and the need to choose appropriate ambassadors of one group to another is as

old as civilised societies (Byram, 2021). These skills are currently addressed in Business English teaching through activities like case studies, where students analyse intercultural conflicts, and role-playing exercises that simulate real-world business scenarios.

However, the emphasis on cultural competence varies across programs. Teaching strategies that have proven effective include experiential learning techniques, such as immersive simulations and interactive discussions, where learners practice navigating cultural differences in a controlled environment. Additionally, activities like reflective journaling help students internalize their learning experiences by encouraging them to critically assess their interactions and biases. By incorporating these strategies, educators can more effectively develop the cross-cultural communication skills needed for learners to thrive in global business environments.

Cross-Cultural Communication Theories

Key theories in cross-cultural communication include Hofstede's cultural dimensions, Hall's high- and low-context communication, and the concept of intercultural competence. Hofstede's model identifies cultural differences across dimensions such as individualism vs. collectivism and power distance, which are vital in understanding business interactions. For example, in high power-distance cultures, hierarchical communication is expected, affecting organizational interactions (Hofstede, 2011). Hall's high- and low-context theory distinguishes between cultures that rely on implicit, context-driven communication (e.g., Japan) and those that favour explicit, direct communication (e.g., the U.S.) (Ting-Toomey, n.d.). These theories highlight the difficulties non-native English speakers face, such as misunderstanding indirect communication or differing expectations of formality. Intercultural competence, involving the ability to interact effectively across cultures, is essential in overcoming these challenges.

Existing Approaches to Teaching Cross-Cultural Communication

Current methods for teaching cross-cultural communication in Business English courses include case studies, role-plays, and simulations. These methods allow learners to practice real-world scenarios, such as navigating intercultural business meetings. While effective in introducing students to diverse cultural contexts, gaps remain. For instance, our programs lack sustained, practical engagement with intercultural competence beyond basic simulations. There is a need for more immersive, experience-based learning that consistently integrates cultural competence into Business English curricula.

Research Design

This research adopts a qualitative approach to explore how cross-cultural communication skills are developed in Business English courses, aiming to provide a deeper understanding of the teaching practices and learner experiences in this context. By focusing on qualitative methods, the study allows for an in-depth examination of the complexities involved in teaching cross-cultural communication, particularly the interplay between language and cultural understanding. Classroom observations provide insights into how we incorporate cross-cultural elements into our lessons, such as through case studies or role-playing activities, and how students respond to these methods.

The pie chart (Fig.1) illustrates the effectiveness of case studies in developing intercultural communication skills and competencies for working in a multicultural environment, based on a sample of 135 responses. Nearly half of the respondents (48.9%) believe that case studies are "quite effective," indicating that they play a significant role in enhancing these skills. A smaller percentage (36.3%) find case studies "very effective," suggesting a high level of engagement in real-world scenarios. However, 14.8% of the respondents consider them "not very effective," pointing to a

minority who may feel that case studies do not adequately prepare them for intercultural challenges. Overall, case studies are perceived as a useful tool for skill development.

How effective are Case Studies in developing your intercultural communication skills and the skills for working in a multicultural environment?

135 de răspunsuri

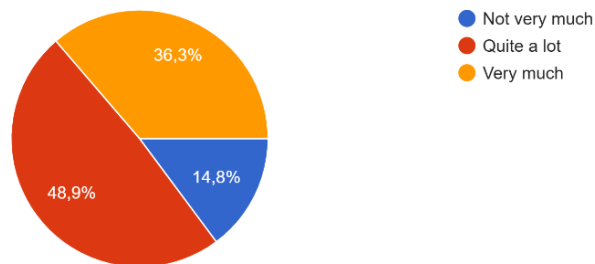


Figure 1. The effectiveness of case studies in developing students' intercultural skills.

Source: author's own study

Another tool is interviews with both instructors and learners which offer personal perspectives on the effectiveness of current teaching strategies, allowing us to reflect on the challenges we face in balancing language instruction with cultural competence. Learners have shared their experiences of navigating cultural differences in business contexts and have talked about the role of the course in preparing them for these encounters. For instance, some may describe difficulties in understanding indirect communication in high-context cultures or adjusting to the more direct style of low-context business environments. They often emphasize the importance of cultural awareness when working with international colleagues or negotiating with partners from different backgrounds. Additionally, the analysis of teaching materials such as textbooks and lesson plans, helps identify the extent to which cross-cultural communication is integrated into the curriculum. For instance, the study will evaluate whether teaching materials go beyond basic cultural facts to include exercises that build deeper intercultural competence.

This combination of methods aims to provide a holistic view of how cross-cultural communication skills are developed and suggest areas for improvement in Business English education. Finally, the research resorted to focus group discussions with students which offered valuable insights into their experiences and perspectives on learning cross-cultural communication. These discussions revealed students' challenges, such as navigating cultural differences in communication styles, and highlighted the effectiveness of teaching methods like case studies or simulations and the challenges they face such as limited exposure to diverse cultures in the classroom that restrict practical learning opportunities. Additionally, they provided a platform for students to express how well the course prepares them for real-world intercultural interactions.

Data Collection Methods

Therefore, the data collection methods for this study include classroom observations, interviews, and focus group discussions. Classroom observations focused on identifying the presence and effectiveness of cross-cultural communication activities in Business English classes. Semi-structured interviews with instructors provide insights into their teaching strategies and challenges in fostering cross-cultural communication skills. Additionally, focus group discussions with students give an

insight into their perspectives on learning these skills. Together, these methods aim to capture both instructional approaches and learner experiences, offering a comprehensive view of how cross-cultural communication is integrated into Business English education.

Teaching Material Analysis

Examining syllabi, textbooks, and course materials reveal varying degrees of integration of cross-cultural communication into the curriculum. Typically, syllabi outline objectives that emphasize cultural awareness and sensitivity, often incorporating specific modules or units dedicated to cross-cultural topics. Textbooks may include sections on cultural norms, communication styles, and case studies from diverse cultures, providing theoretical and practical insights. Course materials, such as articles, videos, and interactive activities, often aim to enhance students' understanding through real-world examples and experiential learning.

However, the depth and breadth of integration can vary significantly. Our curricula mostly superficially address cross-cultural communication, focusing primarily on language skills without delving into cultural contexts. We need a more comprehensive coverage, including guest lectures, cultural exchange programs, and collaborative projects with international peers. Common challenges identified include a lack of resources, insufficient training for educators, and limited opportunities for immersive experiences. Overall, effective integration requires a balanced approach that combines theoretical knowledge with practical application, fostering an environment where students can develop the skills necessary for successful cross-cultural interactions.

Findings from Classroom Observations

Classroom observations reveal several gaps and areas for improvement in developing cross-cultural communication skills within Business English courses. One notable issue is the limited variety and depth of activities aimed specifically at fostering intercultural competence. Although activities such as role-plays and case studies are commonly used, they often lack sufficient complexity to simulate real-world business scenarios fully and teachers' expertise for these various settings. For instance, while case studies allow students to engage with cross-cultural dilemmas, they frequently focus more on theoretical outcomes than on practical applications. Role-plays, on the other hand, tend to emphasize language accuracy over authentic cross-cultural interaction.

From a teaching perspective, while these methods offer foundational exposure, they could be enhanced by incorporating more immersive experiences, such as extended simulations or collaborative projects with students from different cultural backgrounds. Furthermore, the effectiveness of these activities varies. Some students actively participate, showing increased cultural awareness, while others may struggle to connect the exercises to real-life contexts. To address these issues, teachers could introduce more targeted feedback sessions and reflective discussions to deepen students' understanding of the cultural nuances in business communication. This would not only engage students more effectively but also better prepare them for the complex demands of the global business environment.

Insights from Instructor Interviews

Instructor interviews offer valuable insights into the strategies employed to incorporate cross-cultural communication into Business English teaching. Many instructors utilize a blend of role-plays, case studies, and discussions on intercultural business scenarios, aimed at developing students' ability to navigate diverse cultural contexts. For example, I have used simulations where students negotiate with "international partners," encouraging them to apply both linguistic skills and cultural awareness.

On the other hand, instructors face numerous challenges in implementing such practices. One common issue is the diverse cultural backgrounds of students, which can make it difficult to tailor activities that resonate universally.

Additionally, limited resources, such as a lack of culturally rich teaching materials, and time constraints, particularly in programs with tight curricula, often inhibit a more thorough exploration of cross-cultural topics.

To tackle these cultural challenges teachers could use other successful practices that have emerged. One effective method is the use of reflective journals, where students document their intercultural experiences and analyse their responses. This encourages deeper personal engagement with the material. Moreover, incorporating guest speakers from various industries and cultural backgrounds has proven to be a powerful tool in bringing real-world perspectives into the classroom. By sharing practical examples and fostering discussions, these speakers help bridge the gap between theoretical learning and the dynamic demands of global business environments.

Student Perspectives

Student feedback on the effectiveness of current teaching methods for developing cross-cultural communication skills reveals a mix of positive responses and areas for improvement. Many of our students express that interactive methods such as role-plays and case studies help them better understand cultural differences in business contexts. For example, they have reported that simulating business negotiations with culturally diverse partners, when they have the opportunity, improves their confidence in real-world interactions. However, students also perceive gaps in the depth of these activities, often citing a need for more immersive, practical exposure to cross-cultural situations. They emphasize that while these exercises are beneficial, they could be enhanced with more authentic scenarios and extended practice.

In terms of their future careers, students recognize the critical importance of cross-cultural communication, particularly for roles in multinational corporations or global markets. They acknowledge that developing these skills is essential not only for successful communication but also for fostering positive working relationships across borders. However, many students indicate they require more support in areas such as understanding non-verbal cues, adapting to different leadership styles, and managing intercultural conflict. This feedback suggests a need for more comprehensive training that goes beyond language to address the subtleties of intercultural interactions in business settings.

Teaching Material Analysis

My analysis of Business English textbooks and course materials reveals that while cross-cultural communication is frequently addressed, the depth of coverage often falls short. Many textbooks include isolated sections or case studies that touch on cultural diversity, but they tend to focus on superficial aspects, such as greetings or etiquette, rather than the more complex cultural dynamics that arise in real business interactions. From my experience, best practices in material design involve the integration of authentic scenarios where students must navigate cultural differences in decision-making, leadership styles, and negotiation processes. For instance, using case studies drawn from multinational corporations allows students to engage with real-world challenges, enhancing their intercultural competence. Furthermore, interactive activities like group projects that should involve students from different cultural backgrounds usually prove to be effective in fostering deeper understanding through collaboration, but our groups of students are not that culturally diverse.

However, there is room for improvement in teaching materials. One potential enhancement would be the inclusion of more dynamic, multimedia resources that offer immersive experiences, such as video simulations of cross-cultural business meetings. Additionally, materials could better emphasize reflective exercises, where students analyse their biases and cultural assumptions, thus encouraging more critical engagement with the subject matter. These adjustments would significantly enhance the development of cross-cultural communication skills in Business English courses.

Challenges and Limitations

Instructors face significant challenges when teaching cross-cultural communication in Business English courses, primarily due to limited time and resources. With the vast scope of content required, educators often struggle to allocate sufficient time to explore the complexities of intercultural communication alongside core linguistic competencies. For instance, our curricula are language-focused, leaving little room for in-depth exploration of cultural nuances. Moreover, limited access to diverse, culturally rich teaching materials hinders instructors' ability to provide students with authentic cross-cultural experiences. These constraints often result in superficial coverage of important cultural topics, which may leave students underprepared for real-world business interactions.

The study itself also faces certain limitations. One such limitation is the sample size, which does not fully capture the diversity of experiences across different institutions. The findings are context-specific, drawing primarily from experiences, in particular, from our university. These factors make it difficult to generalize the findings to a wider audience. Future research should address these limitations by expanding the sample size and including a broader range of institutions from the Republic of Moldova to provide a more comprehensive understanding of cross-cultural communication education in Business English programs.

Opportunities for Improvement

Although integrating cross-cultural communication into Business English courses is a big challenge there are opportunities for improvement. Instructors worldwide face significant challenges in teaching cross-cultural communication within Business English courses, particularly due to limited time and resources. Given the breadth of content required in such courses, instructors often struggle to balance linguistic objectives with the deeper exploration of cultural nuances. For instance, while cross-cultural topics may be introduced, they often lack the sustained focus needed to develop true intercultural competence. Additionally, resource limitations—such as access to authentic materials or opportunities for immersive experiences—further restrict teaching effectiveness. In some cases, instructors must rely on generic textbooks due to time restrictions, that insufficiently address the complexities of cross-cultural interactions. The limitations of research in this area, including small sample sizes and the context-specific nature of studies, also affect the generalizability of findings. For example, an approach effective in one institution may not translate well to others with different student demographics.

However, there are numerous opportunities for improvement. Greater collaboration between academic institutions, businesses, and cultural organizations could enrich the learning experience by providing students with more exposure to real-world cross-cultural situations. Institutions could incorporate partnerships with multinational corporations, offering internships or workshops led by global business leaders. Additionally, joint projects between universities across different countries could create opportunities for students to engage with their peers globally, thereby enhancing their practical understanding of intercultural communication.

Conclusions

The key findings of this study highlight the importance of integrating cross-cultural communication skills into Business English education to adequately prepare students for global business environments. Research highlights that multicultural and multilingual competency, often underrepresented in curricula, are essential for effective communication in globalized contexts. For example, language teachers have expressed the idea that traditional approaches fail to address the intricacies of intercultural sensitivity, leading to challenges when engaging diverse student populations in business communication (Emerald Insight, 2023). Activities such as case studies, role-plays, and collaborative projects have shown to be effective in developing both linguistic and cultural competence. For example, educators often utilize intercultural simulations to mirror the realities of global negotiations, while other instructors frequently emphasize the role of cultural context in decision-making processes. These approaches reinforce the idea that cultural competence is essential for navigating diverse professional settings.

The study contributes significantly to the field by offering insights into effective pedagogical strategies for teaching cross-cultural communication in Business English courses. It underscores the need for curriculum developers to include more immersive, experience-based activities that reflect real-world business challenges. For educators, the findings suggest that integrating reflective practices and exposure to diverse cultural perspectives can enhance students' intercultural adaptability. Policymakers, too, may draw from this research when designing frameworks that promote cross-cultural awareness within English for Specific Purposes (ESP) programs, ensuring that graduates are not only proficient in English but also equipped to function effectively in a globalized economy.

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TEACHER-GUIDED AUTONOMOUS LEARNING OF FOREIGN BUSINESS LANGUAGES IN A EUROPEAN CONTEXT

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Abstract: In an era of globalization, advanced technologies, and access to information sources, the need to develop autonomous learning skills of foreign business languages has become increasingly crucial. These competencies help students become more capable global citizens who can handle the demands of a rapidly changing world. Because of this, modern education needs to encourage and facilitate the growth of these competencies, laying the groundwork for students to become lifelong learners.

The teacher, traditionally viewed as the main supplier of knowledge, an expert who transmits information in a predominantly one-directional manner, has to take on now a new role as a guide and facilitator of the learning process, supporting students to become autonomous learners and develop their own learning skills.

The article's main goals are to elucidate the critical role that teachers play in fostering students' autonomy during the business foreign language learning process, as well as to identify practical methods for carrying out this function.

The purpose of this article is to investigate how teachers might support students in acquiring the abilities necessary for autonomous learning, enabling them to become self-sufficient business language learners. Developing autonomy in learning business English for our university students will not only enhance their professional competence but also prepare them to adapt to the ever-evolving global marketplace.

Keywords: autonomous learning, foreign business language, teacher, university, students

JEL Classification: A23

Introduction

The concept of autonomous learning of foreign business languages is essential to contemporary education because it emphasizes the learner's capacity to supervise and guide their own learning process. Independence in learning is essential in this day and age of rapid access to knowledge since it fosters critical thinking and self-reflection in addition to knowledge acquisition. By taking charge of goal-setting, resource selection, progress tracking, and self-correction, learners who practice autonomous learning make sure their education is ongoing and customized to meet their requirements. In the current educational setting, the significance of acquiring autonomous learning skills is especially clear when it comes to language learning. Learning a business language goes beyond theoretical knowledge; it requires constant practice and adaptation to real-world situations because language is a tool for both communication and cultural understanding. With the use of autonomous learning skills, students can tailor their learning experience, investigate real-world language materials, and advance at their own speed toward balanced proficiency in speaking, listening, reading, and writing.

In our increasingly globalized world, with its vast sources of information, building these skills is even more critical. Strong autonomous learning abilities help students become more capable global citizens who can handle the demands of a world that is changing quickly. Because of this, modern education needs to encourage and facilitate the growth of these competences, giving students the foundation they need to become lifelong learners.

The article's main goals are to highlight the critical role that teachers play in fostering students' autonomy during the foreign language learning process and to outline practical methods for carrying out this function. The purpose of this article is to investigate how teachers might support students in acquiring the abilities necessary for autonomous learning, enabling them to become self-sufficient language learners.

The European Council has recognized the Republic of Moldova as a candidate for EU membership, aligning the country with European Union initiatives that promote student-centred education and foster the development of autonomous learning abilities. These frameworks not only respect the diverse backgrounds and individual needs of students but also emphasize equity and inclusion in education, ensuring that all learners have the chance to reach their full potential through ongoing learning. Initiatives like "Education and Training 2020" (ET 2020) and the "European Education Area" stress the need to cultivate European citizens who are capable of lifelong learning in an increasingly dynamic global environment. These strategies encourage EU member states to enhance their education systems by incorporating digital skills, critical thinking, and self-directed learning capacities.

Foreign language proficiency, especially in languages like English, German, and French, plays a key role in Europe's economic landscape. These languages facilitate communication between EU member countries and their partners beyond Europe. Companies looking to operate in multiple European markets must employ staff with linguistic skills so they can understand and respect the cultural and legislative nuances of each country. Studies show that companies investing in the linguistic training of their employees have a higher success rate in international expansion. For example, Germany is one of the largest economies in Europe, and knowledge of the German language can open considerable opportunities in this market. Similarly, English is the dominant language in international transactions, being essential for any company that wishes to participate in the global economy. Additionally, the development of language skills supports workforce mobility within the European Union. Through educational and professional training programs, such as Erasmus+ and other EU initiatives, citizens are encouraged to learn foreign languages to have more employment opportunities in other member states. This mobility not only stimulates local economies but also contributes to creating a more diverse and flexible workforce capable of responding to the challenges of the modern market.

Defining Autonomous Learning

Autonomous learning is a multifaceted concept with deep roots in educational theory, especially in the context of foreign language learning. Rather than viewing students as passive consumers of knowledge, the theoretical underpinnings of autonomous learning place an emphasis on students' active participation in controlling their own learning processes. This approach is supported by various theories and models that highlight how learners can take charge of their language learning journey through self-regulation, goal-setting, and reflection.

The self-regulated learning model developed by (Zimmerman, 2002) is one of the main theoretical frameworks for autonomous learning. According to him, autonomous learning involves three interconnected stages: planning, monitoring, and self-evaluation. In the context of language learning,

this means that, students first establish clear objectives, such as increasing their vocabulary or speaking proficiency. They then devise and put into practice plans to accomplish these objectives, like practicing with native speakers or making use of language learning applications. In order to improve their language proficiency, learners continuously evaluate their success during this process and modify their tactics.

Another key idea in comprehending autonomous learning in developing languages is Albert Bandura's concept of self-efficacy. According to (Bandura, 1997) learners' motivation and perseverance are greatly impacted by their self-efficacy, or belief in their own potential to succeed. High self-efficacy language learners are more likely to take on tough assignments, persevere through difficulties, and employ efficient learning techniques. To become proficient in a new language, they must be proactive in looking for practice opportunities and tools and have faith in their capacity to overcome obstacles.

According to research reviews and literature, metacognitive skills also play a crucial role in autonomous language learning. Planning, observing, and modifying learning tactics are examples of cognitive processes that one can be conscious of and in control of through metacognition. For language learners, this means being able to evaluate their teaching strategies, determine what approaches suit them best, and adjust their plan in light of feedback and experiences. By enhancing their metacognitive abilities, students can customize their language learning approach to fit their unique requirements and learning styles, leading to a more efficient and customized learning experience.

All things considered, the theoretical foundation of autonomous learning in language learning highlights the importance of self-regulation, self-efficacy, and metacognition. Learners can better manage their own education by actively participating in the planning, observing, and assessing stages of the learning process. This method enables them to overcome the challenges of language learning and beyond by improving their language proficiency and fostering lifetime learning skills.

The Role of the Teacher in Facilitating Autonomous Learning

In today's educational system, the role of teachers has evolved significantly, especially when it comes to teaching foreign languages. The teacher was seen traditionally as the main source of knowledge, a specialist who primarily explained information in only one direction. With this method, the learner was positioned as a passive recipient who took in the information being taught. Nevertheless, this paradigm has changed in the information era due to the immediate and widespread access to resources. Now more than ever, teachers must take on the role of mentor and facilitator of the learning process, helping students to grow into self-sufficient individuals who possess the necessary learning competencies.

A leading researcher in student autonomy, (Little, 2007) emphasizes that teachers, in this new role, must encourage students to take responsibility for their own learning, thus shifting the focus from teaching to learning. In the context of language learning, Little argues that teachers should help students develop the skills necessary to manage their own learning processes, including the ability to set goals, select appropriate resources, and reflect on their progress. This may involve guiding students in the use of online resources, such as language learning apps or authentic materials in the target language, allowing them to become independent learners. The teacher thus becomes a mentor who helps students navigate these resources and use them effectively.

Barry Zimmerman, known for his work on self-regulated learning, also emphasizes the critical role teachers play in fostering students' ability to self-regulate and self-evaluate. Zimmerman's model of

self-regulated learning emphasizes that teachers need to teach students how to set clear learning goals, monitor their progress, and adjust their learning strategies when faced with difficulties. Teachers must support students in applying this model in language learning, helping them create personalized learning plans that include activities such as reading, listening, writing, and speaking, tailored to their individual needs and goals.

According to Bandura, teachers play a vital role in cultivating self-efficacy by providing constructive feedback and encouraging reflection, helping students build confidence in their ability to learn a foreign language. This approach ensures that students remain motivated and engaged, even in the face of challenges.

Another important specialist in student autonomy, (Benson, 2011) argues that the teacher's role must also include cultivating intrinsic motivation. Benson suggests that teachers can achieve this by designing learning activities that are meaningful and relevant to students' lives, thereby increasing their engagement and desire to learn. For example, in language learning, teachers can create opportunities for students to use the language in real contexts, such as through project-based learning or interactions with native speakers.

Teachers need to be flexible and adaptable, tailoring their approach to meet the unique needs of each student. Helping each student realize their full potential requires varied support from the teacher in a heterogeneous group where competency levels can differ greatly. For instance, giving more resources to people who advance more slowly or greater challenges to people who advance quickly could be examples of this.

As mentioned, the teacher plays a central role in creating an autonomous learning environment by providing well-structured resources and guidelines. These resources can include adapted textbooks, online platforms, educational apps, and authentic materials such as articles from international media or videos on specific topics. Another important aspect of the support offered by the teacher is encouraging the use of technology as a resource for autonomous learning. Educational platforms can be used to improve students' vocabulary, grammar, and communication skills.

Providing opportunities for self-evaluation and reflection is another successful tactic. Assessments and interactive exercises can be given by the teacher for the students to finish on their own. They can then compare their answers with the answer key that is supplied. They can then focus on improving the areas where they need more practice, identifying their strengths and shortcomings. This methodology not only fosters a development mentality and continual learning habits in students, but it also increases their accountability for their education.

All these elements not only enhance students' language skills but also stimulate their curiosity and intrinsic motivation to learn, allowing them to take responsibility for their own learning and explore topics at their own pace. The teacher's consistent and targeted support, combined with the use of technology and self-assessment opportunities, contributes to the development of long-term learning skills and increases students' intrinsic motivation.

The teacher can initiate projects that involve research, collaboration, and problem-solving, giving students the freedom to choose topics that interest them and manage their own learning process.

Project-based learning is incorporated into this technique. Through the completion of challenging assignments, students can apply their newly learned knowledge in practical settings. For instance, in a foreign language course, the instructor can suggest a project where students conduct both linguistic and cultural research to produce a tour guide for a nation where the target language is spoken.

Additional project examples that can help students become autonomous in a variety of professions are as follows:

Newspaper or magazine creation at school: Students might collaborate in groups to produce a newspaper or magazine in the target language. Every student will need to conduct research and produce articles on subjects of interest, such as current affairs, sports, or culture, and will be assigned a specific function, such as reporter, editor, or designer. They can collaborate and enhance their writing abilities through this initiative.

Entrepreneurship project: Students can develop a business idea, starting with researching a real market, creating a business plan, and promoting their product or service through a marketing campaign. This type of project stimulates critical thinking, collaboration skills, and the creative use of business language.

Research on climate change: Students can investigate the impact of climate change in a specific region and propose solutions to reduce it. The project can include written reports, multimedia presentations, and even collaborations with experts or local organizations. This type of project encourages critical thinking, independent research, presentation skills, etc.

Technology can also be integrated into school projects to support student autonomy, giving them access to digital resources and opportunities for innovative collaboration and presentation. A concrete example of an autonomous project could be creating a *vlog or podcast* in the target language. Students can work in teams or individually to prepare themed episodes, allowing them to practice speaking, listening, and organizing information in a creative way. This provides the opportunity to integrate multiple skills and explore a topic of interest in a personalized way, increasing motivation and engagement in the learning process. To support these projects, the teacher can provide resources and guidelines but should also give students space to explore and find solutions on their own. Projects also involve reflection and self-assessment, as students need to analyze their own progress and make adjustments throughout the process. The final evaluation can include a reflective discussion in which students describe what they have learned from the project and how they have improved their skills.

Methods and Techniques for Developing Autonomy

Task-Based Learning (TBL) is a powerful approach to fostering autonomy in language learners. This method engages students in real-world tasks that require the practical application of the target language, encouraging them to solve problems and communicate independently. For example, students might be tasked with creating a fictional business plan, where they would need to negotiate, justify their decisions, and collaborate in the target language.

Collaborative projects also serve as an effective tool for promoting autonomy. These projects require students to work together to complete complex tasks, such as researching a shared topic of interest and presenting their findings through reports or oral presentations. This approach promotes both individual accountability and collective responsibility, as each member must contribute to the group's success.

Role-play and simulations provide another valuable technique, allowing students to actively participate in learning by utilizing their creativity and critical thinking. A real-world task might involve simulating a business meeting or conducting a job interview, where students must articulate their ideas and negotiate in the target language. Such activities build communication skills and boost confidence in using the language.

The use of online resources can significantly support independent learning, as students are encouraged to explore authentic content, such as articles, podcasts, or video tutorials. A practical

activity might involve having students watch a webinar on a topic of interest in the target language and then write a reflective summary of what they learned.

E-learning platforms such as Moodle, Google Classroom, or Coursera facilitate the creation of flexible and accessible learning environments. These platforms allow teachers to share study materials and assignments, and students can access resources at any time based on their individual needs. They can also include self-assessment tools that provide quick feedback, allowing students to self-assess and adjust their learning approaches. In addition, forums and discussion groups integrated into these platforms foster collaboration and exchange of ideas between students.

Learning journals are a tool that allows students to track their progress and set personal learning goals. They can be invited to keep a journal to document the challenges they face, the strategies they employ to overcome them, and reflect on their overall development. For instance, a student might note improvements in understanding authentic audio material after repeated listening and researching unfamiliar words.

Learning portfolios are another valuable method for cultivating autonomy. Students can create digital or physical portfolios to showcase work they've completed over time—such as essays, presentations, or projects—alongside reflections on how their language skills have progressed and the strategies they used. For instance, a student could demonstrate how an essay was refined based on feedback, highlighting their growth and autonomy in the learning process.

Challenges in Fostering Autonomous Learning

Resistance to change is a common challenge, not only for students but also for educators and the educational system itself. Students accustomed to traditional teaching methods may find self-directed learning confusing or overwhelming, particularly if they haven't previously been encouraged to take responsibility for their own learning. This can lead to anxiety about organizing their own study time without the constant guidance of a teacher. Similarly, students who rely on structured learning may struggle with the lack of clear direction.

Educators may also resist change, often due to familiarity with conventional methods or insufficient training to implement autonomous learning techniques. Some may worry that giving students more control will slow down progress or impact academic standards. In some cases, teachers may feel their role is diminished in a more student-driven environment.

Resistance is often reinforced by systemic issues, such as rigid curricula and a focus on standardized assessments. Educators may feel pressure to adhere to a strict schedule or prepare students for exams, limiting their ability to adopt strategies that emphasize independent learning.

To address these challenges, continuous teacher training is essential. Professional development courses focused on autonomous learning methods can equip teachers with the confidence and skills needed to support self-directed learning. Also, a gradual transition and fostering a culture of change in the school can help reduce resistance, allowing both teachers and students to gradually adapt to new methods.

Open communication and consistent feedback between teachers and students are also crucial. Teachers should clearly explain the benefits of autonomous learning while offering support and encouragement. This helps alleviate concerns and fosters a smoother transition.

A major challenge is the ***scarcity of resources***. In certain schools or underserved communities, students may lack the necessary technology or materials for independent learning. Restricted access to e-learning platforms or language applications can limit their autonomy, making them dependent

on teacher-supplied resources. Possible solutions could include creating local resources or leveraging free online tools, such as educational websites, articles, and podcasts.

Finding the ***optimal balance between providing guidance and fostering independence*** is an ongoing challenge for educators. Some students may require more structured support at the beginning, while others quickly advance toward self-directed learning. If teachers offer too much intervention, students might become overly reliant. On the other hand, leaving students entirely on their own could lead to feelings of being unsupported.

The solution lies in adopting a personalized and flexible teaching approach. Teachers can assess individual student needs and provide structured tasks that gradually become more autonomous as students gain confidence and competence.

The Impact of Mobility on the Need for Autonomous Learning of Business Languages

In higher education, student mobility within the European Union opens up a wide range of educational and professional opportunities across member states. As more students take advantage of these opportunities, there's a growing need for strong language skills, particularly in business languages, which are critical in various industries. Whether you're a student or an employee, effective communication in a multilingual and multicultural environment is key. This is where autonomous learning becomes crucial.

Being able to independently learn and improve business languages is especially important because people often need to adapt quickly to the language demands of different countries or companies. Autonomous learning allows them to tailor their language skills to the specific needs of their field or position, giving them a competitive edge. It enables them to communicate confidently in professional settings and manage relationships with partners or colleagues across Europe.

A major educational initiative supporting this is the Erasmus+ program, which provides opportunities for students, teachers, and educational staff to take part in international exchanges. These exchanges give participants the chance to immerse themselves in real-world language environments, interact with native speakers, and experience different cultural contexts firsthand.

Beyond Erasmus+, there are other valuable programs like eTwinning, the Lingua program, and the Online Linguistic Support (OLS) platform, all of which are part of Erasmus+. The European Language Label is another initiative that recognizes innovative language-learning projects.

The Erasmus+ program brings many advantages to participants, whether they are students, teachers, or young people engaged in vocational training or volunteering. Here are some of the key benefits:

➤ **Language and Intercultural Skill Development:** One of the biggest perks of Erasmus+ is the opportunity to practice a foreign language in a real-world setting. Living, studying, or working in another country helps improve language abilities, while engaging with different cultures enhances intercultural skills, which are essential in today's globalized world.

➤ **Personal and Professional Growth:** Erasmus+ fosters autonomy, adaptability, and self-confidence. It encourages participants to step out of their comfort zones, navigate new environments, and improve problem-solving skills. On the career front, Erasmus+ boosts employability, as employers value international experience and the transferable skills gained, such as flexibility and teamwork in multicultural settings.

➤ **Expanding Networks:** Participants have the chance to build both personal and professional relationships through Erasmus+. Whether through collaboration with peers from other countries or involvement in international projects, the program helps create a global network that can be beneficial

in future careers. These connections also facilitate the sharing of ideas and best practices, contributing to long-term partnerships and broader perspectives.

Conclusions

To effectively support the development of autonomous language learning, teachers should act as facilitators, providing a structured but flexible learning environment. A good starting point is encouraging students to self-assess and reflect on their progress. By offering constructive feedback and opportunities for self-evaluation, students can become more aware of their strengths and areas needing improvement.

Additionally, creating an environment that encourages independent exploration—through access to authentic online resources and virtual libraries—can spark curiosity and self-discipline.

Teamwork and collaborative learning are also key. While autonomy emphasizes personal responsibility, group work can be a strong motivator and source of support. Teachers can organize activities that promote sharing resources, ideas, and strategies, allowing students to learn from one another. Moreover, modern technologies such as e-learning platforms and mobile apps for language learning offer students' greater control over managing their study time and pace.

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THE COMPETITIVENESS AND SOPHISTICATION INDEX OF DOMESTIC PRODUCTS ON GLOBAL MARKETS

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Abstract: This article analyzes the current state of Moldova's foreign trade, highlighting the importance of competitiveness and the sophistication of exported products within the global economy. Moldova, a country with limited economic resources, faces significant challenges in its integration into international markets. In this context, the article aims to investigate the impact of the complexity of exported products on Moldova's positioning, emphasizing both the positive aspects and the challenges encountered. To evaluate the competitiveness of Moldovan products, the article uses a range of economic indicators, including the sophistication index, which reflects the level of innovation and refinement of the exported goods. It is emphasized that a higher level of product sophistication not only increases added value but also enhances their attractiveness in international markets. The article also addresses the gaps that need to be filled to improve competitiveness. For example, it mentions the need for investments in logistical infrastructure, the development of clear international marketing strategies, and workforce training as essential factors for enhancing the country's export capacity. In conclusion, the article reiterates that by focusing on increasing product sophistication and improving competitiveness, Moldova can strengthen its position in global markets, attract foreign investment, and ensure sustainable economic development in the long term. A series of strategic recommendations for the future are proposed, with the primary goal of effectively integrating into the globalized economy.

Keywords: International Trade, Export Performance, Competitiveness, Sophistication Index.

JEL Classification: F6, F4, F1.

Introduction

The dynamics of international trade play a crucial role in shaping the economic growth trajectories of nations. For small economies like Moldova, with limited natural resources and a relatively small domestic market, competitiveness in global markets is essential for survival and economic growth. This article explores the concept of product sophistication and its impact on Moldova's global competitiveness. As globalization intensifies, countries that succeed in innovating and improving their product offerings gain a competitive edge. This study will examine the role product sophistication plays in enhancing Moldova's export performance and its implications for long-term economic development.

Moldova's foreign trade models reflect a struggle to establish a sustainable position in international markets. The country faces numerous challenges related to market access, product competitiveness, and the limited diversification of its export basket.

The purpose of this article is to analyze and assess the current state of Moldova's foreign trade, highlighting the importance of product competitiveness and sophistication in the global economy. We will also examine the specific barriers that hinder the improvement of Moldova's export performance and propose strategies to overcome these obstacles.

The objective of the research is to conduct a dynamic analysis of statistical data on Moldova's foreign trade, with a special focus on the main groups of exported goods, to illustrate the evolution of the sophistication index of these products and identify the key challenges and opportunities that can contribute to improving export performance. Based on this analysis, the research will formulate strategic proposals aimed at supporting the growth of Moldova's competitiveness in international markets.

Applied research methods

This article uses a series of economic indicators to assess Moldova's competitiveness in international trade, focusing on the analysis of the main groups of exported products. **The Product Complexity Index (PCI)**, also known as the sophistication index, will be used to measure the complexity and level of innovation embedded in the products exported by Moldova. The PCI evaluates the complexity of a product based on the knowledge and technologies required to produce it, thus suggesting how advanced the economy behind that product is (Hidalgo și Hausmann, 2009).

For this analysis, data comes from internationally recognized sources, such as **UN Comtrade** (UN Comtrade, 2023), a global database of international trade managed by the United Nations, and the **Observatory of Economic Complexity (OEC)** (Harvard University, 2022), which provides detailed indicators on product complexity and international trade. These indicators are essential for understanding the current structure of exports and identifying areas where Moldova can improve performance and diversify its exports (World Bank, 2022).

Results and discussions

The concept of economic complexity, particularly in relation to product sophistication, has gained significant attention in recent years, as highlighted by researchers Hausmann and Hidalgo, who demonstrated the importance of product diversification and sophistication in determining a country's long-term economic growth potential (Hidalgo și Hausmann, 2009).

The Economic Complexity Index (**ECI**) and The Product Complexity Index (**PCI**) have become crucial indicators in assessing the competitiveness of a country's export profile. According to these metrics, countries that export highly sophisticated products tend to experience higher growth rates and are more resilient to global economic shocks (World Bank, 2023).

In the case of Moldova, its export basket is dominated by agricultural products and low value-added goods. This lack of diversification and sophistication limits the country's ability to compete in higher value-added sectors, where economic gains are more substantial. Literature on small transitioning economies, such as those in Eastern Europe and the former Soviet space, indicates that product innovation, investments in technology, and skill development are essential for improving competitiveness in global markets (World Bank, 2022).

The current state of Moldova's export performance

The economy of the Republic of Moldova is strongly influenced by its international trade, with exports playing a crucial role in the country's economic growth. Currently, Moldova's export structure is dominated by agricultural products and basic manufactured goods, such as wine, fruits, electrical wiring, and textiles. This dependence on low-complexity and low value-added products creates vulnerabilities to global and regional economic changes, limiting the country's competitiveness in international markets.

A large portion of the production in Moldova's manufacturing sector is carried out under the *lohn* system, which reduces the value added created domestically, highlighting the need for modernization

and an increase in the technological level of the local industry. According to available data from international platforms such as **Trade Map** and **OECD**, Moldova's exports are concentrated in a few main groups: electrical equipment, cereals, oilseeds, and fruits (we consider fuels irrelevant in our analysis as they do not reflect the country's strategic direction for economic development).

These products are largely characterized by low technological sophistication, reflected in their low prices on external markets. Although global demand for these products remains steady, the lack of diversification and innovation in the production chain reduces Moldova's potential to increase its competitiveness and modernize its economy in the long term (Figure 1)

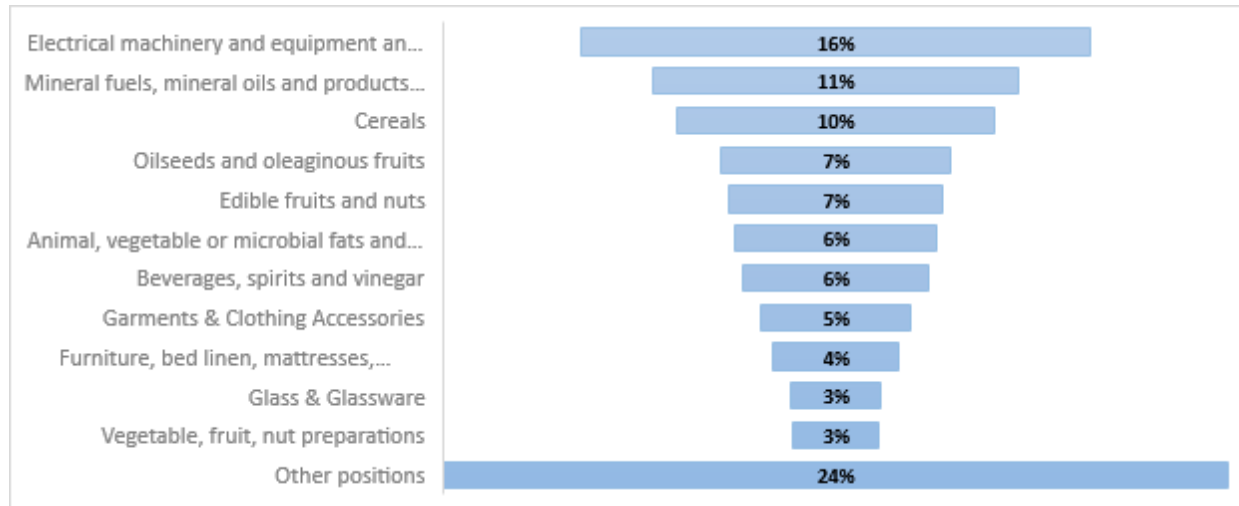


Figure 1. Structure of exports for the main product groups (%), year 2023

Source: Calculated by the author based on data from Trade Map, 2022.

From the perspective of the Product Complexity Index (PCI), Moldova is in a transitional phase, with significant opportunities to increase the added value of its exports. This index reflects the level of knowledge and technology involved in the production of exported goods, and Moldova, with an economy largely based on the export of raw materials, needs to prioritize investments in technology and innovation to advance.

An increase in product sophistication could enhance competitiveness in international markets, facilitating better economic diversification and reducing dependence on low-value-added goods (Hidalgo și Hausmann, 2009).

The analysis of exports for the year 2023 highlights a mixed dynamic, with some sectors experiencing modest growth, while others stagnated or declined. Notably, the machinery and electrical equipment sector, which accounts for a significant portion of Moldova's total export value, grew by only 3% annually between 2019 and 2023, according to the data (Biroul Național de Statistică al Republicii Moldova, 2023). This slow growth rate may be associated with several factors, including the lack of a skilled workforce (Center for International Relations, 2014) and insufficient investment in innovation and technology.

To counter this stagnation, Moldova must take significant steps by investing in the development of a well-prepared workforce and promoting technological innovation. Additionally, it is essential to find new markets and diversify its exports. Increasing the sophistication of exported goods could help strengthen Moldova's position in the international market, reducing vulnerability to external fluctuations and boosting overall competitiveness.

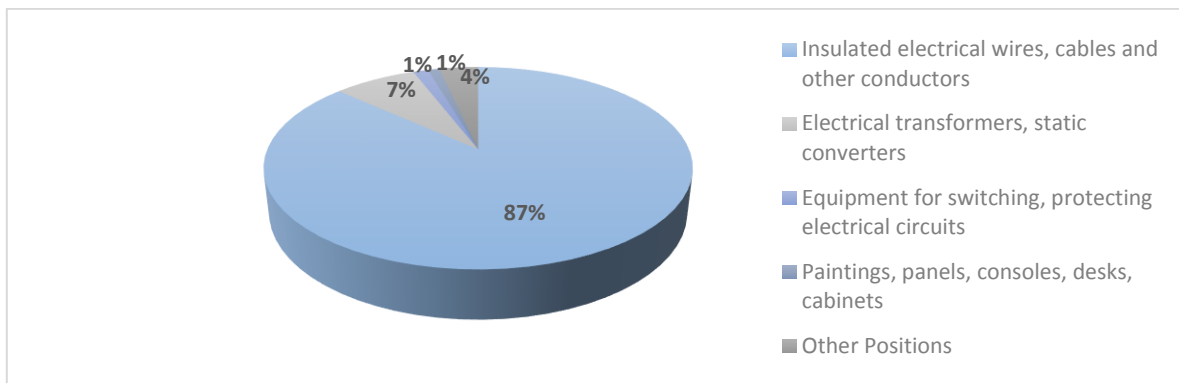


Figure 2. Structure of Electrical Machinery and Equipment, year 2023

Source: Calculated by the author based on data from Trade Map, 2022

In the category of **Machinery and Electrical Equipment**, **electrical wires and cables** have a significant share of total exports (86.7% of this category) (Figure 2), but their technological complexity, measured by the Product Complexity Index (PCI), is low. The negative PCI for the years 2021 (-0.1871) and 2020 (-0.4632) indicates that these products have low complexity and are considered less sophisticated compared to other goods. However, the slight improvement in PCI from -0.463 in 2020 to -0.187 in 2021 suggests a modest increase in diversification and the knowledge involved in producing these products, but they still remain below the level of sophistication required to enhance global competitiveness.

On the other hand, **electrical transformers** have a positive and increasing PCI from 0.755 in 2020 to 0.912 in 2021, which suggests potential for diversification and sophistication that could boost future export performance.

Electrical circuit equipment, with a small export value (1.4%), reflects a modest contribution to the economy, and the PCI remains constant around 0.7, suggesting a moderate potential for complexity. This is an area that would require additional investments in research and development.

In the category of **electrical panels and boards**, although the export value is low (1.0%), the relatively high PCI (0.749 in 2021) indicates a decent level of sophistication. This suggests that the products in this category are more technological and complex. The increase in PCI from 0.644 in 2020 to 0.749 in 2021 indicates an improvement in the technology used in producing these goods, which could contribute to a future increase in demand.

The analysis of products in this group, which includes **electrical equipment and related parts**, underscores a direct relationship between the complexity of the products and their export value. Products with a higher Product Complexity Index (PCI), such as electrical transformers, present a significantly higher added value, but their export volume remains relatively low. In contrast, less sophisticated products like electrical cables and wires register a large export volume but with lower technological sophistication. This dynamic emphasizes the fact that, although complex products have a greater economic impact per unit of export, they require substantial investments in knowledge and technology (Hidalgo și Hausmann, 2009).

Regarding agricultural products, **cereals** represent an essential sector for the economy of the Republic of Moldova (Figure 3). The impressive 27% growth in cereal exports between 2019 and 2023 is largely due to favorable climatic conditions and investments in agricultural infrastructure, including the modernization of harvesting and irrigation technologies (Trade Map, 2022). This advance was

also supported by increased international demand for food products, driven by changes in global markets and regional instabilities, which have created opportunities for Moldova to capitalize on favorable trade relations.

In addition to these environmental and infrastructural factors, the Moldovan government has implemented measures to stimulate the competitiveness of agricultural products in global markets. Agricultural policies have aimed at increasing productivity and facilitating access to external markets, consolidating Moldova's position as an important supplier of cereals in Europe and other regions (World Bank, 2023).

In the Cereals category, analyzing data related to **wheat** reveals that, although its complexity remains low, with a negative PCI in 2021 (-0.1749) and 2020 (-0.3062), it continues to be the main exported product in the analyzed period, representing 56.5% of the total export value in the cereals group (Figure 3). This predominance suggests a stable international demand for basic cereals but, at the same time, highlights a significant dependence on regional market conditions, being also a product with low added value.

For **barley**, the slight decrease in PCI in 2021 (-0.1582) and its reduced share in export value (6.6% in group 10) indicate that, although this product has a higher level of complexity than wheat, the demand for it is lower, possibly due to a more restricted market or more intense competition. This suggests the need to explore new markets or improvements in the competitiveness of this product.

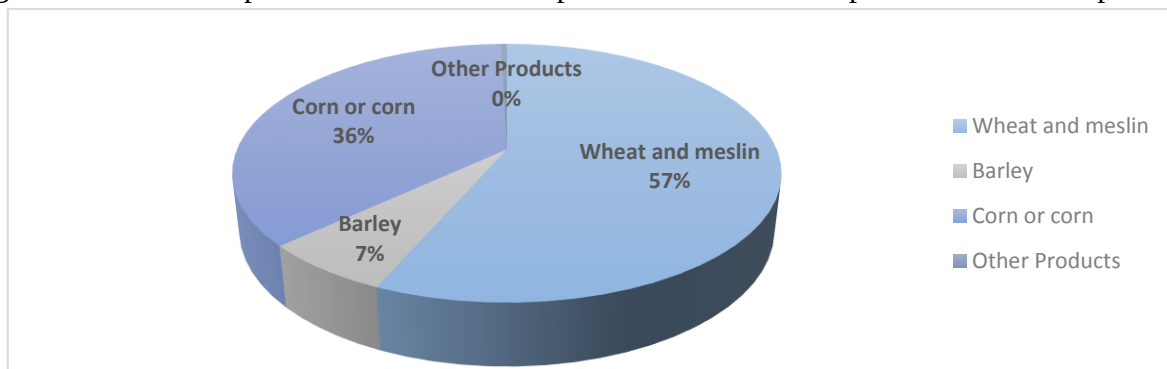


Figure 3. Structure by Cereals, the Year 2023

Source: Calculated by the author based on data from Trade Map, 2022

For **corn**, although its Product Complexity Index (PCI) is the lowest (-0.9369 in 2021), it continues to be the second most exported product in this category, with a share of 36.4% of the export value. The high demand for corn is likely supported by market conditions and its multiple uses in food and industry, despite its lower technological complexity.

Wheat and corn are the main products in the cereals category, with large sales volumes, but both have a negative Product Complexity Index (PCI). This indicates that, although these products contribute significantly to export value, they remain relatively unsophisticated technologically and could benefit from improvements to add value.

In this category, other products contribute marginally to the total export value, holding only a 0.4% share. This suggests that they are secondary products, without significant influence on Moldova's total cereal exports (Biroul Național de Statistică al Republicii Moldova, 2023).

Although cereal exports represent an expanding sector, there are significant challenges that could slow this growth in the future. Climate fluctuations and price volatility in international markets may

affect the stability of exports. In this regard, according to the World Bank report (World Bank, 2023), Moldova needs to improve agricultural technologies and invest in diversifying agricultural export products to better adapt to international market demands and ensure long-term sustainable development.

In addition to cereals, another important sector for Moldova's economy is **seeds and oilseeds** (Figure 4). This category saw an 8% growth between 2019 and 2023, according to OEC data (Harvard University, 2022), highlighting increasing demand in international markets. The expansion of production capacities and improved access to foreign markets have contributed to this positive trend. Oilseeds have thus become a crucial pillar in the export structure, reflecting a gradual transition in Moldovan agriculture toward products with more diversified global demand.

However, growth prospects in this sector could be affected by several factors. These include the volatility of international agricultural product prices, influenced by global factors such as climate change, geopolitical instability, and economic fluctuations. Additionally, Moldova faces increased competition from other oilseed-producing countries, such as Ukraine and Russia, which can offer products at more competitive prices (Food and Agriculture Organization, 2022).

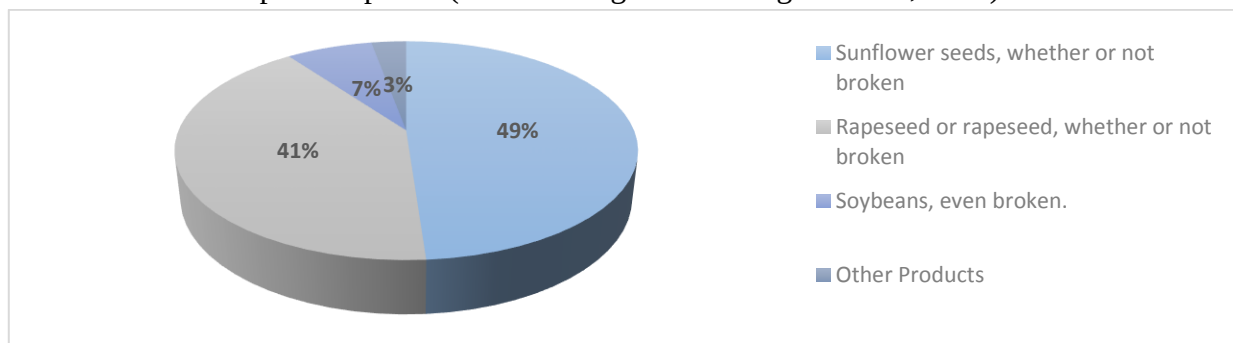


Figure 4. Structure by Seeds and Oilseeds, year 2023

Source: Calculated by the author based on data from Trade Map, 2022

In the category of **Seeds and Oilseeds**, data analysis shows that **Soybeans**, despite being characterized by a negative PCI and very low technological complexity (-1.7032 in 2021, down from -1.5254 in 2020), account for almost half of the export value (49%) for this category (Figure 4). This predominance indicates strong demand in international markets, especially due to their extensive use in food and biofuels. However, the low PCI signals the limited potential for added value growth in this sector.

Rapeseed, which constitutes 41% of exports in this group, shows the greatest improvement in complexity, with a PCI rising from 0.0117 in 2020 to 0.2241 in 2021. This evolution indicates progress in production and processing technologies, which could stimulate demand in more sophisticated sectors, such as oil production and other industrial derivatives.

Sunflower seeds, although showing a slight increase in complexity (-0.0641 in 2021 compared to -0.3536 in 2020), contribute only 7% to the export value for oilseeds. This low share may be influenced by strong competition or global market preferences, despite the product's popularity in other regions. Products categorized as "other products" contribute very little to the export value, with a share of only 3%, reflecting their marginal importance.

To maintain competitiveness and better leverage the potential of this sector, it is essential for Moldova to invest in modernizing oilseed processing technologies. This could enhance the added value of exported products and help the country better adapt to international market demands. Additionally,

diversifying the range of products derived from oilseeds, such as vegetable oils or other processed products, could significantly contribute to the sustainable growth of Moldova's exports in this sector (Food and Agriculture Organization, 2022).

The next group of products analyzed with a significant impact on Moldova's exports are **edible fruits and nuts** (Figure 5). These products represent an important component of agriculture and the national economy, contributing significantly to the total export value. Between 2019 and 2023, fruit and nut exports recorded a growth of approximately 6%, highlighting steady but insufficient progress to ensure robust development in a highly competitive global context (National Bureau of Statistics of the Republic of Moldova, 2023).

Moldova's fruit exports are mainly based on low-value-added products, such as fresh and dried fruits. These products are exposed to international market volatility, being sensitive to seasonal changes and fluctuating prices. Furthermore, Moldova faces fierce competition from other exporting countries, which can deliver similar products at lower costs or higher standards. At the same time, the lack of technological innovation and product diversification limits the potential for rapid and sustained growth in this sector (Food and Agriculture Organization, 2022).

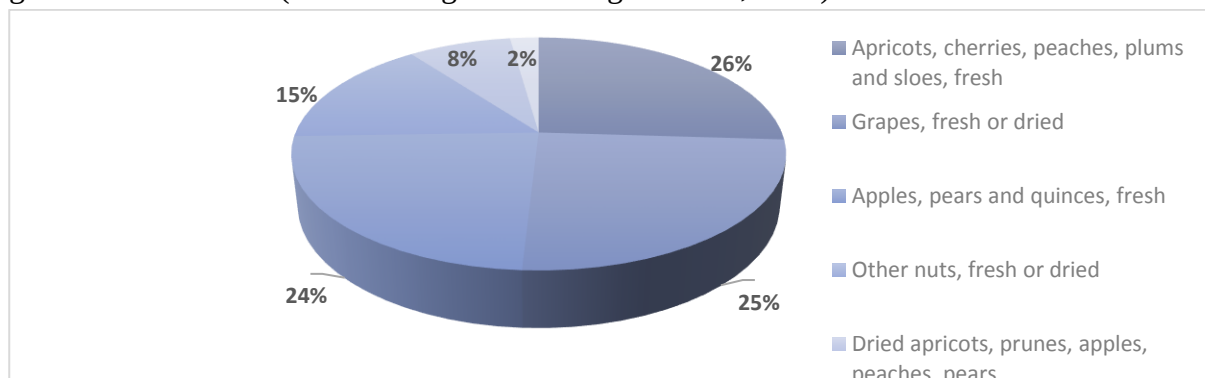


Figure 5. Structure of Edible Fruits and Nuts, Year 2023

Source: Calculated by the author based on data from Trade Map, 2022

Analyzing in detail the categories of exported products from this group **Fruits and Nuts**, the following aspects are noted:

Grapes, with a relatively low PCI (Product Complexity Index), though less low than other products in this group. PCI in 2020 (-1.1693) and 2021 (-1.2149) indicates a consistently low level of complexity, with no significant changes in production technology. However, their stability and consistent demand in international markets have maintained an important position in Moldovan exports (25% of the export value for this group), confirming their market stability due to multiple uses, both fresh and dried.

Apples and pears, despite having a negative PCI of -0.5549 in 2021, show a somewhat higher complexity than other products in this group, suggesting greater potential for development and increased added value through the modernization of processing technologies. Contributing 24% to exports in this group, they hold a significant position.

Dried fruits and mixtures, although less relevant in terms of exports (8%), have shown a slight improvement in technological complexity - 0.9918 in 2021 compared to -1.1252 in 2020 and may offer opportunities for diversification in the future.

Apricots, cherries, peaches, and plums have a negative and relatively constant PCI between 2020 (-1.0952) and 2021 (-1.1725), reflecting low technological complexity. Nevertheless, they remain dominant in exports, representing 26% of the value for this category.

Nuts, despite showing low technological complexity (PCI 2021: -1.6698), hold a significant share of the export value, accounting for 15% in this product group.

It is evident that staple products like apricots, apples, and grapes dominate the market due to high demand. However, to increase competitiveness, Moldova must focus on technological modernization, introduce more efficient production and processing methods, and diversify the range of exported products to increase added value. This approach could stimulate the development and diversification of exports, especially for products with potential for higher added value, such as dried fruits and mixtures. Diversification and added value growth through modern technologies and investments will be essential for enhancing long-term competitiveness.

PCI trends show a slight improvement for all products, indicating modest progress in diversification and technological enhancement. Still, a greater focus on innovation and technology is necessary to increase competitiveness in international markets. By investing in technology and increasing the added value of these products, Moldova could improve export performance and product complexity. Regarding other export sectors, categories such as animal, vegetable, or microbial fats and oils recorded a significant annual growth of 47% in the same period (2019–2023), demonstrating considerable potential for growth and diversification. Glass and glassware also had a significant growth rate of 26%, while traditional sectors such as electrical machinery, beverages, furniture, and footwear stagnated, indicating the need for innovative measures to revitalize these areas (Trade Map, 2022).

An essential finding of this analysis is the relatively weak presence of Moldovan products in higher added value market segments. Thus, Moldova should focus its efforts on improving production activities with added value, exploring new markets, and adopting advanced technologies to surpass the competition and ensure sustainable export growth. In the long term, the focus should be on product diversification and the development of industries with high complexity, following the example of other countries in the region that have successfully improved their export portfolios by transitioning to higher added value products that are less vulnerable to market volatility (e.g., Romania and Bulgaria moving to automotive components, electronics, and machinery).

In this context, a potential growth area is the technology sector, where Moldova has shown some potential, especially in IT outsourcing and software development. By promoting innovation and improving the quality of the workforce, Moldova could gradually shift its export profile toward more complex and higher-added-value products. Additionally, addressing infrastructural bottlenecks is crucial for facilitating trade. As demonstrated by other small economies, improving transport links and simplifying customs procedures can significantly reduce export costs and increase the country's attractiveness to foreign investors. Simultaneously, a stronger focus on international marketing could help Moldovan products gain traction in new markets, thereby diversifying the country's export destinations and reducing dependence on a few trade partners (in 2022: Romania - 27.4%, Ukraine - 14.8%, Italy - 7.13%, Turkey - 6.27%) (Harvard University, 2022).

Conclusions and recommendations

The Republic of Moldova faces a fundamental challenge in modernizing its economy and enhancing its competitiveness by diversifying its export portfolio and increasing the sophistication of its products.

Currently, its dependence on low value-added agricultural exports, such as grains and fruits, limits its resilience to global economic challenges and contributes only modestly to long-term development. The Product Complexity Index (PCI) highlights the need for a shift towards more advanced and sophisticated products to ensure greater economic stability and sustainable growth in the future.

However, significant growth opportunities exist. The development of sectors like oilseeds and processed plant products, which show substantial potential, could increase the value-added of Moldova's exports. Furthermore, investments in modern technologies, infrastructure, and education can transform Moldova's economy, enabling it to better leverage its resources and compete more effectively in international markets with more complex and innovative products.

To achieve these goals, Moldova must prioritize the development of complex, knowledge-intensive products, which can elevate the country's global competitiveness. Encouraging innovation and technological advancement through public-private partnerships, fiscal incentives, and improved access to technology are crucial. Moreover, investments in infrastructure, logistics, and supply chains, especially for high value-added products, are essential to reducing export costs and enhancing the country's competitiveness in global markets.

In conclusion, expanding trade partnerships and exploring new markets will help reduce Moldova's vulnerability to regional economic fluctuations and create new opportunities for growth. By implementing these strategies, Moldova can improve its economic performance, increase the value-added of its exports, and ensure long-term sustainable growth.

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THE ROLE OF CONSULTANTS IN IMPROVING THE EFFECTIVE USE OF EXTERNAL ASSISTANCE

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Abstract: The effective deployment of external assistance is vital to the development strategies of nations, particularly those undergoing economic transitions. This study examines the pivotal role that consultants play in optimizing the impact of external aid on national socio-economic development. Emphasizing the collaboration between international consultants and local stakeholders, the research illustrates how strategic expertise and guidance contribute to the successful execution of externally funded initiatives. By engaging in this analysis, the study adds to the ongoing discourse on international development and capacity building, highlighting the critical importance of tailored advisory services in improving aid effectiveness.

Employing qualitative methodologies, such as case studies and interviews, the research identifies key factors that influence the success of consultancy interventions. These findings are instrumental for policymakers, development agencies, and consultants, offering a strategic framework for refining consultancy practices. The results emphasize the necessity of continuous enhancement in consultancy methods and the development of local consultancy markets. Strengthening these elements is essential to fully harness the benefits of external assistance, thereby advancing sustainable socio-economic development.

Keywords: external assistance, consultants, effectiveness, international development, capacity building.

JEL Classification: F35, O19, L84

Introduction

In a globalized era, marked by the obvious interdependence of social, political and economic phenomena, external assistance is emerging as a determining factor in catalyzing national economic development. External assistance, which is categorized into financial assistance and technical assistance (Golder et al., 2021), contributes significantly to improving government processes if implemented in an effective manner.

A defining role in the effective use of external assistance is played by national and international consultants, who contribute to both the volume of external assistance attracted and the level of efficiency of the implementation process. The role of consultants is to identify the critical points of local organizations, to quantify the need for external assistance and to use the resources in an optimal way and a high level of efficiency. In this context, the role of consultants becomes indispensable for streamlining the process of utilization of external assistance and institutional capacity development.

The research topic is distinguished by its innovative and topical nature, investigating aspects insufficiently explored in the literature. Unlike previous studies, which primarily focus on the general impact of foreign assistance on economic development (Golder, Sheikh, & Sultana, 2021; McCabe & Brown, 2022), or highlight the challenges posed by corruption and weak governance (Easterly & Levine, 2003), or emphasize the need for strong institutions and policies for effective aid (Burnside & Dollar, 2000), the present research makes a novel contribution by emphasizing the role of consultants as key actors in enhancing this process and identifies the types of advisory services necessary to achieve it.

The aim of the research is to analyze the role of consultants in enhancing the effectiveness of external assistance, identify the types of consultancy required for this process, and explore the prospects for developing the national consultancy sector.

The research objectives are:

1. Presentation of the national consultancy sector involved in the implementation of external assistance projects;
2. Assessment of the current demand for consultancy services sector by beneficiaries and the potential for further sector development;
3. Analysis of the role of consultants in the effective use of external assistance in the context of EU accession.

Applied research methods:

The following research methods were used to achieve the research aims and objectives: fact-finding analysis to assess relevant data and documents on the absorption of external assistance; statistical analysis focused on interpreting data provided by the External Assistance Management Platform (AMP), which provides detailed information on the volume and use of external funds. Additionally, the questionnaire method was employed through a survey of a sample of 50 beneficiaries of external assistance to capture stakeholders' perspectives on the role of consultants. These methods facilitated an integrated approach and a rigorous assessment of the effectiveness of the external assistance use and the contribution of consultants in this process.

The research is based on seminal works by researchers such as Burnside (2000), Easterly et al. (2003), Golder et al. (2021), McCabe et al. (2022), Gaibu et al. (2011), and Solcan (2021), as well as publications from international organizations like the European Commission and the World Bank. Additional data were provided by the Platform for the Management of External Assistance (MPA), the National Bureau of Statistics, and reports prepared by the Government of the Republic of Moldova.

1.Consultancy sector in the Republic of Moldova

1.1. Definition and role of advisory services

Consultancy services are a set of specialized professional activities provided by external experts who assist organizations in identifying and solving specific problems and implementing optimal solutions(Consulting Industry, 2024). The role of consultants is essential for the success of development projects and reforms, particularly in the context of the implementation of external assistance programmes. They provide technical and managerial support in various areas, including strategic management, public procurement, project management and institutional capacity building.

External assistance can be classified into two main categories: technical assistance and financial assistance. Technical assistance involves the transfer of knowledge, technology and best practices with the aim of strengthening the institutional and organizational capacities of the beneficiaries (Government of the Republic of Moldova, 2018). This includes training, advice and implementation of technical solutions. In contrast, financial assistance refers to the provision of funds in the form of grants or loans for the implementation of development projects (Golder et al., 2021). Consultants play a vital role in the implementation of both types of assistance, being responsible for planning, coordinating and monitoring the use of resources to maximize their impact on institutional and economic development. They support organizations in the effective management of funds in accordance with donor requirements and regulations, contributing to the success of implemented projects.

1.2. Consultancy sector in the Republic of Moldova

The consultancy sector in the Republic of Moldova has seen a significant expansion in recent years, largely driven by the implementation of foreign assistance projects funded by international donors. According to the Association of Management Consultants (AMCOR), the consultancy market in the Republic of Moldova reached an estimated value of €43 million in 2023, with over 619 firms active in the field (AMCOR, 2022-2023).

The growth of this sector is closely linked to the intense involvement of consultants in externally funded projects, where they play a crucial role in preparing and implementing projects, monitoring progress and ensuring compliance with international donor requirements. More than 50% of consultancy services in Moldova are provided within these external assistance projects, reflecting the sector's dependence on public and international funding.

In this context, consultants support both public institutions and private sector in writing and managing project proposals, thus ensuring the attraction of essential development funds. They are also responsible for the technical management of projects, including monitoring of their implementation, which contributes to improving the success rate and absorption of external funds.

A notable example of the involvement of consultants in this process is the Twinning projects under the aegis of the European Union. These projects involve collaboration between public institutions from the EU Member States and from the Republic of Moldova for the transfer of knowledge and best practices. Through Twinning projects, the consultants support local public administrations in aligning with European standards, thus improving their capacity to effectively manage externally funded projects.

Twinning projects have significantly impacted the institutional capacity of the Republic of Moldova, facilitating the implementation of structural reforms essential to the European integration process. The consultants involved in these projects provided technical support to public administrations, helping to optimize internal procedures and strengthen administrative capacity – both critical for the efficient absorption of European funds. In addition to the support provided through externally funded projects, private sector consultants play an important role in helping local companies adapt to economic and technological changes (Consulting Industry, 2024). Consulting in strategic, operational and technological management is essential for improving the competitiveness of Moldovan firms on the international market, especially in the context of globalization and increasing trade relations with the European Union.

2. Typology of consultancy services in demand and development trends in the consultancy sector

2.1. Typology of advisory services needed at local level

The consultancy sector in the Republic of Moldova has experienced significant growth in recent years, both in the public and private sectors, mainly due to the need for organizations to implement structural reforms and access international funds. In this context, consultancy services became indispensable to support institutional development and the business environment (Prisacari, 2023).

For the purpose of this research, a questionnaire was administered to 50 respondents who are employees of organizations receiving external assistance. The breakdown of respondents is as follows: 20.83% from the public sector, 33.33% from the private sector, 20.83% from non-governmental organizations and 16.67% from international development partner organizations.

The results indicate that local organizations frequently utilize consultancy services and advocate for skilled and professional consultants, both national and international.

The types of consultancy services requested by public, private and non-profit organizations from the Republic of Moldova include: technical consultancy (37.04%), consultancy in project writing (25.93%), strategic management (16.67%), organizational development (16.67%), and others (3.70%) (Fig.1).

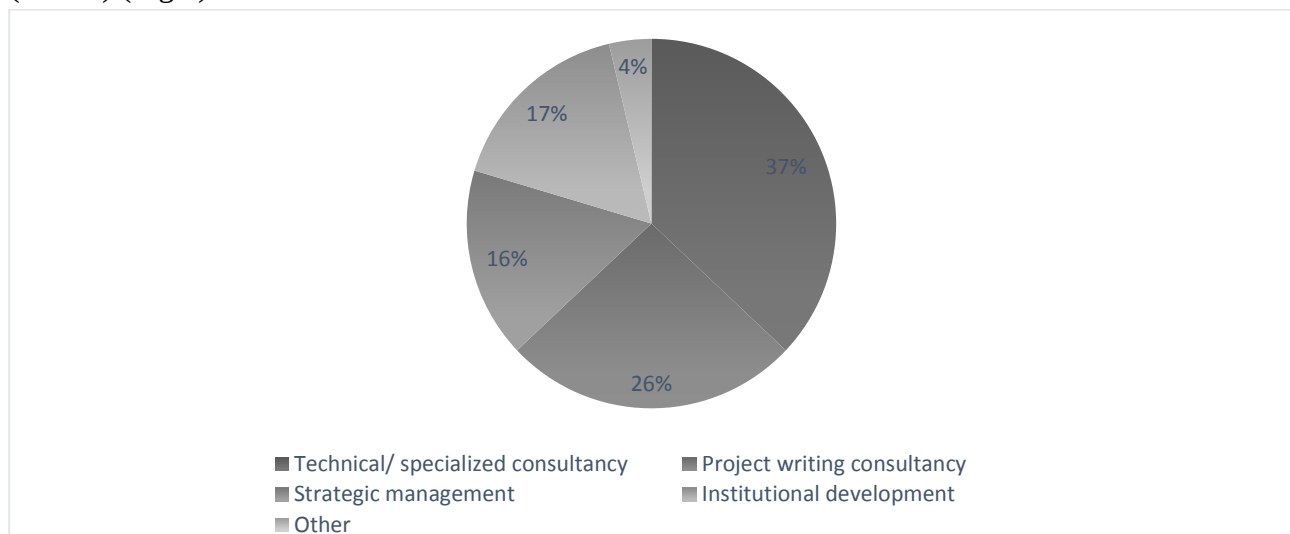


Figure 1. Typology of advisory services delivered to correspondents, between 2020-2024

Source: Prepared by author

Technical consulting focuses on providing specialized expertise and support in areas such as engineering, information technology, construction and industrial processes. This includes evaluating existing technical systems, recommending innovative solutions and helping organizations implement new technologies. Technical consultants are often contracted by development partners to generate business impact in various fields. The involvement of technical consultants in various organizations helps to reduce costs and improve the operational efficiency of the organization (McCabe and Brown, 2022).

Project writing consultancy refers to the support provided to organizations in developing project proposals for funding, either from national or international funds. It involves identifying funding opportunities, formulating project objectives and activities, and developing a detailed budget. Project

writing consultants also help to draft the necessary documentation and ensure compliance with donor requirements, thus facilitating access to essential financial resources for implementing initiatives.

Strategic management deals with the formulation and implementation of long-term strategies aimed at improving organizational performance and achieving business objectives. Strategic management consultants work with the organization's leaders to assess the external and internal environment, analyze market data, and define the organization's vision, mission and values. They provide recommendations for adjusting existing strategies and developing effective action plans, helping organizations adapt to changes in the business environment and remain competitive (Solcan, 2021).

Organizational development aims to enhance an organization's effectiveness and overall health by implementing interventions in its internal structure, culture, and processes. Organizational development consultants work to assess organizational climate, identify employee training and development needs, and facilitate changes that support learning and innovation. They implement leadership development programs, team-building initiatives, and change management strategies, thereby helping to increase employee satisfaction and productivity (Golder et al., 2021).

Other types of consultancy - this category includes consultancy in areas such as marketing, human resources, sustainability, risk management, legal or financial consultancy. Consultants in this category provide specific expertise tailored to the needs of organizations, helping to improve various aspects of their operations.

Upon analyzing the need for expertise, we conclude that organizations, particularly in the context of EU accession, require consultancy services for the implementation of projects and programs, as well as technical expertise (Fig.2).



Figure 2. Role of consultants in the organization

Source: Prepared by author

2.2. Challenges and prospects for the consultancy sector

The consultancy sector in the Republic of Moldova faces several challenges despite the growing demand for its services. These obstacles hinder the sector's expansion and long-term efficiency. However, significant opportunities also exist, particularly in relation to European integration and increased foreign investment (Gaibu et al., 2011).

From the point of view of consulting companies, the main factor which contributes to the increase in turnover, are programs funded by donors and the public sector (AMCOR, 2022-2023). This fact is also mentioned by the respondents- beneficiaries of consultancy services, who state that the cost of consultancy services is paid from the following sources: development partners (66,67%), public budget (12,50%) and own (20,83%).

Consulting companies report that their decreased turnover is caused by bureaucratic processes and changes in tax policies (European Commission, 2021). Additionally, beneficiaries note that consulting services can be quite expensive, and the lack of procurement procedures and resources offered by development partners may further reduce the demand for these services.

Another challenge for the national consultancy sector is companies with a small number of employees, which cannot compete with international firms on large-scale projects.

In the process of accessing consultancy services, respondents mention that in the process of contracting services they identified challenges such as: the impossibility of identifying specialized consultants, the high cost of consultancy services, consultancy services delivered un-qualitatively, and some beneficiaries did not have any challenges (Fig.3).

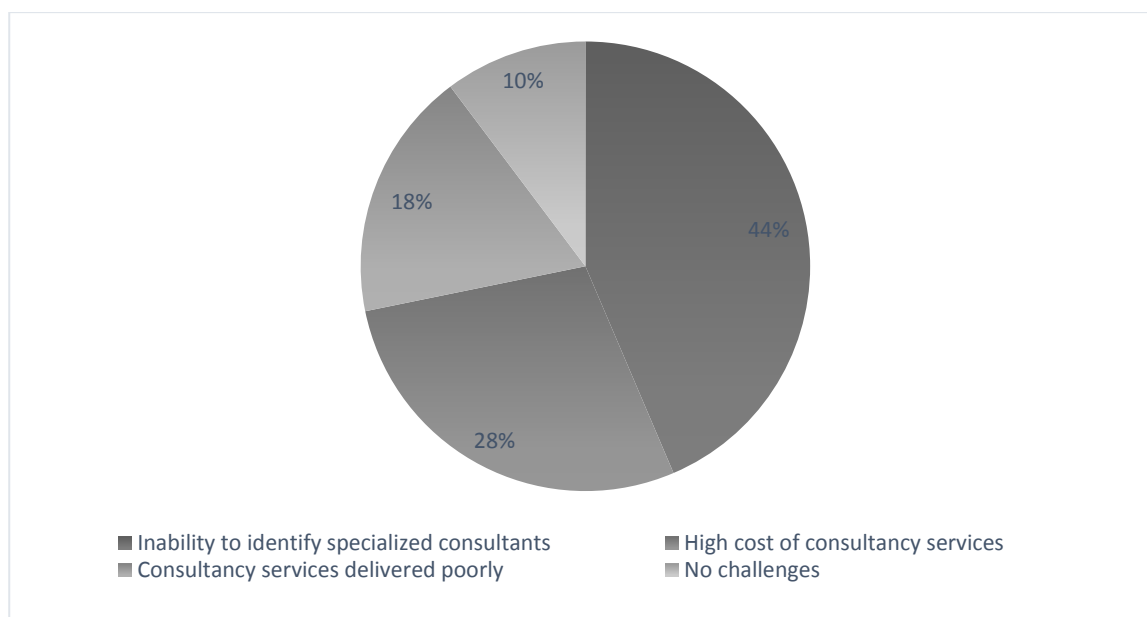


Figure 3. Challenges in accessing consulting services, encountered by respondents

Source: Prepared by author

The lack of diversification of consulting services, such as change management, IT process outsourcing and innovation consulting, is a significant obstacle in the development of the local professional services market. These areas, which are rapidly expanding globally, are essential for organizations to adapt to new technological and economic realities. However, in the local market, their development is limited by a combination of factors, including the absence of solid expertise in these sectors and the low level of demand from the public and private sector, which is still reluctant to invest in such services. This situation underlines the need to encourage both the training of specialists in emerging areas and awareness of the competitive advantages that these types of consultancy can bring.

Despite the challenges it faces, the consulting sector in the Republic of Moldova benefits from significant opportunities for development, especially in the context of strengthening relations with the European Union and access to European funds.

On the one hand, there is a growing demand for strategic and operational consultancy services due to the need to align with European standards. Both public and private organizations are feeling this need in order to adapt to new regulations and maintain their competitiveness in the global market. Recent surveys indicate that a significant percentage of the companies surveyed believe that strategic consultancy services will continue to be the most in demand in the near future (AMCOR, 2022-2023). At the same time, the expansion of international projects is generating a growing demand for professional project management. This trend will not only attract new consultancy firms to the market, but will also provide existing companies with opportunities to specialize in this field, thus contributing to the development of the sector.

Another important aspect is digitalization and technological innovation, which is an area with significant growth potential. Activities such as IT process outsourcing, implementation of artificial intelligence solutions and process automation are essential for adapting organizations to contemporary realities. These opportunities emphasize the need to adapt consulting services to today's requirements and develop the necessary expertise (Easterly and Levine, 2003) to face emerging challenges, thus facilitating the evolution of the consulting sector in the Republic of Moldova.

3. The role of consultants in the process of utilization of external assistance in the context of accession to the European Union

3.1. The role of consultants in attracting external assistance

Advisory services are indispensable for the success of external assistance projects, directly contributing to the efficient absorption of funds and their alignment with Moldova's strategic priorities. In 2023, the Republic of Moldova benefited from approximately **€4,775 million** of the available technical and financial assistance, a large part of these funds being managed with the support of local and international consultants (Platform for the Management of External Assistance, 2023). 438 external assistance projects were implemented during 2023, 251 of which were technical assistance projects, designed to respond to national development challenges and needs (Government of the Republic of Moldova, 2023). The majority of the projects being allocated to strategic areas such as public security, education, finance and justice. (Fig. 4)

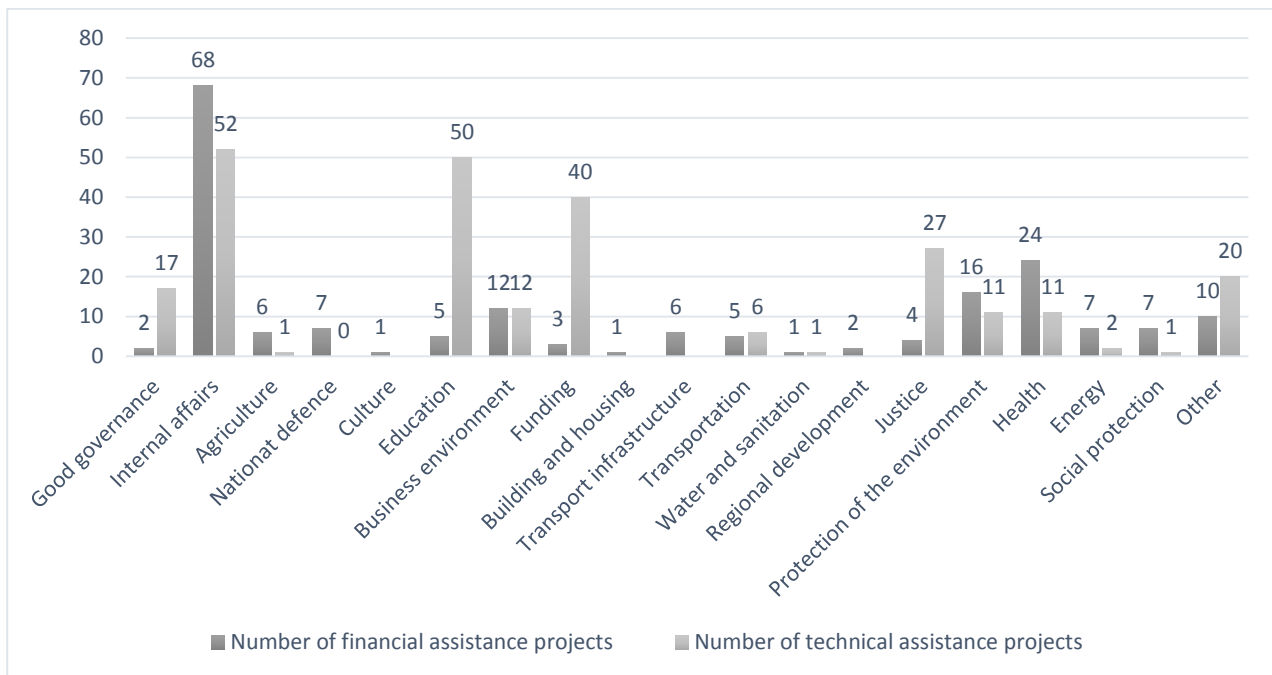


Figure 4. Distribution of financial and technical assistance projects

Source: compiled by the State Chancellery on the basis of data provided by sector coordinators

Consultants have played a key role in this process, facilitating access to international resources and supporting authorities in managing the bureaucratic and technical complexities associated with international funding. They not only contributed to the design and implementation of projects, but also provided ongoing support in monitoring and evaluating their impact. Their expertise has been crucial in ensuring compliance with international standards, which has enabled Moldovan institutions to develop internal capacities and maximize the use of external funds.

According to the data provided by respondents, consultants increase the need for external assistance by identifying internal organizational gaps, having a significant impact on the efficiency of operations (51.72%). They also help train internal staff (31.03%), which reduces the need for external assistance in the long term. This suggests that, by developing internal competencies, organizations become more self-sufficient and better able to manage future challenges without constantly depending on external support. However, only 17.24% of the respondents stipulated that consultants do not influence the decision to attract external sources for organizations, highlighting the critical role consultants play in defining and reinforcing organizational development strategies.

Thus, consultancy proves to be a fundamental element in the integration of external assistance into the institutional structures of the Republic of Moldova. The positive impact of these services is not only limited to attracting funds, but also extends to the capacity of organizations to innovate and adapt to the changing requirements of the economic and social environment, thus contributing to the sustainable development of the country.

3.2. Making efficient use of external assistance in the context of EU accession

Efficiency in the use of external assistance is a crucial aspect for the institutional development of the Republic of Moldova and for its alignment with the requirements of the European Union. One of the essential instruments facilitating this process, with the support of consultants, is the The Twinning program, a targeted initiative of the European Union, aims to enhance institutional capacities and

prepare public administrations for the effective absorption of European funds. Twinning projects have been pivotal in bolstering central public administration's ability to manage external assistance, thereby facilitating the implementation of reforms essential for the country's sustainable development. (World Bank, 2023).

Twinning projects are designed to provide technical and institutional assistance through collaboration between public institutions from EU Member States and partner countries (European Commission, 2021). The main objective of these projects is the transfer of knowledge, best practices and expertise, thus enabling the administrations of the Republic of Moldova to prepare for the absorption of European funds and the implementation of EU-funded projects. Thanks to the support received, public administrations have been able to improve their capacities in project planning and implementation, with the necessary expertise in areas such as financial management, project monitoring and institutional capacity building.

Activities carried out under Twinning projects include the transfer of expertise from EU Member States, which has brought local standards in line with international ones. Training of staff in central public administrations has also improved technical and managerial skills, enabling them to manage EU funds more effectively. Twinning projects have contributed to the creation of standardized procedures for managing funds, aiming to reduce implementation risks and increase the transparency and efficiency of administrative processes. In Moldova, approximately 30 Twinning projects have been implemented, significantly enhancing institutional capacities and supporting the country's reform agenda. (European Commission, 2021)

A relevant example of the success of this program is the Twinning project within the Ministry of Finance of the Republic of Moldova (Ministry of Finance of the Republic of Moldova, 2023), which aimed to strengthen institutional capacity for the management of European funds. Through this project, the central public administration was trained in the effective use of project monitoring and evaluation mechanisms, thus adapting to the strict reporting and transparency requirements of the European Union. The skills acquired were essential for the successful implementation of the funds and for increasing the absorption rate of external assistance.

The consultants have played a decisive role in the success of Twinning projects, directly supporting public administrations in the preparation of documentation and monitoring of project implementation. They ensured that public institutions were well equipped to effectively manage international funds, providing technical support at all stages of the project cycle, from planning to finalizing implementation. The consultants' contribution was instrumental in developing effective fund management procedures, leading to increased transparency and improved institutional capacity.

The impact of Twinning projects on the absorption of EU funds has been significant, contributing to better preparing public administrations to manage these resources efficiently. The survey on the role of consultants in making the use of external assistance more efficient showed that consultants are key factors for the success of externally funded projects. Thus, consultants not only ensured the successful implementation of the projects, but also had a lasting impact on the absorption capacity of EU funds by local institutions (Fig. 5)

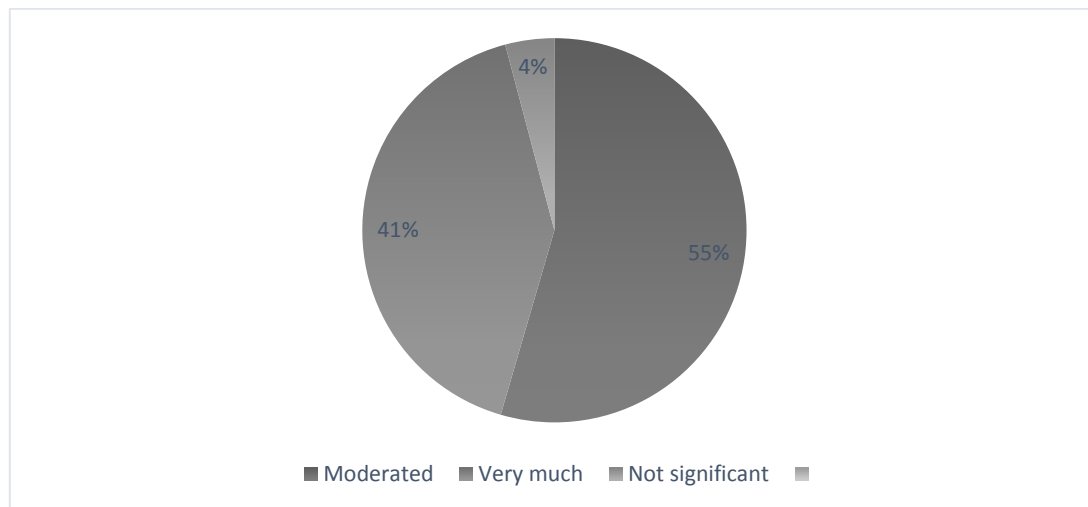


Figure 5. The impact of consultants on making the use of external assistance more efficient

Source: Prepared by author

Upon completing the questionnaire, respondents underscored the critical importance of consultancy services in institutional development and effective use of external assistance. Consultants not only contribute to the successful implementation of projects, but also significantly enhance the internal competencies of organizations, thereby improving their long-term sustainability and efficiency. The diversification of consultancy services, along with collaboration among consultants, state institutions, and development partners, is essential for strengthening institutional capacities and achieving Moldova's development objectives within the framework of European integration.

Conclusions

Consultants play a central role in the effective management and utilization of external assistance, contributing directly to the successful attraction and implementation of international funds in the Republic of Moldova. In the context of accession to the European Union, this role becomes particularly important, given the complexity of the processes of alignment with European standards and the need to manage financial resources in a transparent and efficient way. The consultants' expertise facilitates both the planning and implementation of projects, as well as their monitoring and evaluation, ensuring compliance with donor requirements and maximizing the impact of the funds on the socio-economic development of the country.

Nonetheless, the consultancy sector in the Republic of Moldova encounters considerable challenges. Its dependence on external funding and lack of diversification in consultancy services present significant risks to the sector's long-term sustainability. However, current trends indicate an increasing demand for strategic consultancy, project management and technical expertise, all of which are essential for the success of external assistance initiatives. By developing in-house capacity and expanding their skills portfolios, local consultants can assume a pivotal role in improving the effectiveness and sustainability of internationally funded projects.

The Twinning projects have demonstrated the importance of this type of consultancy in strengthening the institutional capacity of the public administration of the Republic of Moldova, contributing to the effective absorption of external assistance. The consultants have played a key role in this process, providing technical support and expertise in project management, strengthening the administrative

capacities needed to manage financial resources and implement structural reforms. The results of these projects underline the importance of institutional preparedness and specialized expertise in ensuring efficient absorption of funds, a crucial aspect in the European integration process.

According to empirical analysis and questionnaire data, the consultancy sector in the Republic of Moldova is in a phase of continuous expansion, stimulated by the increasing demand for technical and managerial expertise in external assistance projects. This development is underpinned by growing requirements for alignment with European standards and effective management of international projects. Although there are significant challenges, such as local market fragmentation and competition with international firms, Moldovan consultants play a vital role in facilitating the absorption of funds and strengthening institutional capacities.

In conclusion, by increasing internal capacities and adapting to new economic and technological realities, consultants in the Republic of Moldova have the potential to contribute significantly to the sustainable development of the country. They not only support the implementation of externally funded projects, but also help to create a solid basis for the long-term sustainability of institutional and economic development, thus strengthening the process of European integration and alignment with international and European standards.

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MULTILINGUALISM AND INTERCULTURAL DIALOGUE: THE CASE OF MOLDOVA WITHIN THE EUROPEAN CONTEXT

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Abstract. Language is a vital form of cultural expression and a key factor that distinguishes humans from other species. It reflects our diversity, cultural heritage, and our capacity for cooperation, playing an essential role in shaping our identity and reflecting our culture. This article explores the complex dynamics of multilingualism in the Republic of Moldova, examining its historical context, the current linguistic landscape, and its cultural importance. It highlights the coexistence of Romanian, Russian, and minority languages such as Ukrainian and Gagauz, showcasing the country's rich cultural fabric. By comparing Moldova with other European countries, the article underscores effective strategies for promoting language diversity and inclusion. Furthermore, it discusses potential improvements in language policy and education, focusing on the impact of technology and globalisation on the future of multilingualism in Moldova. Ultimately, the findings emphasize the importance of multilingualism for Moldova's national identity and socio-economic development, while advocating for inclusive language policies that foster social cohesion and prepare citizens for a globalised future.

Key words: multilingualism, intercultural dialogue, cultural identity, social cohesion, European integration

JEL Classification: F02

Introduction

Multilingualism is a defining characteristic of Europe, showcasing the continent's rich cultural heritage and intricate history. The harmonious co-existence of various languages in Europe symbolizes the European Union's aim of unity in diversity, which is a fundamental principle of the European project. The European Commission reports that approximately 60% of Europeans can converse in at least one language besides their mother tongue (European Commission, 2012). This multilingual landscape not only enhances communication across borders but also fosters cultural exchange and economic collaboration among nations.

In the Republic of Moldova, multilingualism is especially important due to the country's unique geopolitical context and the historical impact of both Eastern and Western cultures. The official language, Romanian, signifies Moldova's cultural and historical connections to Romania. Nevertheless, Russian, Ukrainian, and Gagauz are also commonly spoken, shaped by the Soviet era and the presence of diverse ethnic groups (Palágyi, 2023). The linguistic landscape in Moldova has been influenced by various factors, such as historical migrations, political changes, and socio-economic conditions. To grasp Moldova's multilingual situation, it is essential to investigate how language relates to identity, culture, and social cohesion. As Moldova aims for closer ties with the

European Union, multilingualism becomes a vital tool for fostering social inclusion and driving economic growth.

This paper intends to explore the intricacies of multilingualism in Moldova, highlighting its historical roots, current linguistic realities, and the cultural implications for identity and community. Furthermore, it will discuss the challenges and opportunities that multilingualism brings, particularly in light of Moldova’s aspirations for European integration.

Protecting and Promoting Linguistic Diversity in Europe

Europe is home to a rich tapestry of languages and cultures, each contributing to the continent’s vibrant diversity. Preserving linguistic heritage is crucial not only for communication and cultural preservation, but also for building bridges between cultures, fostering social cohesion and promoting mutual understanding and respect among diverse communities in our increasingly interconnected world.

As highlighted in our previous research, language functions not only as a means of communication but also as a fundamental marker of cultural identity. Recognizing that language is deeply rooted in the sociocultural context of its speakers highlights the importance of being sensitive to these contexts when interpreting messages. Encouraging multilingualism involves motivating individuals to explore languages beyond their own, which fosters an appreciation for diverse cultural viewpoints. By embracing other languages, people can better understand the richness of their own culture and identity while also valuing the complexities of others (Hîrbu, 2016). This awareness is essential for creating meaningful intercultural dialogue, where different cultural expressions are understood and appreciated. Protecting multilingualism in Europe is essential for maintaining cultural diversity and promoting social cohesion. COST Actions are instrumental in this effort by funding collaborative research that addresses the challenges and opportunities faced by multilingual societies. These initiatives advocate for language policy, education, media, and technological solutions, ensuring that minority languages can flourish alongside more dominant ones. By backing research on multilingualism, COST Actions help to preserve linguistic diversity and create inclusive environments where all languages are appreciated and maintained.

For instance, within the COST Action CA22115, “A Multilingual Repository of Phraseme Constructions in Central and Eastern European Languages” (PhraConRep), we aim to safeguard idiomatic expressions that are vital to each language’s distinct cultural and linguistic identity. This project is developing a multilingual repository of Phraseme Constructions (PhraCons) across Central and Eastern European languages, thereby supporting both linguistic and cultural heritage while encouraging intercultural dialogue (MoU PhraConRep, 2023).

Another COST Action - CA22126 “European Network On Lexical Innovation” (ENEOLI), is dedicated to promoting multilingualism in Europe by highlighting the essential role of neology – the exploration of lexical innovations and their effects on languages. This initiative aims to create a multilingual digital glossary of neology terms to support international research efforts. By developing digital tools to track lexical innovations and engaging both experts and the public through crowdsourcing, ENEOLI seeks to inspire creativity in local languages and enhance clarity in institutional and scientific communication. The project also focuses on comparative studies of lexical innovation across European languages, particularly examining borrowings and their equivalents, which further enriches the region’s linguistic diversity. Additionally, through training programmes for professionals such as translators and journalists, ENEOLI ensures that new terms are accurately

integrated and understood in various linguistic contexts, thereby strengthening Europe's cultural and linguistic landscape (MoU ENEOLI, 2024).

In a similar vein, COST Action CA23105, “Language Plurality in Europe’s Changing Media Sphere” (PLURILINGMEDIA), aims to protect and promote multilingualism in Europe in the face of the increasing prevalence of major languages, especially English. With global competition and evolving media consumption patterns posing risks to the survival of regional and minority languages, PLURILINGMEDIA strives to encourage cooperation among scholars and practitioners to tackle these issues. It examines the effects of digitalization on regional and minority languages within Europe’s media landscape (MoU PLURILINGMEDIA, 2024).

Thus, by promoting multilingualism and respecting the unique linguistic identities of communities, we can strengthen the bonds that unite us, celebrate our differences, and build a more inclusive and harmonious Europe.

Moldova’s Historical Background

The historical development of multilingualism in the Republic of Moldova is deeply intertwined with its intricate geopolitical history, which has significantly influenced its linguistic landscape. Throughout the centuries, Moldova has been shaped by various empires and states, including the Ottoman Empire, the Russian Empire, and the Soviet Union. This rich history has contributed to the region’s diverse linguistic environment.

In the early 20th century, the area known as Bessarabia became part of the Kingdom of Romania after World War I. During this time, Romanian was promoted as the primary language in education and governance. However, as noted by Purici, the onset of Soviet rule in 1940 brought about significant linguistic changes. The Soviet government enforced a Russification policy that elevated the status of Russian while sidelining Romanian in public life. This shift not only impacted language use but also had deep implications for cultural identity and social cohesion among the population (Purici, 2011). After the Soviet Union collapsed in 1991, Moldova declared its independence and reinstated Romanian as the official language. Nevertheless, Pavlenko points out that the legacy of Soviet influence remains, with Russian still widely spoken, especially among the Russian-speaking minority and in urban areas. This has created a unique multilingual environment where code-switching and bilingualism are common (Pavlenko, 2008).

Moldova’s current linguistic policies reflect this historical context, aiming to promote the use of Romanian in education and public life while also recognizing the linguistic rights of Russian speakers and other minority groups. Despite these initiatives, language-related tensions occasionally arise, particularly in political discussions about national identity and Moldova’s potential integration into the European Union.

Current Linguistic Landscape

Moldova’s rich ethnic and linguistic diversity significantly influences its social and cultural environment. Recent census data reveals the breakdown of the population by ethnic group, offering a glimpse into the demographic trends within the country.

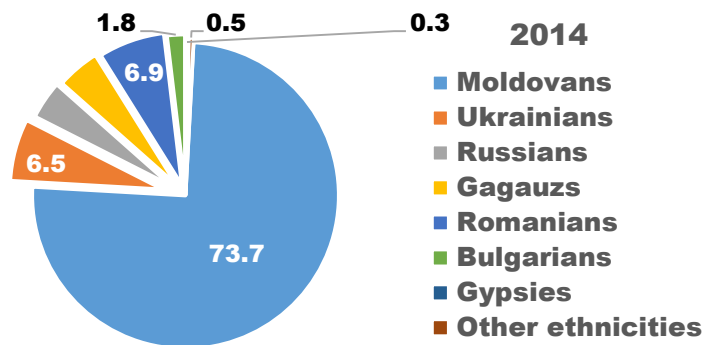


Figure 1. Ethnic Structure of the Population in the RM from the 2014 Census

Source: Author's study based on data from the National Bureau of Statistics of the RM (2014)

The current ethnic landscape of the Republic of Moldova, based on the 2014 census data, reflects a diverse population with a predominant Moldovan identity. Moldovans constitute approximately 73,7% of the total population, a slight decline from previous years. This group is followed by Ukrainians at 6,5% and Russians at 4,0%, indicating a gradual decrease in these communities. The Gagauz population stands at around 4,5%, maintaining its presence in the southern regions of the country. Notably, the percentage of Romanians has risen to 6,9%, suggesting a growing recognition of shared cultural and linguistic ties.

Smaller ethnic groups include Bulgarians (1,8%), Gypsies (0,3%), and other ethnicities (0,5%), which together contribute to Moldova's multicultural fabric. This diversity is crucial for understanding the country's social dynamics and cultural interactions, as language, heritage, and citizenship significantly influence ethnic identity. The key elements defining membership in an ethnic group are parental origin and mother tongue. Citizenship also plays a significant role, particularly for Moldovans and Romanians, while place of birth is essential for the Moldovan and Gagauz ethnic groups.

Moldova's linguistic landscape features an intricate mix of languages, where Romanian serves as the official language while Russian maintains a significant presence. The 2014 census data on the structure of the population in the Republic of Moldova by mother tongue highlights a diverse linguistic landscape.

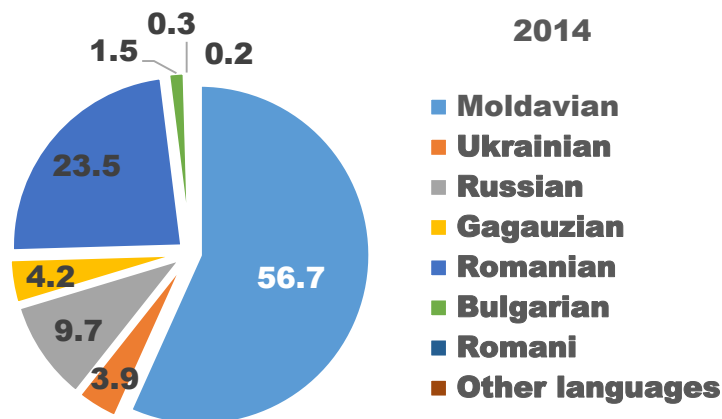


Figure 2. Language Distribution in RM

Source: Author's study based on data from the National Bureau of Statistics of the RM (2014)

The most widely spoken language in Moldova is Moldavian, with 56,7% of the population identifying it as their mother tongue. Romanian follows closely at 23,5%, reflecting the cultural and linguistic ties between the two. Russian is spoken by 9,7% of the population, highlighting its significant presence, particularly in urban areas and among certain ethnic communities. Other languages spoken include Gagauz, which is used by 4,2% of the population, mainly within the Gagauz community, and Ukrainian, spoken by 3,9%. Bulgarian is used by 1,5%, while Romani is spoken by 0,3% of the population. Other languages make up just 0,2%. This linguistic variety highlights Moldova's multicultural makeup, where several languages coexist, showcasing the country's rich ethnic heritage. Moldova's educational policies reflect this linguistic diversity. While Romanian is the main language of instruction in most schools, around 30% of urban schools provide education in Russian to cater to the Russian-speaking population (CIVIS, 2021). Recent efforts have aimed at enhancing language skills, especially in English and other European languages, which are increasingly recognized as vital for Moldova's economic growth and international relations.

Cultural Implications of Multilingualism

Multilingualism in Moldova has deep cultural and identity-related implications, affecting how individuals and communities interact with their social surroundings. The presence of multiple languages encourages a wide array of cultural expressions, reflecting the diverse backgrounds of the population. This linguistic variety is essential in shaping identity for many Moldovans, as language often acts as a symbol of cultural belonging and affiliation. For instance, Romanian is not just a means of communication; it is also a crucial part of national identity for many Moldovans. The revival of the Romanian language following independence has led to a cultural renaissance, with Romanian literature, music, and traditions becoming more prominent.

On the other hand, for the Russian-speaking minority, the Russian language is a key link to their cultural identity and community, particularly in areas like Transnistria and Gagauzia, where Russian is widely spoken. This situation creates a complex identity landscape, where individuals may navigate various cultural affiliations based on the languages they use.

Additionally, multilingualism significantly influences social interactions and community cohesion. In multicultural settings, people often engage in code-switching – switching between languages depending on the social context and their conversation partners. This practice can promote inclusivity and understanding among diverse groups, enriching social interactions and fostering a sense of community. However, it also brings challenges, such as language barriers that can hinder effective communication and create divisions between different language groups.

Cultural events and community gatherings frequently showcase this multilingual aspect, highlighting various linguistic and cultural traditions. Festivals, art exhibitions, and performances celebrate Moldova's linguistic diversity, encouraging intercultural dialogue and mutual respect among different communities.

Challenges and Opportunities

The cultural implications of multilingualism come with their own set of challenges. Tensions related to language can emerge, especially when certain languages seem to be favoured over others, which can lead to feelings of marginalisation among speakers of minority languages. To address these issues, it is essential to have a nuanced understanding of the sociolinguistic landscape and to implement inclusive language policies that honour and promote all languages spoken in Moldova.

Moreover, the pressure to conform to the dominant culture can lead to language loss, particularly among younger generations. As global and regional influences increase, some individuals may choose to focus on learning dominant languages at the expense of their native or minority languages. This trend poses a threat to the preservation of cultural heritage and identity associated with these languages, resulting in a decrease in linguistic diversity.

On a positive note, multilingualism offers significant opportunities for Moldova. For one, it boosts trade by providing substantial benefits for economic growth. By encouraging proficiency in multiple languages, Moldova can enhance its trade relationships with various countries, thereby improving its competitive position in international markets. This linguistic diversity allows for smoother communication and negotiations, attracting foreign investment and expanding export opportunities. Additionally, Moldova's multilingual environment enhances tourism, making the country a more attractive destination for international travellers. By showcasing its linguistic diversity, Moldova can appeal to a wider audience, with multilingual services in the tourism sector – such as guided tours and informational materials – enhancing the overall visitor experience and fostering cultural exchange.

Finally, multilingualism is crucial for enhancing international relations. By improving language skills, Moldova can interact more effectively with its neighbouring countries and international organisations. This capacity to communicate across different languages promotes collaboration on various matters, including trade, security, and cultural exchange, which in turn fosters regional stability and cooperation. Moldova has considerable opportunities to leverage its multilingualism for economic growth and cultural enhancement.

Comparative Analysis with Other European Countries

Moldova's multilingualism can be effectively compared to the linguistic landscapes of Switzerland and Belgium, both of which manage complex multilingual environments.

In Switzerland, the 2019 Federal Statistical Office Report shows that about 63% of the population speaks German, 20% speaks French, 8% speaks Italian, and 0,5% speaks Romansh (Federal Statistical Office, 2022). This linguistic variety is bolstered by strong institutional frameworks that promote language education from an early age, encouraging both bilingualism and trilingualism. For example, around 75% of Swiss students learn at least one additional language alongside their mother tongue, which helps facilitate communication across regions and strengthens national unity (Grin, 2003).

In Belgium, the 2021 Census indicates that roughly 60% of the population speaks Dutch, 40% speaks French, and less than 1% speaks German (Statbel, 2021). Belgium's federal structure accommodates its linguistic communities, enabling tailored language policies that meet to regional needs. For example, the Brussels-Capital Region is officially bilingual, with educational policies supporting both French and Dutch. This decentralised approach has allowed Belgium to manage its linguistic diversity while promoting cultural identity within each language community (De Schutter, 2021).

Moldova can draw valuable lessons from these countries. Implementing comprehensive language policies that support multilingual education and promote all languages equally could enhance social cohesion and inclusivity. For example, increasing the percentage of students learning multiple languages could parallel Switzerland's model, where over 75% of students are engaged in additional language learning (European Commission, 2012). According to the latest Eurostat data, the most commonly studied foreign languages in Europe are English (97,9%), French (33,4%), German (23,3%), and Spanish (16,9%). Russian and Italian follow, with 2,5% and 1,3%, respectively.

A similar trend can be observed in the Republic of Moldova. In addition to the mother tongue, the school curriculum mandates the study of one or two foreign languages during general education. The most popular language among students is English, and according to data from the National Bureau of Statistics, the trend of learning this language has been steadily increasing in recent years. English is more favoured by urban students, who make up 63% of all learners, while French and Russian are more commonly chosen by students in rural areas. It is important to note that the languages of instruction for all subjects in Moldova predominantly remain Romanian (80,6%) and Russian (19,3%), with only 0,1% of students studying in English and Bulgarian.

By examining the successful strategies of European countries, Moldova can better navigate its multilingual challenges and leverage its cultural diversity for social and economic development.

Future Perspectives

As the Republic of Moldova continues to navigate its multilingual landscape, potential developments in language policy and education will be crucial in shaping the future of multilingualism in the country. Increasingly, there is a recognition of the need for comprehensive language policies that promote inclusivity and support all linguistic communities. Policymakers should focus on creating a balanced framework that not only prioritizes the Romanian language but also ensures that minority languages, such as Russian, Ukrainian, and Gagauz, receive adequate support in education and public life. This approach could involve developing bilingual education programs and enhancing language training for educators to address the diverse linguistic needs of students.

In addition to formal education, the role of technology is becoming increasingly significant in shaping multilingualism in Moldova. Digital tools and online platforms can provide access to language learning resources, facilitating self-directed learning and encouraging proficiency in multiple languages. For instance, mobile applications and e-learning platforms can offer interactive lessons in Romanian, Russian, and other languages, making language acquisition more accessible to a broader audience. Furthermore, technology can enable virtual exchange programs, connecting Moldovan learners with native speakers globally, thereby enriching their linguistic and cultural experiences.

Globalisation also plays a crucial role in influencing language dynamics in Moldova. As the country aspire to integrate with the European Union, the demand for proficiency in international languages, particularly English, is on the rise. This shift may lead to the incorporation of English as a key component in educational curricula, alongside Romanian and Russian. By fostering a multilingual environment that includes international languages, Moldova can enhance its competitiveness in the global economy and better prepare its citizens for opportunities abroad.

Conclusion

This paper has explored the intricate dynamics of multilingualism in Moldova, highlighting its historical, cultural, and educational dimensions. Key findings indicate that Moldova's linguistic landscape is characterised by a coexistence of Romanian, Russian, and other minority languages, shaped by historical influences and current policies. The interplay of these languages not only reflects the country's diverse cultural heritage but also plays a pivotal role in shaping individual and community identities.

Multilingualism is of paramount importance for Moldova's identity and future. As a bridge between Eastern and Western cultures, Moldova's linguistic diversity positions it uniquely in a globalised world. Embracing this diversity can enhance social cohesion, foster mutual respect among different

ethnic groups, and promote a sense of belonging. Furthermore, as Moldova aspire to integrate with the European Union, promoting language diversity is essential for aligning with European values and facilitating international cooperation.

Recent statistics highlight the importance of inclusive language policies that serve all linguistic communities, ensuring equal access to education and opportunities. By capitalizing on its linguistic diversity and prioritizing inclusive policies, Moldova can lay the foundation for a more unified and prosperous future.

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THE EFFECTS OF ECONOMIC SANCTIONS ON INTERNATIONAL TRADE IN THE CONTEMPORARY STAGE

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Abstract: With the expansion of Globalization, international trade gains new importance on the global stage, offering a wider range of goods and services and becoming one of the decisive factors for a state's development. Thus, the role of regulating the flow of commercial exchanges becomes evident, especially with the increasing use of economic sanctions, which are employed as a tool to control political relations between major powers. While some agree that economic sanctions have proven to be one of the most diplomatic measures to resolve misunderstandings on the global stage, without resorting to armed force, others think that sanctions are only a tool to control less powerful states. Our paper aims to understand the effects of economic sanctions on a state in the contemporary period by analyzing trade relations between countries and the changes that occurred after the imposition of economic sanctions on a state. The research objectives are to provide a statistical analysis of the trade flows of a state before sanctions, identify the context in which a state was sanctioned, and determine the changes in trade policy promoted by a state after the imposition of economic sanctions. As a case study, we have chosen the Republic of Moldova and the analysis of its trade policy before and after sanctions.

Keywords: sanctions, trade policy, diplomatic instruments

JEL Classification: F13, F51, O24, P45

Introduction

After the Second World War, the establishment of *collaborative* diplomatic relations between the states of the world became more evident. Thus, many international organizations were created with the purpose to promote peace and security through a democratic interaction between states. It was during

that period that the foundations of the main standardization instruments, such as sanctions, were laid, whose role was to stabilize international regulations in multiple economic sectors of the states.

In our work, the definition and main classifications of sanctions are considered for a deeper understanding of their influence on the development of a state. The conceptualization is followed by the focus of our research being put on performing an analysis of the application of economic sanctions on the Republic of Moldova and their impact on the reorientation of the country's commercial policy as a consequence of the sanctioning process applied. Thus, by using statistical data, the evolution of import and export flows before, during and after the sanctioning period of the Republic of Moldova is represented.

Throughout the entire paper we tried to address the importance of economic sanctions in international relations, drawing attention to the idea that they are some of the most frequently used diplomatic tools for conflict resolution to avoid the use of armed force.

Methodology

1. *Analysis*: the theoretical analysis of sanctions is conducted to provide an authors' definition of them and understand their impact on a state's commercial fluxes.
2. *Case study*: the commercial situation of the Republic of Moldova, created due to the embargo of the Russian Federation is investigated to represent the impact of sanctions in changing the trade policy of a state.
3. *Comparison* of the statistical data which reflect the situation before and after the sanctions imposed on the Republic of Moldova were applied to highlight the major impact that sanctions have on a state.

Research results and discussion

The analysis of the specialized literature highlights the following definitions for the term "sanction". According to the opinion of Tău and Antoci (2021), sanctions are prohibitive economic measures imposed by international communities on the commercialization of goods, services or resources.

According to Geiran and Durnescu (2020), sanctions are those restrictive measures that restrain those suspected or criminals, limiting their freedom by certain conditions and obligations.

Jura and Buruian (2015) are of the opinion that international sanctions can be defined as restrictions and obligations between state governments, adopted by the UN Security Council, the EU, other international organizations or by state decisions, in order to maintain peace and international security. Thus terrorism is prevented, fundamental rights and freedoms are respected in the most democratic way.

According to Antoci (2018), the adoption of international sanctions regimes is an important tool for maintaining global peace and security. Sanctions are applied with the aim of determining the change of some activities or policies that do not conform to the standards of conduct and ethics shared by the international community.

In our opinion, *economic sanctions* are some of the most diplomatic measures to combat misunderstandings that have arisen in the global arena, without resorting to armed force. However, the sanctions could also be considered in another perspective: the sanctions often satisfy the political interests of the great powers, with a direct impact on the commercial, financial, touristic and cultural sectors of the less developed states.

According to the ASF (2024), at the international level, sanctions are divided into the following types:
o *Trade sanctions*. These can be perceived as sanctions that limit the import and export flows of the sanctioned state. In the first case, sanctions are imposed on products of major importance for the development of that state, being deficient. In the second case, the goods or services that represent the

main sources of commercial income of the state are sanctioned. One of the worst cases is represented by the limitation of both imports and exports, stopping all commercial relations between the state on which the sanctions are imposed and the one applying the sanctions.

- *Financial sanctions.* They become effective due to the high level of development of the financial market and the role it has for global economic development. Moreover, thanks to the digitization process, financial sanctions can be easily monitored and controlled, having a negative impact on FDI, depriving the sanctioned state of the right to credit.
- *Travel restrictions.* This type of sanctions can be perceived as the imposition of travel restrictions on certain influential persons of a state or on all persons holding the citizenship of the sanctioned state.
- *Sports, cultural, diplomatic sanctions.* They have a political impact, negatively affecting the visibility of the state and raising a negative opinion on the targeted state.

We have found that some of the most impactful sanctions are intended to constrain a state's trade. As Antoci (2018) points out, the most well-known forms of sanctions based on restrictions are:

- ✓ *Boycott* – the refusal of certain states or entities to participate in bilateral transactions on the commercial market. Often the trade flows of specific products that are in short supply for that state are boycotted.
- ✓ *Blockade* – total or partial isolation of a state, depriving it of the possibility to practice commercial relations with other neutral parties.
- ✓ *Embargo* – prohibition of imports and exports, retention, sequestration by a state of the goods of another state, in the ports or in the territorial waters of the country applying the restrictive measures. Among the economic sanctions, sanctions with the greatest impact are considered to be commercial and financial, due to the importance of the given areas to the countries' economies and the faster monitoring of the given areas.

The last Round of GATT negotiations in Uruguay became the longest trade negotiation in history. During that period, two major events took place that left a major imprint on the development of the world. The first of them was the fall of the Iron Curtain associated with the collapse of the USSR in 1991, and the second was the rapid rise of global economic systems, with new results being achieved within the GATT negotiations and the creation of the World Trade Organization in 1995.

According to Igler (2023), the completion of the Uruguay Round and the foundation of the WTO represent a victory for the multilateral trading system. Thus, maintaining peace, regulating trade differences, reducing the cost of living by liberalizing exchanges, offering a varied range of products for consumption, increasing trade revenues, have become crucial objectives, being controlled by the application of trade sanctions, standardized according to WTO principles.

As the analysis shows, the biggest players of the GATT-WTO that use its standards and principles as a pretext for applying the new sanctions are: the USA, the EU and Japan. Having based on the analysis of the data provided by C4ADS *Sanctions Explorer* (2024), we can see that one of the biggest authorities that applies the sanctions is OFAC (see figure 1). It represents the central apparatus for monitoring and sanctioning under the US government leadership. The applied sanctions in the world economy constituted a value of 75% for the period 1994-2024. The other two players that actively used the sanctioning mechanism were the EU and the UK with 7 % each, followed by Japan with 6% of the total amount of sanctions imposed until 2024. It is interesting to observe that the UN holds only

1% of the number of sanctions imposed. This proves that the most developed states have chosen sanctions to be used in their bilateral policy with other countries.

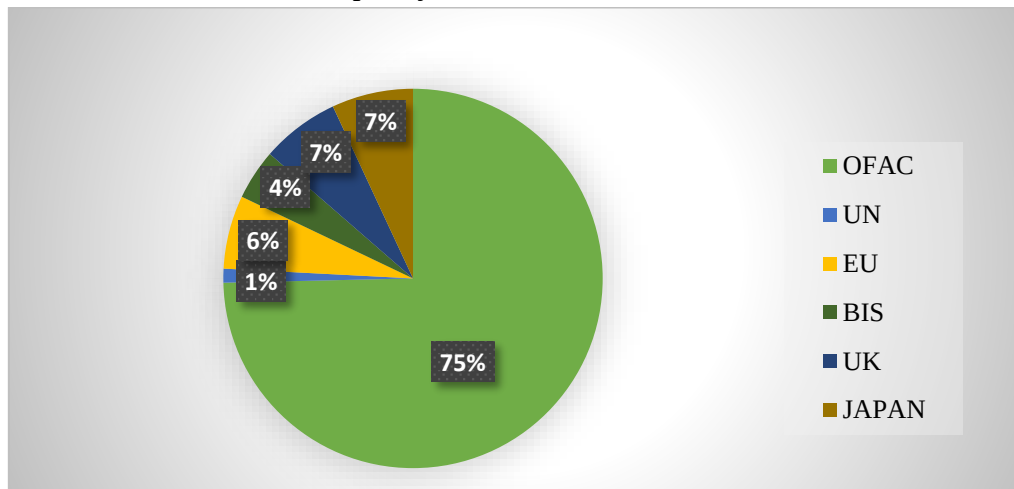


Figure 1. Application of sanctions in world economy in the period 1994-2024

Source: elaborated by the authors based on Sanctions Explorer, <https://sanctionsexplorer.org/analytics>

The figure 2 based on Vuksic (2024) *Castellum.AI Research*, demonstrates five most sanctioned countries in 2023.

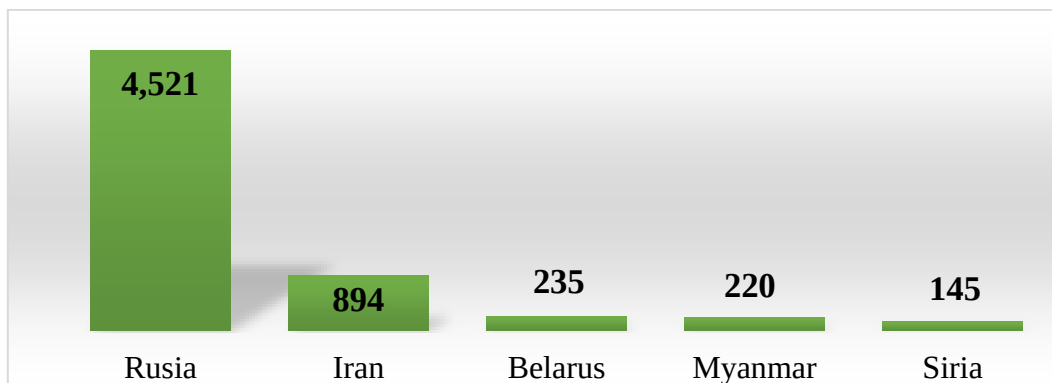


Figure 2. The most sanctioned countries in 2023

Source: Vuksic (2024) *Castellum.AI Research*. <https://www.castellum.ai/insights/2023-sanctions-year-in-review>

According to these data, we can see that Russia was the most sanctioned country in the world, followed by Iran and Belarus. We can mention that the reason for sanctioning these states was related to the need to weaken and penalize them by means of other states of the world as a reaction to their foreign policy.

The results of the application of sanctions: the case of the Republic of Moldova

The Republic of Moldova became a full member of the World Trade Organization in 2001. This important step signaled the country's readiness to comply with all WTO international standards. After gaining its independence in 1991, the Republic of Moldova adopted the free trade policy, collaborating openly with the members of the CIS states and the European Union. The country practiced the export of agricultural products, the predominant category being raw material products. The most considerable economic force of the CIS is represented by the Russian Federation. The Republic of Moldova has concluded numerous commercial agreements with that state in order to practice fair foreign trade:

- Agreement on Free Trade – 1993;
- The Treaty on Economic Collaboration between 1999-2008;
- The Moldovan-Russian Friendship and Cooperation Treaty – 2001.
- The Economic Collaboration Program for the years 2009 – 2020.

Another strategic commercial partner of R. Moldova was the European Union. The Moldovan-European cooperation accelerated with the year 2014, when the Republic of Moldova signed the Association Agreement with the European Union with the aim of intensifying the financial, technological and informational diplomatic collaboration of the signatory parties.

In the same way, the year 2016 was extremely important for the strengthening the relations between the Republic of Moldova and the European Union with the entry into force of the DCFTA. That agreement enhanced commercial relations between the parties by providing the necessary support for raising the quality of Moldovan commercial products, opening commercial markets, excluding taxes, and harmonizing related legislation.

Along with the increase of the cooperation of the Republic of Moldova with the EU, the Russian Federation has shown its dissatisfaction arguing that the strengthening of diplomatic relations between R. Moldova and the EU can lead to political instability and affect the national security of Russia. The following actions were taken by the Russian leadership:

- 2006-2014 - raising of natural gas prices by Russia;
- 2006 - the introduction of multiple sanctions against exports from the Republic of Moldova;
- 2013 - imposition of trade sanctions on wine and meat products;
- 2014 - the imposition of fruit sanctions.

All these sanctioning measures applied by Russia to the Republic of Moldova have a connection with the consolidation of the economic cooperation of the Moldovan state with the EU. Similarly, having analyzed the conditions of the sanctioning process, it becomes obvious that the majority of penal actions had a political character. Russia resorted to all the instruments to stop the European course of the Republic of Moldova, and the Russian pressures increased along with the dynamism of Moldovan-European relations.

Although, during many years, R. Moldova suffered enormous economic difficulties, increased by the Russian embargo, that international context initiated the reorientation of the Moldovan trade policy. Thus, even if wine production was almost stopped in 2006, in 2013-2014 the quality of Moldovan wines increased, which allowed the country to expand its wine exports to the markets of the USA, Germany, Poland and China.

In this context, having analyzed the international environment, one may determine some characteristics of economic sanctions, as a whole:

- Sanctions are a tool that involves the participation of the entire governmental force of a state to resolve their consequences;
- The cost of economic sanctions can be zero for the party that imposes them, and the enforcement process captures international public attention;
- Once imposed, economic sanctions can lead to consequences diametrically opposed to the objectives set by the state that initiates them.
- Sanctions can cause situations of political blackmail.

For example, in the case of the Republic of Moldova, we found out that the sanctions of the Russian Federation led to the deepening of Moldovan-European collaboration. As well as the fact that they catalyzed the support offered by the European Union to the Republic of Moldova, offering the opportunity to export Moldovan products to the European market.

Being subject to economic sanctions from the Russian Federation and signing the Association Agreement, followed by the creation of the DCFTA with the EU, the Republic of Moldova reoriented its trade flows towards the EU, limiting commercial collaboration with the Russian side and some CIS member states. The underlying reasons for the reorientation of trade practice were based on the desire to improve diplomatic relations with the EU, to reduce the influence of the Russian Federation on it and to benefit from the efficiency of the reduction of trade tariffs by the EU. Through European partners, the Republic of Moldova has improved the quality of its goods and their commercialization processes, and the new trade agreements have supported Moldova's national visibility in the global arena.

Thus, in figure 3 one can observe the dynamics of the trade of the Republic of Moldova with the CIS and the EU in the period of 2003-2023.

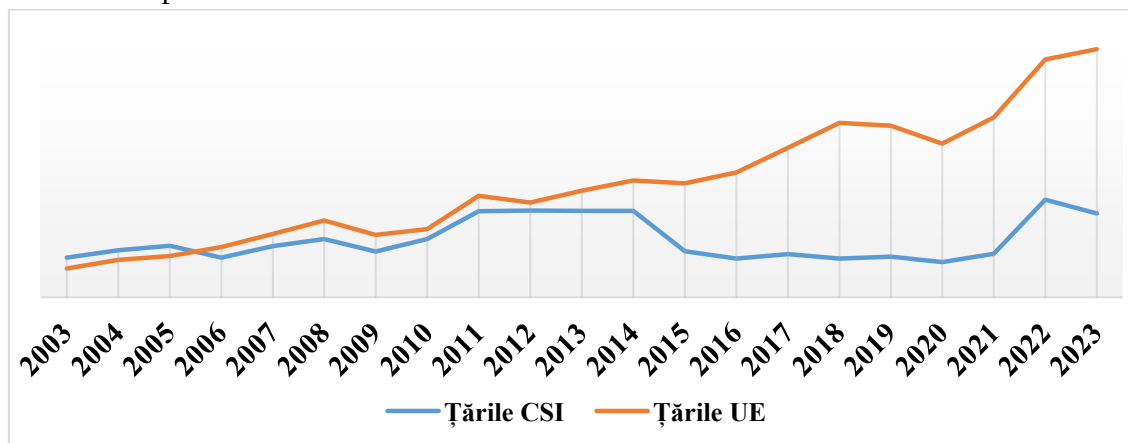


Figure 3. The effect of economic sanctions on the orientation of trade policy of the Republic of Moldova

Source: adapted by the authors based on National Bureau of Statistics of R. Moldova

https://statbank.statistica.md/pxweb/pxweb/ro/40%20Statistica%20economica/40%20Statistica%20economica__21%20EXT__EXT010__serii%20anuale/?rxid=b2ff27d7-0b96-43c9-934b-42e1a2a9a774

After obtaining its independence and until the 2000s, the Republic of Moldova had much more significant trade with the CIS countries than with the EU. This was due to the Free Trade Agreement with the CIS countries, as well as some inertia in trade relations established before the independence. Starting with year 2001, when the Republic of Moldova became a member of the WTO, the role of trade exchanges with the EU increased, although the dominance of trade flows destined for the CIS countries persisted. The imposition of the first embargo by Russia in 2006 changed the situation. Namely, since 2006, trade with the EU began to intensify, and in 2014-2015, it doubled as a result of the third wave of sanctions imposed by the Russian Federation on R. Moldova. This dynamic is preserved until now, after the Covid19 crisis, the rate of trade with European states reaching around 65%-70% annually.

Analyzing the total value of foreign trade of the Republic of Moldova, one can see that the commercial practice of the Republic of Moldova of the period 2003-2023 increased about 4 times (see Figure 4).

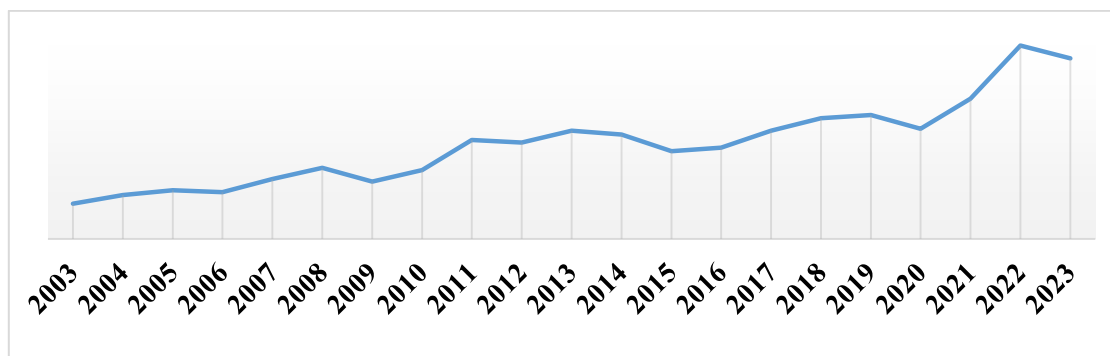


Figure 4. The total value of trade of the Republic of Moldova in the years 2003-2023

Source: adapted by the authors based on National Bureau of Statistics of R. Moldova

https://statbank.statistica.md/pxweb/pxweb/ro/40%20Statistica%20economica/40%20Statistica%20economica__21%20EXT__EXT010__serii%20anuale/?rxid=b2ff27d7-0b96-43c9-934b-42e1a2a9a774

If during the years 2003-2009 it had a slow dynamic, after 2016, when the DCFTA entered into force, Moldovan trade began to intensify, being affected only by the stagnation during COVID 19, after which it quickly recovered, and in 2022 doubled compared to 2020. This fact is also due to the commercial partners on the global arena, which appeared as a result of the diversification of foreign trade carried out by the Republic of Moldova in reaction to the sanctions imposed by Russia.

Conclusion

After the Second World War the economic sanctions were attributed the role of stabilizing international regulations in multiple economic sectors of the states. Increasing use of economic sanctions was explained by their interpretation, first, as a tool to control political relations between major powers, secondly, as the diplomatic measures to resolve misunderstandings on the global stage, without resorting to armed force. Most of the sanctions applied were commercial and financial, which directly influenced the economy of a sanctioned state. In the case of trade sanctions, the specific sanctions were imposed on deficient products, which directly influence the prosperity of the sanctioned state. Sometimes, sanctions became weapons of political control over less developed countries, being applied by the states with higher economic capabilities.

Economic sanctions often have unintended consequences for the parties involved, influencing their diplomatic relations, sometimes, in ways other than planned. In order to reduce the negative impact of sanctions on the economy, states can reform their trade policy by starting concluding new collaborative relationships with other parties. The newly established partnerships can become more profitable for the sanctioned states, thus favoring their development and, later, neutralizing the effect of the sanction.

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CONNECTING CIRCULAR INNOVATION ECOSYSTEMS THROUGHOUT EUROPE AND MOLDOVA

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Abstract

While easing its Euro-integration process, Moldova has increasingly placed importance on the adoption of circular economy practices as a means for achieving sustainability. The circular economy model, which prioritizes efficient use of resources, gives credence to the idea of reducing waste and is in line with the other initiatives implemented by the EU under the umbrella of sustainability. In this paper, we seek to address the issue of Moldova's membership in the European Union's (EU) Circular Innovation Ecosystems (CIEs) in particular how membership in these ecosystems influences Moldova's circular economy projects. The study employs qualitative methodology and utilizes data from EU-funded programmes, policy frameworks, and interviews with stakeholders based in Moldova and the EU. The overall aim of this study is to understand the status of Moldova, from the perspective of the CIE, its accomplishments, and the hurdles it has to overcome on the way toward becoming more open to an innovative economy. So far, the evidence indicates that Moldova has efficiently worked to bring her national regulatory regimes closer to that of the EU, securing financing for circular economy policies, and strengthening ties with EU states. Moldova has benefited from the regional policy, in particular, the Neighbourhood, Development, and International Cooperation Instrument – Global Europe, and in 2023 150 million Euros were allocated for energy security and environmental protection. In the same fashion strong ties with Romania and Germany have facilitated the flow of circular technologies into the country. This transition would ensure progressive and evolving growth of the economy, environmental protection, and better quality of life for individuals. Improving engagement among end users and managing operational hurdles help enhance Moldova's coherence with EU CIEs and accelerate change in the economy in the direction of circular.

Keywords: Circular Economy, Innovation Ecosystems, Moldova, EU Integration, Sustainable Development, Comparative Advantage, Stakeholder Collaboration

JEL Classification: F10, F18, F63, F21, F59, O19

1. Introduction

The irresponsible consumption of resources, degradation of the environment, and climate change particularly in the European landscape have contributed to the demand to accelerate the changeover to a circular economy. Assessing that as an imperative for change, the EU felt obliged and made considerable progress in building circular innovation ecosystems that engage businesses, researchers, and policymakers. With its distinct geo-strategic setting and economic challenges, Moldova needs to get a chance to fit into this European network and make use of the principles of the circular economy for sustainable growth and development.

The circular economy paradigm represents an evolution from a linear model of “take-make-dispose” to a model that is regenerative, efficient, and desirably zero-waste in nature, where the basic principle is to keep resources in use for as long as possible and avoid new extraction. This includes redesigning existing products and business models, encouraging recycling, repair, and reuse of products, and innovating in resource efficiency in the ecosystem.

Moreover, a CIE is supported by conducive investment policies and governance frameworks that encourage sustainable practices and enhance collaboration among diverse actors. This comprehensive approach aspires not only to drive economic development and innovation but also to promote social equity and environmental sustainability, thereby contributing to a robust and adaptive economic structure that emphasizes long-term value creation over immediate profit maximization.

In the European Union (EU), circular innovation ecosystems have been a key focus of policy and action in recent years. The EU's Circular Economy Action Plan outlines a comprehensive strategy to transition towards a more circular economy, emphasizing the importance of innovation and collaboration (European Commission, 2020)

Circular Innovation Ecosystems (CIEs) are collaborative networks of organizations that work together to promote circular economy principles and practices. By fostering innovation, resource efficiency, and minimizing waste, they have established a reputation for being of great importance to the transition.



Figure 1: Circular Innovation Ecosystems

Source: Elaborated by the Author based on Bertassini, L., Gardetti, M. A., & Iraldo, F. (2023)

The Circular Innovation Ecosystems (CIEs) have these essential elements that are interconnected and interdependent, and their effective interaction is crucial for their progress and success. As illustrated in Figure 1, by fostering collaboration, innovation, resource efficiency, and waste reduction, CIEs can contribute to a more sustainable and resilient future across the European continent

Here's how the eight key elements of CIEs interact:

1. Stakeholders:

- Stakeholders collaborate to share knowledge, resources, and best practices, leading to more effective circular economy initiatives.
- Stakeholders work together to identify and develop innovative solutions to circular economy challenges.
- Stakeholders influence the development and implementation of policies and regulations supporting circular practices.

2. Collaboration:

- Collaboration facilitates the exchange of knowledge and expertise among stakeholders, leading to better decision-making and problem-solving.
- Collaborative efforts can optimize resource utilization and reduce waste.
- Collaboration can foster innovation by bringing together diverse perspectives and expertise.

3. Innovation:

- Incorporating circular design principles into the product development process significantly enhances the potential for achieving sustainability throughout the product's life cycle.
- The adoption of design strategies that prioritize reuse, repair, and recycling leads to optimization in circular design systems.
- Innovative technologies encompass energy-efficient manufacturing practices and intelligent material usage strategies

4. Resource Efficiency:

- Innovative technologies, whether they are physical, chemical, or digital, can enhance the efficiency of waste management processes, including composting, recycling, and energy recovery.
- Circular design principles promote the enhanced recovery of materials and the creation of more resource-efficient products

5. Waste Reduction:

- Circular design aids in conceiving products in such a manner that less material and energy are needed.
- Through design for ease of disassembly and recyclability, the circular principles contribute significantly to waste minimization
- This approach can foster the development of new products and business models, as it allows for a broader scope of design possibilities

6. Product Design:

- This approach emphasizes a commitment to eschewing the production of goods intended for rapid consumption, which adversely affects the environment, in favor of more resource-efficient alternatives.
- By minimizing material and energy usage during the design phase, products can attain a more sustainable nature.
- Moreover, designing products with considerations for easy disassembly and recyclability, as well as for repairability, can significantly reduce waste.
- Circular design acts as a driving force for innovation, encouraging the development of novel product concepts and business models.

7. Supply Chain Management:

- Good supply chain management helps in minimizing waste and optimizing the use of available resources.

- Active engagement of every player in the supply chain is an important requirement for the success of circular practices.

- Emerging tools can also be applied in supply chain management to disrupt waste generation.

8. Policy and Regulatory Framework:

- Policies and regulations if well structured can encourage industries to practice circularity.
- Breaking the regulatory obstacles could potentially increase the support for the implementation of many proposed circular economy activities.
- Policymakers can seek the engagement of various stakeholders in designing appropriate policies to enhance the circular economy.

After completing the discussion of the elements, it is essential to appreciate the different types of CIEs that exist, each having a distinctly defined scope and constituency. The key typologies of CIEs were captured in the figure 2, elaborated by the author based on the references, which include:

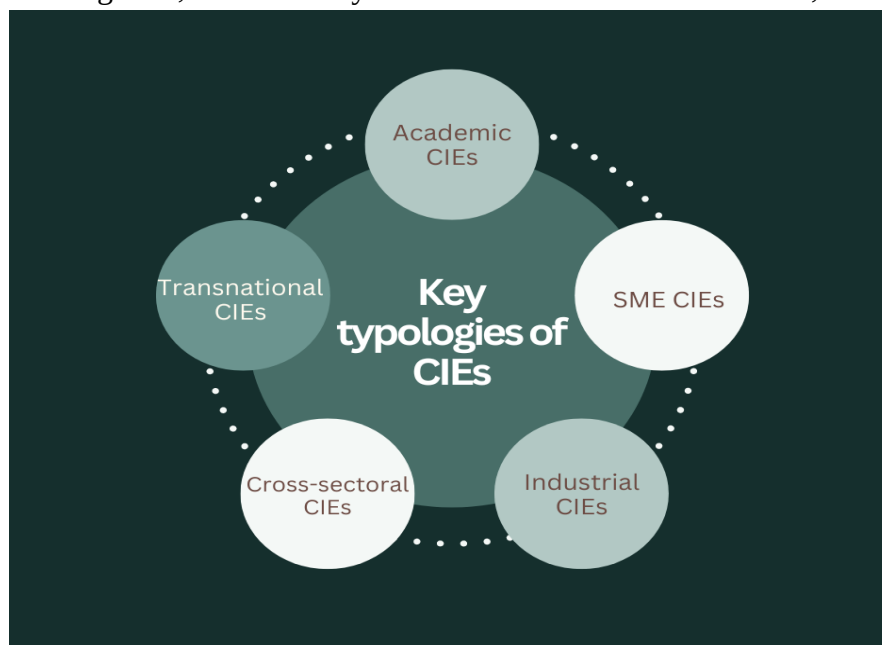


Figure 2: Key Typologies of CIEs

Source: Elaborated by the author based on the European Commission's 2015 Circular Economy Package, 2020 Green Deal, 2021 Action Plan, 2023 Stakeholder Platform, and TEXDAN's 2024 initiative.

Key typologies of CIEs:

- **Academic CIEs:** These ecosystems are centered around universities and research institutions, focusing on developing knowledge, conducting research, and educating future generations about circular economy principles. Among exemplary models are the Circular Economy Centre at the University of Cambridge and some initiatives are run with the support of the Technical University in Moldova
- **SME CIEs:** These ecosystems involve clusters of small and medium-sized enterprises collaborating on circular initiatives like resource sharing, innovative product design, and joint marketing strategies. Forefront runners establishing good practices and funding circularity shifts of businesses are West Midlands Combined Authority (WMCA) with their Community Environment Fund, Circular Economy Hub in Eindhoven, Netherlands of the Eindhoven University of Technology and Moldova joining the EU LIFE program allows for funding of SMEs in their process of becoming more circular and sustainable.

- **Industrial CIEs:** Large companies form the core of these ecosystems, working with suppliers, customers, and research institutions to implement circular practices within their supply chains and production processes. One of the large corporations that have assumed the transition is IKEA, stating that they commit to “secure the future of the IKEA business and value chain, and the livelihoods of the millions of people that contribute to it.”
- **Cross-sectoral CIEs:** These ecosystems encompass a diverse range of stakeholders, including businesses of all sizes, research institutions, government agencies, and NGOs, working collaboratively to develop comprehensive regional or national circular economy strategies. Circular Copenhagen's commitment to working collaboratively with all key stakeholders, both national and international, in industrial and academic settings, to help support this shift to circularity and sustainability makes it a role model for other CIEs.
- **Transnational CIEs:** These ecosystems involve collaboration across national borders, bringing together stakeholders from different countries to address shared challenges and opportunities. These can develop a variety of forms be it around a value chain such as TEXDAN (TEXDAN, 2024), which is a transnational CIE focused on promoting circularity in the textile and fashion value chain or the European Circular Economy Stakeholder Platform (EC,2023) set up as “a joint initiative by the European Commission and the European Economic and Social Committee (EESC) in March 2017” is focused on circular economy promotion throughout the European continent.

These typologies of CIEs demonstrate the diverse range of approaches and stakeholders involved in driving the transition to a circular economy. By understanding these different types of ecosystems, policymakers, businesses, and other stakeholders can identify the most appropriate models for their specific needs and goals.

The EU as a Catalyst for CIE Development

A key driver of CIEs has been the EU's comprehensive Circular Economy Action Plan, which outlines a strategic roadmap for transitioning to a circular economy. This plan has provided a clear direction and set ambitious targets for reducing waste, promoting resource efficiency, and fostering innovation. Accordingly, Table 1 examines notable policies that foster CIEs in the European Union, revealing how complex it has been to implement circular economy principles.

Table 1: Drivers for CIE development in the European Union

Drivers	Description
Circular Economy Action Plan	Outlines a strategic roadmap for transitioning to a circular economy.
Waste Management Legislation	Encompasses regulations like the Waste Framework Directive, Packaging and Packaging Waste Directive, and End-of-Waste Regulation.
Product Policy	Promotes sustainable product design, ecodesign requirements, extended producer responsibility, and the right to repair.
Resource Efficiency	Encourages measures to improve resource efficiency in energy, water, and materials.
Financial support	Offers various support mechanisms for SMEs and industrial symbiosis
Research and Innovation	Supports research and development through programs like Horizon Europe.
Capacity Building	Promotes the development of circularity and sustainability professionals in different
International Cooperation	Collaboration among nations is facilitated through the sharing of knowledge.

Source: Elaborated by the author based on the mentioned EU legislation and Alberich, J. P., 2022

When the Circular Economy (CE) is viewed from the lens of policy areas (Alberich, J. P., 2022), it is evident that other policy frameworks such as this may help implement CE by reconstructing the regular processes:

- **Waste Management Frameworks:** To ensure the minimization of waste and maximization of recycling and recovering activities, proper waste management frameworks are within the CE approaches as needed for a resilient Europe. The European Union (EU) has introduced key policies, including the Waste Framework Directive (Directive 2008/98/EC), the Packaging and Packaging Waste Directive (Directive 94/62/EC), and the End of Waste Regulation (Regulation No. 333/2011), which aim to encourage recycling, reuse, and the prevention of waste (European Commission, 2020a). Furthermore, the Circular Economy Package (2015) obliges member states to take all necessary steps to meet constitutional goals for increasing the recycling rate and promotes measures for the prevention of waste generation through sustainable management of waste (European Commission, 2015). Together these frameworks intend to adjust waste management systems to be more sustainable, less dependent on landfilling, and more effective in resource recovery.

- **Product Policy Frameworks:** The EU has put in place substantial policies that promote the designing and making of sustainable goods. Policies like the New Circular Economy Action Plan (2020) stress the importance of the sustainability of every product throughout its lifecycle starting from the design stage (European Commission, 2020b). The Sustainable Products Initiative (2021) complements this even more by adding more requirements to products under importation to the EU so that they do not adversely affect the environment and promote CE's aims (European Commission, 2021). Ecodesign requirements, extended producer responsibility schemes and the right to repair stimulate technology development and push companies to be more environmentally conscious about their product design and development.

- **Resource Efficiency Frameworks:** Resource efficiency is fundamental to the EU's transition towards a CE, as has been formulated in the European Green Deal of 2019. This approach highlights the role of decreasing resource use and enhancing environmental measures in different sectors for climate neutrality (European Commission, 2019). Further, the EU Biodiversity Strategy for 2030 containment of resources emphasizes their efficient use and ecosystems' conservation, which makes this equally in consonance with the CE objectives (European Commission, 2020c). Energy efficiency authority in various industries is bolstered through directives like the Energy Efficiency Directive (Directive 2012/27/EU) and Water Framework Directive (Directive 2000/60/EC) which promote efficiency for energy and water consumption which are crucial for resilience and sustainability in various industries.

Collectively, the three frameworks represent a toolkit that can be utilized to enhance waste management practices, foster sustainable product development, harmonize resource efficiency on all volumes, and target the EU states with the transition towards a circular economy.

Besides these policy frameworks, the EU has also made a notable contribution to research and innovation efforts related to the circular economy. The financial support for the initiatives related to the circular economy has been made available through various funding schemes. Circular technologies research and development are funded under Horizon Europe whereas the European Regional Development Fund finances projects concerning the circular economy at the regional level. The Cohesion Funds are oriented towards less developed areas of the EU and aims at promoting

environmental protection and balanced growth. It is such funding mechanisms that contribute greatly to the development of CIEs across Europe.

The above-mentioned instruments have also contributed to capacity building in the circular economy through various initiatives, including training programs, knowledge-sharing platforms, and research projects, contributing to a strong foundation for circular economy initiatives across Europe

Since 2011, the EU has established an activity on a number of issues relating to the circular economy in the international cooperation context involving both countries of the EU and other countries. In doing so, knowledge and practices would be combined, and under the aegis of EU countries circular economy principles would be fostered, including global collaboration networking creating an opportunity for addressing the circular economy agenda.

The lion's share of work done by the EU in addressing the issues of circular economy can be attributed to its broad policy of expansion of CIEs across the European continent. The cohesion of the EU's policy framework, provision of financial allocation, implementation of research and innovative activities as well as achieving international ties have connected the dots for the businesses and other entities to embrace circularity and make the world more sustainable.

Methodology

To analyze the effectiveness of circular economy policies in landscaping within the TEXDAN project, the author conducted a document analysis with surveys and interviews to assess the performance of circular economy initiatives. To that end, an analysis of the selected policy frameworks, reports, and strategic documents related to the TEXDAN project and circular economy in Moldova was conducted. To empirically capture the experiences, challenges, and perceptions of SMEs on circular initiatives, they were sampled and surveyed for the quantitative aspect of the study. Furthermore, semi-structured interviews were held with major target respondents of the Ministry of Environment, the SME Agency, and selected non-profit organizations involved with circularity promotion. This triangulation was meant to investigate how the existing policies and the views of different stakeholders, including circular economy policymakers, would increase the potential for partnership among the various sectors. This Multi-dimensional analysis therefore provides insight into the role of policy, practice and stakeholders in the implementation of circular economy initiatives in Moldova.

Moldova's Circular Economy Journey: Findings and Conclusions

Moldova's participation with the European Union's (EU) Circular Innovation Ecosystems (CIEs) has catalyzed a transformation in perspectives, fostering essential support for the progression of circular economy initiatives. Through its active involvement in EU-funded projects, partnerships with European stakeholders, and the alignment of national regulations with EU standards, Moldova has garnered substantial knowledge, expertise, and resources for furthering its circular economy agenda.

Findings

- Moldova has done quite well in terms of obtaining finances for its circular economy programs. Bringing itself into compliance with EU standards and growing economically and politically is a clear demonstration of its intent to harmonize with them. Having become a candidate country in June 2022, Moldova has already benefited from specific EU-funded tools such as the Neighbourhood, Development and International Cooperation Instrument -Global Europe (NDICI-Global Europe), which provided 150 million Euros of financing for energy security and environmental protection in 2023.

- With most EU member states, especially Romania and Germany, Moldova has built up strong bilateral relations that influence joint efforts and the transfer of circular economy emerging technologies (ET) practices. Programmes such as TAIEX and Twinning have added to the unblocking of bottlenecks in the administrative dimension of cooperation and implementation of the EU's legislative framework and best practices.
- Most of the activities that Moldova undertook like building networks with the Circular Economy Network and the EU Environment Program made it possible to build up the country's capacity, expose it to best practices, and foster environmental governance. These networks assisted Moldovan SMEs in implementing Resource Efficient and Cleaner Production (RECP) methodologies increasing competitiveness and sustainability.
- As a result of partnerships with universities from the EU, Moldova has been able to promote such research and innovations as the circular economy which complements social capital and social knowledge. These partnerships are reinforced by the strategic placing of Moldova in projects such as the one under the LIFE Programme on 'Circular Economy and Quality of Life' which deals with environmental and climate-related projects
- Moldova's attempt to bring into coalescence its regulatory framework with those of the EU such as the Green and Circular Economy Promotion Program for years 2024-2028 has enabled the country to practice and integrate sustainable business operations and increased penetration into EU markets. Recently, initiatives like the European Commission Growth plan of €1.8 billion for Moldova have been able to further emphasize its commitment to reforms and development of projects under circular economy concepts.

Moldova's links with Europe's circular innovation ecosystems (CIEs) allow the country to leverage valuable resources and expertise by strengthening these links and using effective strategies Moldova can significantly accelerate the transition to a circular economy.

As part of national development plans and policies, Moldova should prioritize initiatives related to the circular economy. Because it provides strategic forecasts regarding future independence from external resources. Investing in infrastructure and technology can create additional benefits for adopting circular practices, such as waste management facilities. Renewable energy sources for optimal management to drive innovation and a supportive environment for circular economy initiatives across government, business and academia. and civil society organizations. Working together across government, businesses, universities, and civil organizations is key to encouraging innovation and supporting circular economy efforts. Advocating for the benefits of a circular economy and getting consumers involved is crucial for increasing demand for circular goods and services. Finally, it is essential to continuously monitor progress and adapt strategies to ensure effective implementation and address emerging issues

In conclusion, moving towards a circular economy environment as such has several competitive advantages for Moldova:

- Sustainable Development – Creates opportunities to reduce waste and pollution, and develop and conserve energy and resources.
- Economic Growth – Creating opportunities for new businesses, jobs, and revenue streams in different sectors of the economy.
- Improved competitiveness – Enhancing competitiveness on a global level with the help of innovative and newer versions of circularity.

- Improved Quality of Life – The effect on the citizens when on economy increases so does other measures such as pollution and environmental quality.

By forcefully implementing the above measures, Moldova would be at the forefront of the global circular economy and derive all the advantages that a sustainable economy boasts of such as economic growth, environmental development, and improved standards of living for her citizens.

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SESSION IV.

CARPE SCIENTIAM: THE EVOLUTION OF SOCIAL AND HUMAN SCIENCES IN THE KNOWLEDGE ECONOMY

SOCIAL INEQUALITY IN MOLDOVA AND ITS IMPACT ON DEVELOPMENT

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Abstract: Social inequality is a phenomenon characteristic of all societies, regardless of their degree of development, because wealth and income are not and cannot be equally distributed among the members of these societies. Inequality is a natural social phenomenon of human existence that must be fought only if it does not contradict the principles of social justice in society. Social inequality can also be a consequence of the manifestation of different forms of discrimination. In recent years, against the backdrop of the economic growth trends recorded by the Republic of Moldova, an improvement in the quality of life has been observed. This is manifested both by the increase in the population's disposable income and wages, as well as by the increase in the population's standard of living. However, both inequality and inequity persist in income distribution. This remains, for now, an unsolved problem that risks turning into a characteristic feature of the economic development model of the Republic of Moldova.

The contemporary perspectives of economic development in the Republic of Moldova generate a series of social inequalities that implicitly lead to the inhibition of sustainable development in the country. The analysis of inequalities, the highlighting of the sources of inequality, as well as the ways to overcome them represent the basic purpose of this article.

Keywords: social inequality, discrimination, poverty, social exclusion

JEL Classification: I30

1 Introduction

Social inequality is a phenomenon characteristic of all societies, regardless of their degree of development, because wealth and income are not and cannot be equally distributed among the members of these societies. People, in essence, are different, have different skills and talents and therefore contribute differently to the production of national wealth. Inequality is a natural social phenomenon of social existence that must be fought only if it does not contradict the principles of social justice in society. Social inequality can also be a consequence of the manifestation of various forms of discrimination, in the situation where a group of people, for example women or people with disabilities, is treated at a disadvantage, unfairly compared to other members of society. For this reason, policies to combat social inequalities must be oriented not so much towards "levelling" society as towards overcoming any forms of inequality that can lead to poverty, social exclusion and compromising development.

During the last years, against the background of the economic growth trends registered by the Republic of Moldova, an improvement in the quality-of-life situation is observed, this is manifested

both by the increase in the disposable income of the population and wages, and by the reduction of the poverty level. However, the inequality and inequity that persists in the distribution of income remains, for now, an unresolved problem that risks turning into a permanent feature of the Moldovan development model.

The contemporary prospects of economic development in the Republic of Moldova generate a series of social inequalities that lead, implicitly, to the inhibition of sustainable development in the country. The analysis of inequalities, the highlighting of the sources of inequality, as well as the ways to overcome them represent the basic purpose of the given article.

2. Social inequality in the Republic of Moldova

During the last years, against the background of the economic growth trends registered by the Republic of Moldova, an improvement in the quality of life situation is observed, this is manifested both by the increase in the disposable income of the population and wages, and by the increase in the standard of living of the population. However, the inequality and social inequity that persists in the distribution of the population's income remains, for now, an unsolved problem that risks turning into a characteristic feature of the Moldovan economic development model. Inequality in the distribution of income in the Republic of Moldova manifests itself in several forms: by region, by residence, by field of activity, by sex, by age group, etc. thus dividing society into rich and poor. On the other hand, inequality can also be based on income or wages, the structure of consumption, as well as access to various social services. Inequality can lead to deepening social tensions, with dramatic social economic and political consequences. The difference between the rich and the poor is increasingly noticeable, and this situation in itself carries risks for the economic, social and political balance in the country, as well as for ensuring a perspective of sustainable human development.

During the last 10 years, the economy of the Republic of Moldova has had a rather tortuous evolution, registering an increase of only about 17%, being affected by several challenges, such as: the COVID-19 pandemic, the war in Ukraine, the energy crisis, periodic droughts, etc. According to the data of the National Bureau of Statistics, in 2022 the Gross Domestic Product amounted to 274.2 billion lei in current prices, decreasing (in real terms) by 5% compared to the previous year. Other factors that determined the economic decline were also present in previous years, namely political instability. As a result, economic activism decreased, which also led to a decrease in the main economic indicators. The analysis of the main economic indicators highlights the sensitivity of the economy of the Republic of Moldova to external and internal shocks, from the current period (Figure 1). On the other hand, the unequal distribution of the contribution of each region to the formation of GDP should also be mentioned. The largest contribution to the formation of the GDP of the Republic of Moldova is made by the municipality of Chisinau, constituting about 60.4% of the total, which reflects a pronounced inequality in the development prospects of the regions of the Republic of Moldova. (Figure 2.). Such inequality in development has a strong impact on the increase of social inequality of the Moldovan population and some unfortunate social processes.

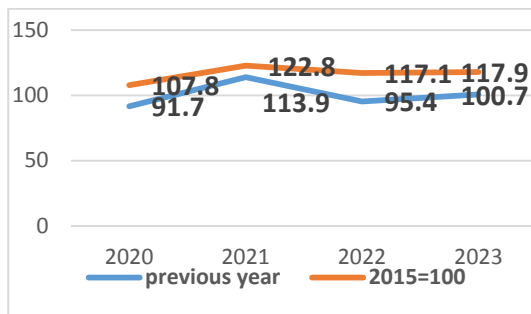


Figure 1. Gross domestic product volume indices (%)

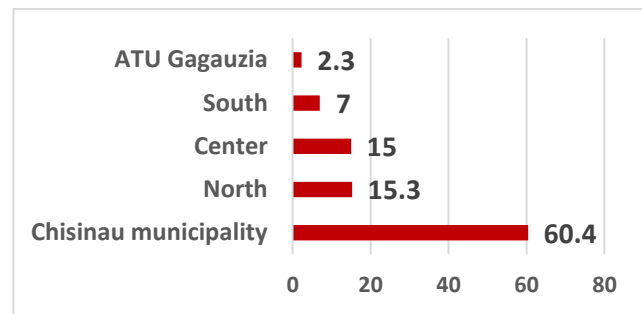


Figure 2. Contribution of development regions to GDP formation in 2021 (%)

Source: NBS

In general, social inequality is a phenomenon characteristic of all societies, regardless of their degree of development, because wealth and income are not and cannot be equally distributed among the members of these societies. People, in essence, are different, have different skills and talents, and therefore contribute differently to the production of added value. Inequality is a natural social phenomenon of social existence that must be fought only if it does not contradict the principles of social justice in society. Social inequality can also be a consequence of the manifestation of various forms of discrimination, in the situation where a group of people, for example women or people with disabilities, is treated at a disadvantage, unfairly compared to other members of society. For this reason, policies to combat social inequalities must be oriented not so much towards "leveling" society according to income, but towards providing equal opportunities to all members of society to ensure a decent living, eradicating poverty, social exclusion, and ensuring sustainable development.

Although in recent years, the Republic of Moldova has registered some progress in the field of increasing the income of the population, the situation in this chapter is still quite uncertain. The incomes of the population in the Republic of Moldova continue to be the lowest in the region, qualifying the Republic of Moldova as the poorest country in Europe.

From 2019 to 2023, the average disposable income of the population increased significantly - by 63.1%, from 2722.5 lei to 4440.9 lei. At the same time, there is also an increase in the discrepancy between the incomes of the urban population compared to those of the rural population - from 18.5% in 2019 to 21.3% in 2023, which causes an increase in social inequalities between the population from the rural environment compared to that from the urban environment (Figure 3).

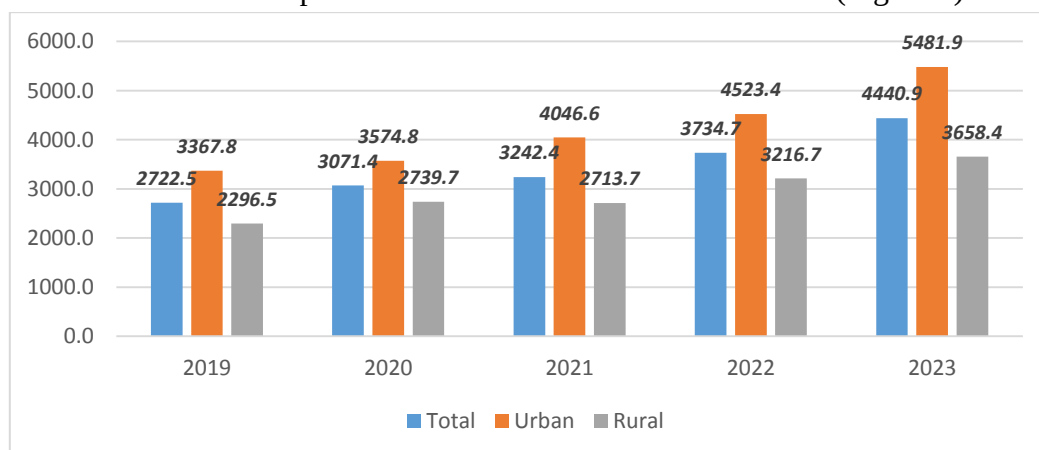


Figure 3. Average monthly disposable income of the population, 2019-2023, lei

Source: NBS

Against the background of the persistence of inequalities by income, the Gini coefficient registers an increasing trend, especially in the urban environment. Thus, from 2014 to 2023 the Gini coefficient, the main indicator of inequality by income, increased from 0.3257 to 0.3356, including in urban areas from 0.2994 to 0.3433. It should be noted that in the same reference period the Gini coefficient in the rural area registered a decrease from 0.3275 to 0.2918 (Figure 4).

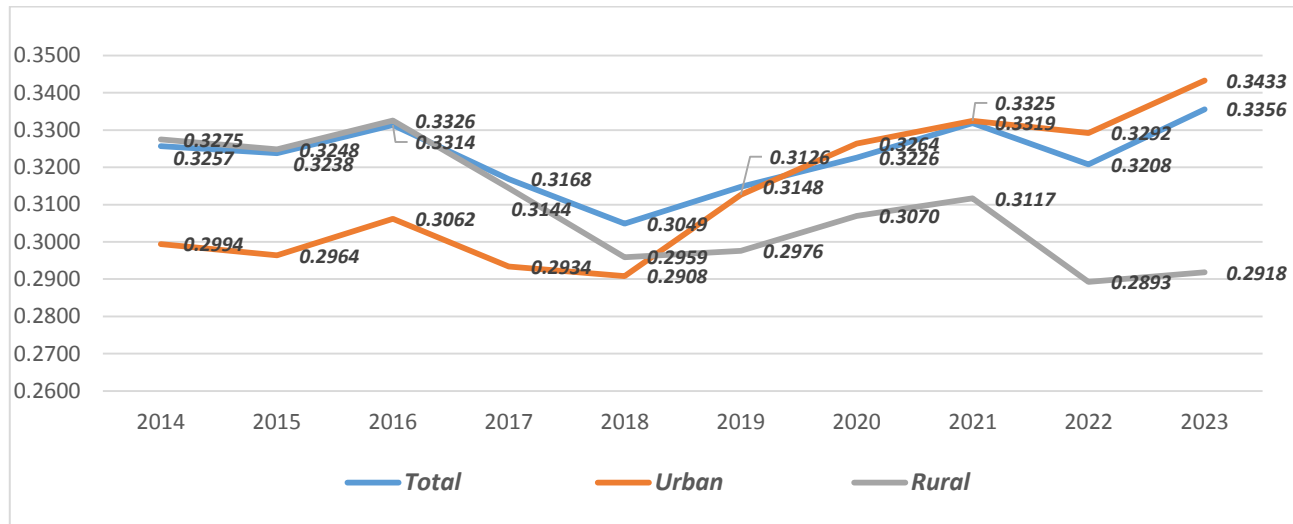


Figure 4. The GINI coefficient on the disposable income of the population of the Republic of Moldova
Source: NBS

Inequalities are also reflected in the subjective assessment of the standard of living by residence. Thus, according to Figure 5, the share of those who rate their standard of living as good or very good is about 2 times higher, 21.5% in the urban environment compared to 10.2% in the rural environment. While the share of those who rate their standard of living as bad or very bad is 9.2% in the urban area compared to 11.5% in the rural area (Figure 5).

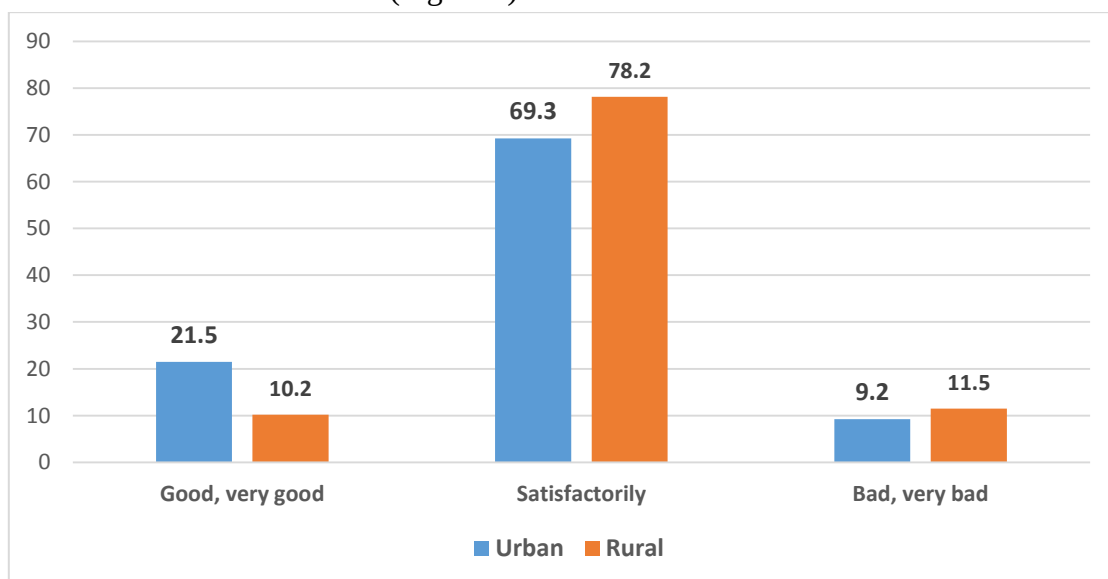


Figure 5. Estimation of the standard of living, by residence, in 2023
Source: NBS

The inequalities that persist are accentuated, in particular, in the unequal access to basic social goods and services, which is reflected in the consumption pattern of various groups of the population. The main expenditure chapters remained largely unchanged. The population spends about 40% of resources on food products. At the same time, the share of food consumption in rural areas is much higher than the share of food consumption in urban areas: 45.4% versus 34.9%.

And the grouping of households by socio-economic status indicates significant differences in the level and structure of expenses. The lowest level of expenditure is observed in households of self-employed agricultural workers and pensioners. At the same time, these households also spend the most on food consumption (respectively, 45.2% and 47.3% of total consumption expenses), while salaried households allocate about 40% of monthly expenses.

3. The sources of social inequalities in the Republic of Moldova

In general, any society determines its own typology of inequalities, as well as the sources that lead to inequality, being largely determined by economic, social and cultural factors. There are two factors that feed the processes of stratification and form economic inequalities in society: the individual, physiological and psychological characteristics of the members of society (sex, age, family status, individual preferences, professional skills, level of training, personality), and on the other hand the distribution mechanism of the global product created by society. In the same context, we can also mention the various forms of direct discrimination that persist in society and ensure unequal access to resources for certain groups of the population.

For the Republic of Moldova, a young state, in full process of consolidating an independent economy, based on the principles of the market economy, the processes of forming the new social structure and, respectively, the new inequalities are proceeding quite dynamically. The sources of these inequalities arise both from the existing economic and social reality, and from some factors, inherited from the socialist economy, based on planning, centralization and state ownership.

Despite the efforts made by the state in establishing a "homogeneous" society according to social status, equal according to income and fair, it cannot be said that inequality does not exist in socialism. Social inequality in the socialist economy was determined, first of all, by the differentiated access to goods and services in a deficit economy, as well as the social position occupied by members of society in the process of distribution of scarce goods. Through its leveling content, the wage policy was extremely unfair, by unjustifiably favoring the "new bureaucratic and political nomenclature". This fact caused the decrease in economic motivation, the stagnation of labor productivity growth that led to a decline, and later, to an economic collapse. The precarious situation in the economy was also accompanied by the inefficiency of the educational systems, based, rather, on the motivation of individuals to climb the social ladder (careerism), rather than to increase their performance and professional competitiveness.

Against the background of relatively homogeneous incomes and equal and free access to social services for all members of society, a set of inequalities crystallized in socialism, the manifestations of which are still visible today. The main sources of inequality in the socialist economy can be considered the following:

The underground economy. Although the underground economy was hard fought, being affected and the entrepreneurial spirit, it took uncontrollable proportions, and was manifested, first of all, through various activities that operated with market mechanisms (clandestine industries, bussiness, car repair,

meditation services, tailoring, rentals, etc.). The "informalization" of the socialist economy was largely due to the failure of the formal economy to provide the population with consumer goods and services. Obviously, people who carried out activities related to the underground economy were in a more advantageous position compared to other people, obtaining much higher incomes and, respectively, more goods than those offered by the official economy. Moreover, the traditions characteristic of the underground economy are also observed in the contemporary economy of the Republic of Moldova, taking on particularly large proportions, being generators of the phenomenon of corruption, tax evasion, etc.

State privileges granted to certain categories of persons. These privileges were manifested through the access to various scarce goods and services of a higher quality for the elite members of the socialist society in the conditions of a deficit economy, access from which the other members of the society did not benefit. As a rule, these were party leaders or people involved in the decision-making process (directors of state institutions, high-ranking civil servants, etc.). In a privileged situation were also the people who were directly involved in the distribution of scarce products (commercial workers, restaurant and hotel managers, etc.). The tradition of "state privileges" persists today and manifests itself in other forms.

Social policy. To a large extent, the welfare system under socialism consisted of mechanisms that made citizens dependent on the system and discouraged them from taking responsibility for their lives. As such, socialist social policy was an integral part of the economic system based on the principle of centralized planning in which the party (the political elite) coordinates the lives of millions of people, and played the same leveling role of constraining individual autonomy as economic policy. Currently, the traditions of dependence of vulnerable people on the state persist. A large part of the population believes that the state is obliged to provide them with a decent standard of living regardless of the efforts made by the people in ensuring its well-being. At the same time, in the situation where the state does not have the necessary financial capacity to satisfy all the needs of vulnerable people, the social benefits they grant are not able to ensure a decent living.

In the conditions of the period of transition to the market economy, these sources of inequalities inherited from socialism were supplemented with new ones, specific to the period of transition to the market economy, among which:

Privatization processes. Although the privatization processes were carried out according to a formula considered fair, most of the people who participated in the privatization process were left with only paper receipts, while a small part of the population became the owners of quite significant fortunes. Thus, privatization, generating inequalities, also led to major inequities in society.

International labor migration. As such, international labor migration, which registered an imposing intensification in the last 20 years, led to the overcoming of several economic and financial problems faced by families in the Republic of Moldova. Thanks to international labor migration, the level of poverty has been reduced. At the same time, international labor migration has also led to the increase of inequalities in society, especially in rural communities where the problem of poverty is much more pronounced than in urban communities. Inequalities arise between people who have the possibility to migrate to work abroad and those who do not. Another social problem that accompanies international labor migration is children and the elderly left without care, a problem that also generates inequality, discrimination, poverty and social exclusion.

Unjustified discrepancy between the level of salaries in various sectors of the national economy. The huge differences between the salaries of workers in various sectors of the economy are a characteristic feature of contemporary Moldovan society. The liberalization of the wage policy, the mechanism of the market economy in the process of formation, the lack of an adequate competitive environment - led to the unjustified inflation of wages in some sectors at the expense of other sectors, which led to the increase of inequality, respectively, social inequity. While workers in the banking-financial sector earn quite generous salaries, workers in the budgetary sphere (doctors, teachers, civil servants) whose qualification and social importance are no less, have unjustifiably low incomes. The created situation leads to huge staff turnover, as well as a shortage of qualified workers in these social sectors extremely important for the social balance in the country. Such a situation leads to the compromise of economic and social security.

Both social inequality and social justice are phenomena closely related to the concept of human development. Emerging from the definition of human development, it can be stated that it cannot take place in the situation where social inequalities and inequity persist, which lead to poverty and social exclusion. However, human development represents a process of expanding people's capacities to make choices in all areas of human life - economic, social, political, etc., while inequalities are what constrain people's ability to choose, a fact that leads to inequity, social imbalance and therefore causes a lack of human development.

Conclusion

As a conclusion, it can be mentioned that the successes of the Republic of Moldova in terms of development and social inequality are relatively modest. A major cause relates to the non-sustainable model of economic growth based on consumption, and remittances that solve many economic and social problems (income, employment, community development, quality of services, etc.).

Another fundamental problem would be the non-inclusive nature of economic development, which does not offer equal economic opportunities for a large part of the population in the category of socially vulnerable groups (women, people with disabilities, young people, rural residents, etc.), thus deepening the inequalities in society even more.

The biggest inequalities are between the rural and urban population and between women and men, and the main problem is unequal access to economic opportunities, which includes the chances of obtaining a decent job, the level of remuneration and the chances of starting one's own business. This explains the low value of the HDI, including the inequality-adjusted HDI.

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EMPLOYEES' CONTINUOUS PROFESSIONAL DEVELOPMENT: BETWEEN ORGANIZATIONAL OBJECTIVES AND OUTCOMES

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Abstract: In this scientific endeavour we address continuous professional development in organizations. Taking into account that continuous professional development involves certain organizational efforts, including financial ones, it is necessary to determine its impact on organizational results in the short and medium term. Therefore, it is more than necessary to assess continuing professional development by linking objectives to the outcomes. In this paper, we have made a correlation between objectives and outcomes of continuing professional development. Thus, organizations can set several professional development objectives for different categories of employees. Likewise, the results obtained from continuing professional development are different and can have effects on the organization in the short and medium term. In order to analyse the perception of domestic organizations on continuous professional development, a questionnaire was applied and the sample was 350 enterprises, out of which only 278 had carried out staff professional development activities in the last three years. The results obtained from the data processing show that there are discrepancies in the objectives of professional development. Similarly, the outcomes of professional development are perceived differently. According to the respondents, professional development of employees has an impact on organizational performance.

Keywords: continuing professional development, professional development objectives, professional development outcomes, organizational performance, professional knowledge and skills.

JEL Classification: J24; J44; L25; M53.

1 Introduction

In the knowledge-based economy, human resource development is an increasingly demanding activity for organizations. As professional knowledge and skills matter more and more in achieving organizational performance, senior management of organizations are determined to allocate more human and financial resources to the effective delivery of employee development activities within organizations. Continuing professional development activity refers to adult education and is designed to produce positive changes in employees' beliefs, knowledge, skills, or behaviours, with the ultimate result of changing their capabilities (Lauer et al., 2014). Continuing professional development is viewed as a fundamental tool for enhancing organizational capability and performance to achieve organizational goals. According to Hughes et al. (2019), quality training reduces the learning period and increases employees' motivation to transfer learning outcomes to the organization. Also, Garavan et al. (2021) examined the effects of quality, quantity, and institutional context on the relationship between professional development and organizational performance.

The aim of this paper is to analyse the objectives of continuous professional development in organizations and the results achieved by them. In order to achieve the research aim, the paper is structured in several sections. In the first section, the literature review on organizational objectives and outcomes of continuing professional development is conducted. In the next section the research methodology is presented. The paper continues with the results and general conclusions.

2 Literature review

From an organizational perspective, the process of continuous professional development can be used as an example of HR practices that contribute to gaining competitive advantage (Jehanzeb et al., 2013). Continuous professional development, also perceived as lifelong learning, is a concern of the European Union and is seen as one of the essential elements of flexicurity. The results of a survey conducted in EU Member States, Norway and Iceland on a sample of 40 000 adults over the age of 25 show that government should prioritize adult learning. This statement was agreed by at least two thirds of adults in each Member State. According to respondents, the benefits of participating in learning included support for their personal development, necessary for career progression and job search, the possibility of earning a higher income and help in reducing unemployment (Harris & Clayton, 2020).

At the same time, continuing professional development involves several objectives, and the results are beneficial to both the organization and the community. Thus, Dayan & Eks, (2007), argue that continuing professional development pursues several objectives:

- protecting employees from unemployment;
- increasing organizational performance by investing in operational processes;
- promoting employment;
- stimulating global competition.

On the other hand, Armstrong (2003) argues that the fundamental purpose of continuing professional development is to support the organization in achieving its goals by increasing the value of employees. The same author highlights several organizational objectives with reference to continuing professional development:

- developing the competencies and improving the performance of employees;
- development of employees within the organization in order to satisfy the workforce needs within the organization;
- reducing the learning period for employees promoted to different positions, ensuring that skills are acquired in a short time and at minimal cost.

Continuous professional development has become one of the main keys to ensuring long careers for all employees. Under these circumstances, responsibility for professional development should be shared between employees, employers and public institutions (Marion et al., 2012).

At the same time, Schwartz & Bryan (1998) believe that it is important which categories of employees should be attracted to the professional development process. Within the organization, continuous professional development is the way in which employees maintain their knowledge and skills related to their working life (Collin et al, 2012).

Dessler (2006) defines continuous professional development as an activity designed to improve current and future workplace performance. According to Noe et al. (2007), human resource development should be perceived as a sustainable process of management within the organization to improve employee competence and job performance through various training and education programs.

Werner & DeSimone (2006) explain that training program not only contributes to the development of employees but also helps organizations to make the best use of their human resources to gain competitive advantage. In this context, Haryono et al (2020) believe that organizations are obliged to plan such training programs for their employees to improve their knowledge and skills at work. According to the authors, professional development influences the motivation of employees, because as a result of their participation in training programs, their skills and qualification level increase, which enables them to perform more complex tasks. Also, Güllü (2016) shows that professional development program has a positive impact on the motivation of employees in the banking sector. Continuous professional development has positive effects on employees as it gives them more job security and higher wages (Kumar et al., 2019; Starr, 2019), which leads to increasing work motivation in the organization. As a result, Wang et al. (2021) believe that these effects positively influence employee quality of life. According to Krumbiegel et al. (2018), there is also a feedback explained by the fact that better paid employees have more opportunities for professional development and consequently higher job satisfaction. Straightforwardly, these effects are also beneficial for the organization as they lead to an improvement of the organization's economic situation.

In the same line of thinking, Samoliuk et al. (2021) argue that adults' motivation for continuing professional development is driven by the improvement of their own professional level, and in the case of senior managers who fund such programs - the desire to increase economic performance and organizational competitiveness. Moreover, some authors believe that continuing professional development has a positive impact on the development of the country or certain activities (Chung & Tseng, 2019; Varma & Kataria, 2018).

For the organization, the benefits from continuing professional development mainly relate to improved performance, profitability, efficiency and increased revenue from operational activities (Rawashdeh, 2018), as well as improved reputation of the organization, reduced staff turnover and reduced costs (Ramendram et al., 2014). Besides, organizations' involvement in continuous professional development process can help to increase employees' commitment to the organization (Kadiresan et al., 2015). The studies have shown that employees who have a positive perception towards continuous professional development have higher organizational commitment (Bartlett, 2001). Moreover, Saleem et al. (2011) find that continuous professional development contributes to improving employee behaviour and increasing confidence and self-esteem, which leads to increasing loyalty and commitment to the organization (Kenny & Nnamdi, 2019).

Bilderback (2024) examined the results of continuing professional development in the light of the Sustainable Development Goals. According to the author, companies that invest in sustainable training and align themselves with the principles of the SDGs are more likely to succeed in the long term, as they will be able to attract and retain employees who share their values.

Broadly speaking, any professional development objective can be assessed by the organization's post-training outcomes. Park & Jacobs (2011) found that workplace learning outcomes can be grouped into three categories:

- on-the-job learning outcomes: employee satisfaction, commitment, motivation, behaviour, and individual or group performance;
- organizational performance outcomes: productivity, quality, innovation, absenteeism, turnover and conflict;
- organizational financial outcomes: profit, return on investment, return on assets, return on equity, and market value for listed companies

3 Research methodology

In order to achieve the aim of the research, a questionnaire was developed in which questions related to the objectives and outcomes of continuing professional development were formulated. For the question related to the objectives of continuing professional development, 6 answer options were formulated, and for the results of continuing professional development - 10 answer options. Taking into account the fact that the objectives of continuing professional development may vary from one category of employees to another, the respondents were asked to define them in three categories: workers, specialists and managers. In the case of the results of continuing professional development, respondents were able to choose more than one response option.

The sample comprised 350 organizations. The respondents were human resource managers or senior managers of the organizations, depending on their size. Out of the total number of organizations participating in the survey, 278 companies have provided professional development programs to their employees in the last three years. Respectively, the processing of the questionnaire results covered 278 enterprises.

4 Research results

As mentioned in the first part of the paper, the senior management of organizations aims, through continuous professional development, to achieve various objectives. As the objectives of continuing professional development are diverse, they may cover certain needs of the organization, either short term or long term. The research results show that the organization's professional development objectives vary depending on the category of employees. Figure 1 shows the continuing professional development objectives of the employees.

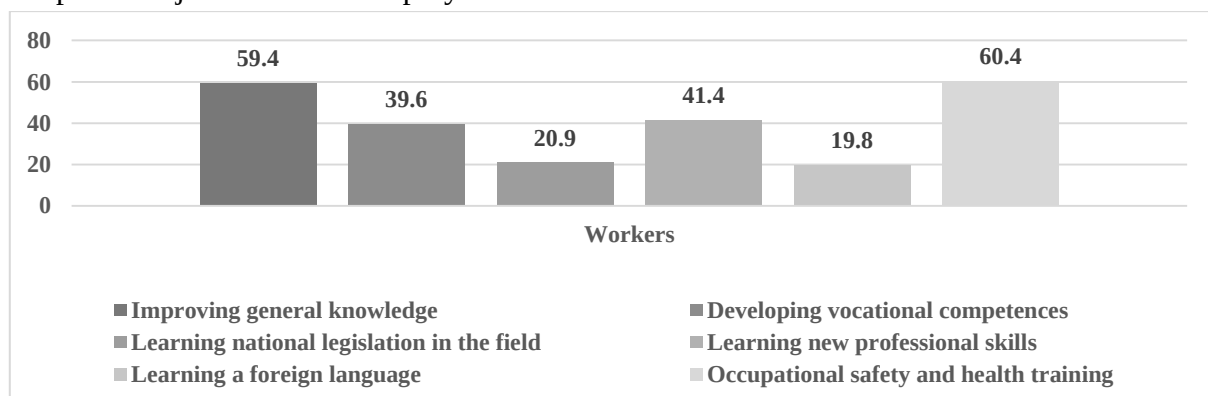


Figure 1. Objectives of vocational training of workers, %

Source: Developed by author.

From Figure 1, we can see that the organization's objectives for workers' professional development focused more on occupational safety and health training and improving general knowledge. About 3/5 of the responding organizations mentioned this. Only 1/5 of the responding organizations targeted, for workers, the learning of relevant legislation and the possibility to learn a foreign language. At the same time, about 2/5 of the survey respondents aimed through their professional development programs to improve workers' current skills as well as to develop new skills among workers.

In contrast to blue-collar workers, the professional development goals of specialists differ because organizations have higher expectations from this category of employees (Figure 2).

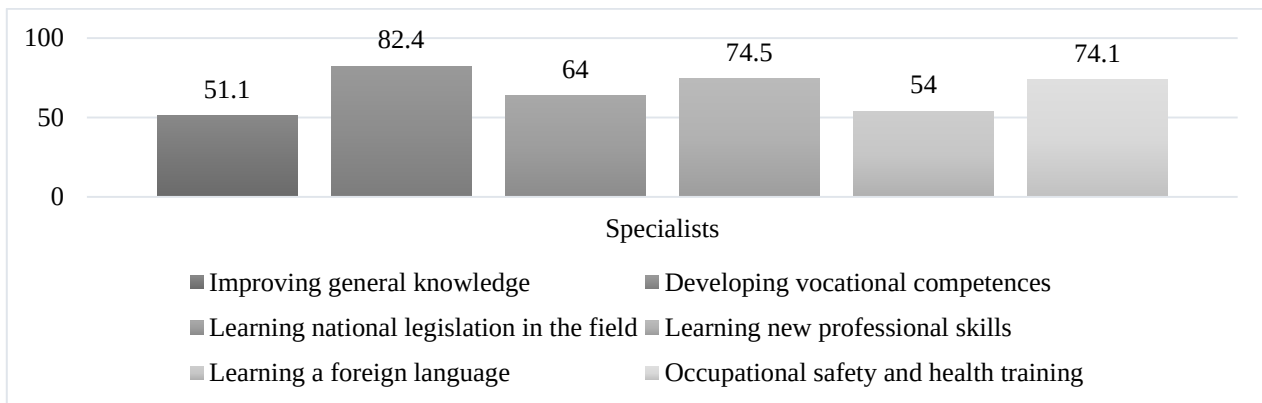


Figure 2. Objectives of vocational training of specialists, %

Source: Developed by author.

In the case of specialists, the organization's professional development objectives are more focused on improving current professional skills (82.4%), as well as on acquiring new professional skills (74.5). Also, almost $\frac{3}{4}$ of the responding organizations aim through professional development to enrich knowledge in the field of occupational safety and health. Slightly more than 50% of the responding organizations aimed to improve their general knowledge and foreign language skills.

Regarding organizations' objectives for managers' professional development, they differ from the other two categories of employees (Figure 3).

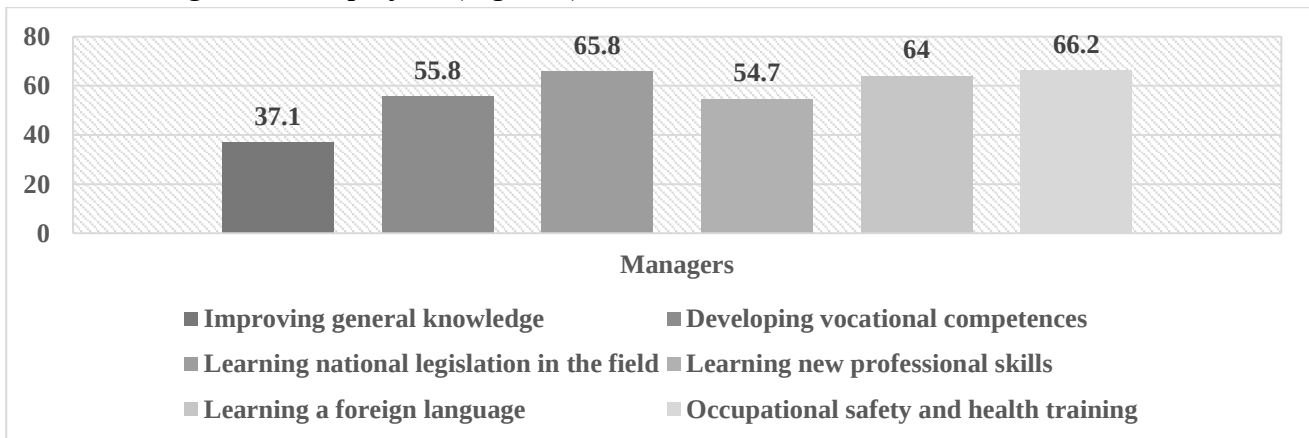


Figure 3. Objectives of vocational training of managers, %

Source: Developed by author.

In the process of managers' professional development, organizations aim for managers to learn national legislation in the field and to enrich their knowledge of occupational safety and health (almost $\frac{2}{3}$ of the responding organizations). Similarly, domestic organizations give priority to learning a foreign language - 64%.

Comparatively, we find that the majority of respondent organizations have the objective of improving knowledge in the field of occupational safety and health as the most frequently mentioned by respondents. This is due to the fact that domestic organizations are obliged by national legislation to conduct occupational safety and health training annually. While this objective may have indirect effects on organizational results by reducing absenteeism due to occupational illness and accidents, it does not contribute substantially to improved performance in the long term.

Improving current job skills and developing new job skills are two key objectives for organizational performance. Research results show that domestic organizations are more focused on the development of new professional skills among specialists, far exceeding this objective in relation to workers. The same situation is characteristic for the improvement of current skills, the gap being much wider.

In a globalized world, employees' knowledge of a foreign language is an advantage for domestic organizations. Many organizations are aware of the need to allocate financial resources to language learning. Managers and specialists are the categories of employees that organizations are targeting to achieve this objective. Nowadays, knowledge of a foreign language by all categories of employees is inevitable. Therefore, organizations should provide equal opportunities in language learning to all employees.

The benefits that organizations obtain as a result of the continuous professional development of their employees are different and depend on the preestablished objectives. In order to achieve the purpose of the research, we aimed to highlight the benefits gained by the respondent organizations as a result of implementing continuing professional development programs (Figure 4).

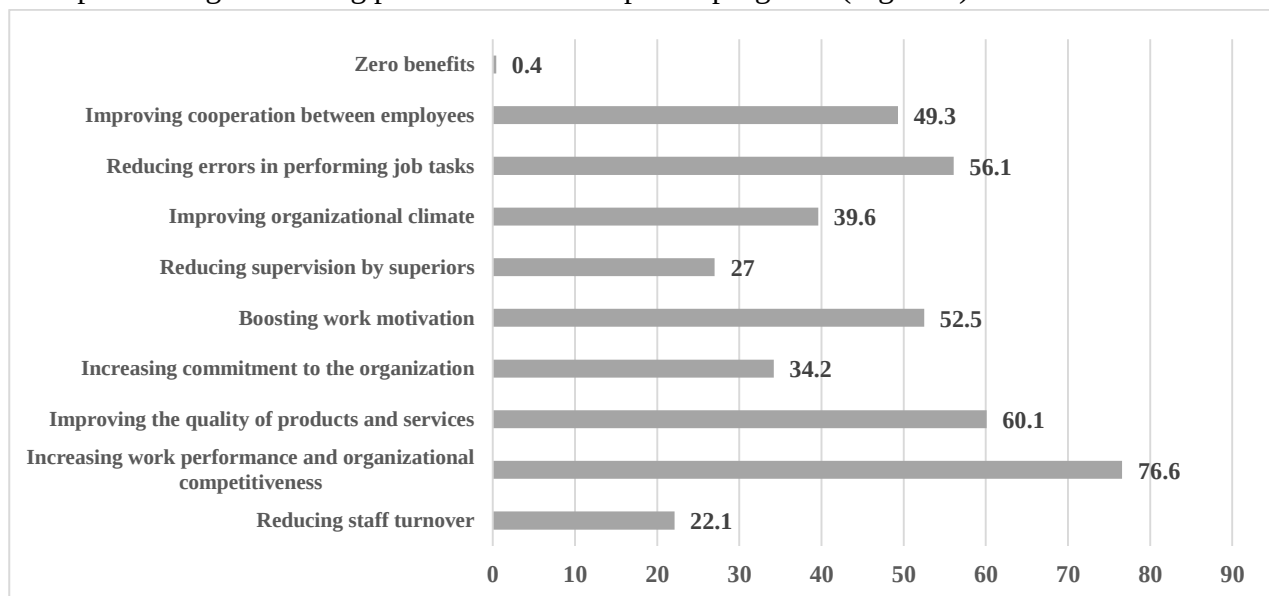


Figure 4. Organizations' benefits from continuing professional development

Source: Developed by author.

According to Figure 4, the majority of the responding organizations (76.6%) perceive increased job performance and organizational competitiveness as a benefit resulting from the continuous professional development of employees. Therefore, continuous professional development has positive effects on organizational performance. In turn, organizational performance is influenced by other organizational variables, such as the quality of products and services, errors in the process of performing work tasks, organizational climate, organizational commitment, etc. Improved quality of products and services and reduced errors in performing work tasks are the benefits that were most frequently mentioned by respondents - 60.1% and 56.1% respectively. We also note that continuous professional development has direct implications on employee motivation. 52.5% of the respondents claimed that continuous professional development led to increased employee motivation in the organization. In addition, continuous professional development had beneficial effects on employee

cooperation (49.3%). More than 1/3 of the organizations found an increase in organizational commitment as a result of continuous professional development.

Reducing staff turnover was highlighted as a benefit by the fewest responding organizations (22.1%). At the same time, we note that, although a very small number, some organizations did not derive any benefit from professional development programs. In this case, the responsibility falls on the specialists who manage professional development in the organization.

5 Conclusions

Continuing professional development is an activity within organizations whose significance is constantly growing. As the knowledge-based society develops, in which professional knowledge and skills matter more and more in ensuring organizational success, it is necessary for both senior management and the human resources department to make continuous professional development a priority.

In organizations in the Republic of Moldova, we find that professional development objectives differ from one category of employees to another. Specialists and managers are the categories of employees who participate most in the professional development process. Also, most organizations conduct professional development programs due to legal constraints. This is justified by the fact that most organizations conduct professional development programmes in the field of occupational safety and health. Under these circumstances, a review of the objectives of professional development is needed, with a focus on programmes that add greater value to the organization.

Similarly, the professional development objectives should be linked to organizational outcomes. Any employee professional development objective should lead to benefits for the organization. The research has proven a direct link between employee professional development goals and organizational outcomes. Therefore, continuous professional development in organizations is important and needs to be properly addressed, including its objectives, if it is to deliver tangible results expressed in economic and social indicators.

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FACTORS INFLUENCING THE STANDARD OF LIVING

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Abstract: The factors influencing the standard of living are multiple, not only economic and social, but also technological, cultural, environmental, etc. The factors in question can have a direct but also indirect influence, which is why the assessment of living standards cannot be carried out with high precision. There are relationships of mutual dependence between them, with the modification of one attracting a series of other modifications. The analysis and evaluation of the impact that these factors have on the standard of living is extremely important not only for researchers and analysts, but also for governments, thus providing them with models for increasing the standard of living and the quality of life of the population.

This paper highlights the influence that various factors have on the standard of living of the population, among which there are mutual interdependencies. Since increasing the standard of living and improving the living conditions of the population is one of the basic tasks on the agenda of decision-makers, knowledge and assessment of the determinants of the standard of living would contribute decisively to the fulfilment of this commitment.

Research methods used. Various research methods have been used in this paper, including logical, comparative and synthetic analysis, induction and deduction.

In conclusion, we note that the factors determining the standard of living of citizens are very diverse. Over the years, much attention has been paid to the impact of economic factors on people's standard of living. Subsequently, researchers have shown that social factors may be considered more important because they reflect the level of satisfaction of citizens. In addition to these factors, a number of factors in other areas have a strong influence on living standards.

Keywords: standard of living, living standards indicators, social needs

JEL Classification: H40; I31

Introduction

Under the Universal Declaration of Human Rights, art. 25, every person is guaranteed the right to a decent living and adequate living conditions, which ensure the necessary well-being and freedom from suffering. The right to a standard of living is particularly complex, which is why the notion of "standard of living" has been the subject of research by scientists from very different fields. The right to a standard of living is particularly complex, which is why the concept of "standard of living" has been the subject of research by scientists from very different fields. The notion is widespread both in

the works of researchers and in everyday use. In a broad sense, the notion refers to the degree of wealth, well-being, material goods owned by a community at a certain moment, but also the needs held; it reflects the degree of satisfaction of human needs. Numerous analysts and representatives of government administrations have paid great attention to identifying the factors that directly influence the increase in living standards, as well as those that indirectly produce certain effects. The factors in question are complex, represent an association of several factors and depend on the needs and preferences that members of society have. Determining and evaluating these factors has substantial significance for researchers, analysts, as well as government administrations, as it suggests models for increasing the standard of living and quality of life of the population. However, the final result of these factors, most of the time, is difficult to measure, and the consequences are felt over time. Evaluating these factors leads to the conclusion that the standard of living results from the global impact of several determining factors of different natures, which are interconnected through numerous cause-and-effect relationships. Although each factor influences the standard of living, it is assumed that economic determinants have a primary role compared to others, serving as the essential element and starting point for meeting the population's social needs.

Literature review

The state of development of a society, expressed through its level and rate of economic growth, is one of the determining factors of the standard of living of a country's population. The advantage of economic growth is usually the improvement of the population's standard of living. The indicator of economic performance is the Gross Domestic Product (GDP), which includes the *consumption of goods and services, investments in the economy, government spending, and net exports*. However, by definition, this indicator only accounts for material aspects.

Gross Domestic Product (GDP) per capita, meaning the GDP divided by the country's population and its growth rate, are indicators that reflect certain realities regarding the potential social wealth available to each person and whether this wealth is increasing or decreasing over time. This indicator provides a more accurate reflection of the realities concerning the standard of living because it eliminates the effects of inflation or rising prices. However, in reflecting the standard of living, GDP has certain deficiencies:

- ✓ it does not include unpaid work (volunteer activities, household work, or caregiving for children and the elderly), which also contributes to sustaining the country's economy;
- ✓ being an average, GDP per capita does not measure wealth distribution or reflect income inequality. Production of goods and national income is not distributed equally among the members of society, which is why GDP could reflect a high standard of living in a society where only the upper class enjoys wealth. In this regard, A. Ashley notes that the poorest segment of society, constituting about 20%, is the least likely to benefit from economic growth. In contrast, this segment is the most affected and will suffer the most in the event of a downturn. (Ashley, 2008)

In this context, American economist and Nobel Prize laureate Simon Kuznets highlighted, as early as 1970, that *an increase in GDP does not necessarily imply an improvement in the standard of living and quality of life within a society*. (Costanza, Hart, et al., 2009)

Many economists and international organizations, in particular the World Bank, use Gross National Income (GNI) per capita to determine the standard of living. This indicator is more appropriate in that it takes into account the income of all citizens, regardless of whether they are in their country of residence or abroad. It's particularly important because individuals who have left the country and send

remittances to their relatives contribute to the increase of national income and the enhancement of the standard of living for citizens. In essence, these two economic indicators represent the same category viewed from two different perspectives. GDP reflects the flow of goods and services produced in a year, while GNI reflects the flow of household income in the form of wages, pensions, profits, and other benefits.

Generally, an increase in income per capita ensures an increase in the quantity of goods that the consumers can purchase, but also an increase in access to quality healthcare, life expectancy, etc. - important factors in reflecting an individual's standard of living. Although per capita income is an important factor in assessing living standards, its exclusive use can also reflect a misleading picture. First of all, income per capita does not take into account the increase in the cost of living (the cost of basic necessities such as food, clothing and housing). If the average cost of living of a society is rising at a higher rate than the income per capita, the standard of living will most likely fall. People are spending more to live, but their incomes are not enough to cover these increases. Similarly, as with GDP, income per capita does not reflect how income is distributed among a country's citizens. If the average cost of living of a society is rising at a higher rate than the income per capita, the standard of living will most likely fall. People are spending more to live, but their incomes are not enough to cover these increases. For example, a society can record a significant increase in income per capita and a higher overall standard of living, but the number of people enjoying an acceptable standard of living may have fallen. This is because the income of the wealthiest segment of the population has increased at an extremely high rate, while the income of the poorest segment has remained the same. At the same time, estimating the standard of living based on these two economic indicators does not necessarily reflect other aspects of material comfort that are not determined by economic factors, such as the quality of the environment, safety, and public health – critical indicators of the standard of living and quality of life. These factors are more likely influenced by government policy than economic levels and, therefore, are not reflected in the indicators we refer to.

Disposable income and consumption expenditure, which are closely related, within a country remain the main indicators reflecting the population's standard of living. The higher the income, the greater the ability to meet needs and, therefore, the higher the standard of living. The population with higher disposable incomes is susceptible to spend more on consumption. On the other hand, large and diversified consumer expenditures contribute to increased income for businesses and public institutions derived from taxes and duties paid by citizens.

The increase in *consumption expenditures* for living (food, clothing, housing, leisure, etc.) reflects an improvement in people's lives. In fact, the degree to which needs are satisfied during a specific period results from the current consumption of goods and services, consumption of goods accumulated in previous periods, and public consumption funded by government expenditures.

Higher population consumption contributes to the prosperity of economic agents, who, as a result, will increase the number of employees and improve their material well-being. Other determinants of the standard of living are *business investments*, *government spending*, and *net exports*. Business investments include new facilities and equipment, real estate, and products. If businesses invest, the economy improves, which raises the population's standard of living.

A portion of government spending funds social consumption. An increase in government spending has the same effect—it raises the standard of living of the population. This is especially true for direct spending, such as social and medical security, education, etc. These benefits improve people's lives.

Net exports contribute to improving a society's standard of living in less apparent ways. If a country exports more than it imports, its income increases and new jobs are created.

Among other economic determinants of the standard of living are ***the influences of the labour market situation: employment opportunities, the employment rate, the unemployment rate, labour organization in society, social dialogue and employee engagement, work-life balance, and gender discrimination.*** (Royuela, et al., 2008)

The employment rate directly influences the standard of living of the population. Beyond the fact that this factor leads to an increase in people's incomes, it is also of significant importance because it ensures a sense of job security and stable remuneration, which guarantees the satisfaction of the population's need for security. Employment is essential for human livelihood and directly contributes to meeting social needs such as identity, integration, and belonging to a professional group. The work influences the state of happiness, social status, relationships, daily rhythms, etc. In addition, only employment status provides certain benefits and access to essential services. At the same time, a high employment rate also contributes to increasing funds for the social welfare system.

The unemployment rate has a negative impact on the standard of living. Moreover, this has a negative impact both on the people affected by unemployment and on the country's economic situation in general. The absence of a job or the loss of employment can have numerous economic and social consequences and requires immediate state intervention to mitigate and reduce the negative effects through the promotion of social assistance policies. The role of promoting social protection policy for the population is of major importance for preventing poverty, social inequalities, as well as deviances conditioned by the impossibility of employment or the non-existence of jobs, the presence of which ultimately affects the standard of living of citizens.

Although the factors that influence the standard of living of the population are, first and foremost, economic, having a direct influence on it, in order to have a comprehensive picture of the standard of living, a series of other factors must also be taken into account. The standard of living represents the mutual causal manifestation of economic, social, technological, environmental, ecological factors, as well as particular needs, the health status of the population, emotional freedom, etc. Taking into account all the factors mentioned can provide an overview of a nation's standard of living.

The most significant factors influencing the standard of living include the following: ***the health status of the population, with indicators such as life expectancy, accessibility to quality healthcare at an affordable price; the level of education achieved; easy access to goods and services at affordable prices; the quality of the environment, etc.***

✱ ***The health status of the population*** represents one of the basic conditions for human life, having a direct influence on the standard of living of the population. For the continuity of a nation and its sustainable development, maintaining health in accordance with certain standards is extremely important. A healthy nation can contribute significantly to increasing the country's prosperity and improving living standards. Healthy people are those who, through their work, create opportunities for the development and achievement of their own goals, ensuring the income necessary for their personal livelihood and contributing to the creation of the nation's wealth; they are able to engage in all activities of importance for increasing the standard of living; they have the ability to participate in all social and cultural activities. Maintaining good health is only possible through improving the population's access to healthcare services and implementing continuous quality management strategies in health services, primarily through increasing investments in the healthcare system.

One leading indicator to determine the population's health status is "life expectancy at birth". This represents an individual's average duration of life or the average number of years remaining at a certain age. A life expectancy that exceeds global averages often indicates high living standards; citizens have access to vaccines, screenings, and treatments that prevent or combat diseases and live in environments with minimal exposure to pollutants or toxins.

✱ **The level of education achieved** is a crucial determinant of the standard of living. Education provides immense benefits to society, many of which significantly improve the standard of living. This indicator reflects individuals' ability to acquire knowledge, communicate, and participate in the social life of their community. Knowledge becomes the most important factor in creating human wealth and the most effective means of compatibility between human-created and natural environments. **Knowledge** can be used simultaneously by anyone who possesses it and is accessible not only to the powerful but also to the weak and poor. (Bunea, 2008) In a knowledge society, educated individuals become the primary capital contributing to the formation of national wealth. People with high levels of education, well-trained, advanced skills, and professional competencies have better chances in the labour market, as evidenced by higher employment rates and often higher wages for their work. This, in turn, allows for spending on quality housing, healthcare, education, and nutrition. Many scholars believe that supporting initiatives for better education in developing or struggling countries can profoundly affect the general standard of living and quality of life. In this context, American economist Robert J. Barro specified: "A country that can achieve literacy rates 1% higher than the international average will reach labour productivity and GDP per capita levels 2.5% and 1.5% higher, respectively, than those of other countries"(Barro, R.J. 2001).

✱ **Easy access to goods and services at affordable prices.** A decent standard of living is undeniably linked to an individual's ability to access quality goods and services. Public services, a key factor in this equation, have emerged and developed gradually in response to the increasingly diverse needs of human society. Citizens' access to essential services such as health, education, quality water, sewage system, achievements of technical and scientific progress, personal security and freedom, environmental quality, number of working hours per day, sufficient to cover basic expenses, etc., represents the guarantee of a high standard of living and an adequate quality of life. On the other hand, it is noted that the increase in the standard of living of citizens has led to an increase in requests for new public services, as well as the size at which they are to be provided.

Analyses from recent decades, conducted by various specialists, show that modern societies with high economic performance and a high level of democracy are more concerned with the provision of public services of general interest, directly responsible for increasing the standard of living of citizens. In this context, modern governments tend to achieve their assumed mission by offering every citizen the right to access the necessary quality services, in a transparent and efficient manner, easily accessible, thereby aiming to maximize the degree of satisfaction of social needs through public services offered at a minimum cost. Guaranteeing continuity, without interruptions, of the services provided, improving the quality and accessibility of necessary services in line with the development of technical progress, both for citizens and for the business environment, represents another commitment assumed by modern administrations. Easy access to basic services is a key indicator in estimating the standard of living of citizens and is widely used in comparative analyses of living standards between various states. A region where the number of beneficiaries of private sanitation facilities is high is attributed

a significantly lower standard of living compared to an area where the majority of residents have access to such basic necessities of life.

✱ **The quality of the environment.** The quality of the environment, as well as the relationship between humans and the natural environment in which they develop, considerably influences the standard of living of the population. A healthy ambient environment is a fundamental principle of the Rio de Janeiro Declaration on Environment and Development: "Human beings are at the center of concerns for sustainable development. They must have a healthy and productive life in harmony with nature". The environmental impact on human living standards is highly varied and complex. The environment generates significant benefits, not only socially but also economically, due to the importance of natural resources for human life. The environment contains factors that have a favourable effect on the standard of living of the population, such as factors that ensure health. At the same time, it is found that the environment also contains pathogenic factors, with an unfavourable effect on human life, causing it to worsen. Based on this finding, researchers state that both the health of human beings and the standard of living of the population of the society in which they live are influenced by the state of the environment. (Crivoi, et al., 2014). The environment has the capacity to directly harm human health and livelihoods, but also indirectly, in the long term, thwarting human well-being and livelihoods.

A nation's standard of living can be seriously harmed by environmental factors. The air and soil, with which human beings are in continuous interaction, being affected by various chemical and biological processes can negatively influence several generations. As an environmental factor, soil is in continuous interaction with all elements of the environment - water, flora, crops, in turn, having a complex influence on the standard of living of the population.

A separate category of factors with a significant influence on the standard of living, especially in countries with a lower standard of living, which are not directly related to economic results, but rather to the government policies promoted, refers to the programs and subsidies granted. These represent a type of financial assistance and are intended to support citizens' livelihoods within the limits of decency.

Conclusions

Since until recently, specifically the 1930s, the dominant opinions were that human living standards, the level of wealth, necessary comfort, material goods, and the quality of public services were in line with the level of economic development, scientists, as well as government administrations, focused their attention on economic factors, constantly evaluating the impact that these factors had on the standard of living of the population. However, as was later found, for most countries with high economic potential, economic growth did not reduce social problems, including the degree of poverty. The scope of the concept of development, in this context, becomes broader. The standard of living, therefore, is the result of a strong interaction between economic and social factors and individual needs. Taking into account all the determinants of the standard of living would provide a realistic picture.

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MURAL PAINTING - TOOL FOR COMMUNICATION AND PROMOTION OF HUMAN VALUES IN A MULTICULTURAL CONTEXT

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Abstract: Mural painting, as a form of public art, has a significant role in communicating and promoting human values in multicultural contexts. This artistic form, characterized by accessibility and visibility, becomes a favorable environment for social and cultural dialogue. In an era of cultural diversity, murals can facilitate understanding and appreciation of differences, contributing to social cohesion and promoting tolerance. The purpose of this study is to analyze the impact of murals on social cohesion and tolerance in diverse communities.

Research methods include an interpretive analysis of the meanings of murals in different urban environments, as well as case studies that highlight the effects of these works on cultural perception and local identity.

The results of the study suggest that mural painting not only addresses universal themes, but also facilitates intercultural dialogue, contributing to a better understanding of cultural differences. The murals were seen as catalysts for community engagement, encouraging collaboration between diverse ethnic groups and promoting a sense of belonging.

The study's conclusions emphasize that mural painting is an effective tool of intercultural communication, able to promote fundamental human values and contribute to building more harmonious and inclusive societies. This form of artistic expression facilitates a constructive dialogue between cultures, essential for peaceful coexistence in contemporary multicultural societies.

Keywords: diversity, art, urban accent, interculturality, human values.

JEL Classification: F52, I21, I25, P36

Introduction

*Motto: „ Painting is poetry that is seen rather than felt,
and poetry is painting that is felt rather than seen.”*

Leonardo da Vinci

The semiotic and communicational perspective on art has given the traditional concept of artistic communication deeper and more applied interpretations and approaches. The artistic image is a complex sign that organically unites expression and meaning, a sign capable of awakening a chain of

feelings and mental representations in the consciousness of the receiver through its expressive form and original composition.

Murals, as a form of artistic expression, have been used throughout history as a means of non-verbal communication and have had a significant impact on the cultures and societies in which they were created. These works of art, created on walls or other large surfaces, not only aesthetically enrich their surroundings, but also serve as a channel through which ideas, values and narratives are conveyed to the community.

In the context of nonverbal communication, murals become a complex visual language, able to overcome linguistic and cultural barriers, facilitating a deeper understanding of collective identity and human experiences.

The aim of this study is to assess the knowledge, perceptions and attitudes of young people towards murals in the Republic of Moldova, including their role as a form of nonverbal communication and as a tool to promote cultural and artistic values. The study of murals as a form of nonverbal communication involves an interdisciplinary analysis, integrating perspectives from fields such as anthropology, sociology, psychology and art history. These artistic works reflect not only the aesthetics and artistic techniques of the era in which they were created, but also the social, political and economic context, providing a window into the values and beliefs of the communities in question. From prehistoric cave paintings to contemporary mural art, these artistic expressions have been used to document historical events, celebrate cultural traditions or convey social and political messages.

In this paper, we aim to explore the role of murals in nonverbal communication, analyzing how they contribute to the construction of cultural identity and facilitate social dialogue. We will examine relevant examples and the messages conveyed, as well as the impact these works have on community perception and interaction. Through this approach, we aim to highlight the importance of murals as communication tools and to contribute to a deeper understanding of the role of art in society.

Specialists in the field state that "...the artistic experience of the 20th century, dominated by the feverish search for new means of expression, the complication of formal structures, the increased signifying capacity of artistic language, by putting it into new configurations, has distanced art from the classical language, producing a rupture in the plane of expression, which subsequently caused a rupture between art and the public. This gave rise to the problem of the accessibility of art, which is in fact a problem of understanding the specific language of art." (Podlesnaia, 2015)

Today, art is approached as a form of communication, as a system of signs, a language encoding a specific informational content, a bundle of meanings, which it transmits. Artistic communication has particularities that distinguish it from ordinary and scientific communication, sometimes even radically. Street art is a cultural and artistic phenomenon that has gained considerable popularity in recent decades. Born at the intersection between art and society, it offers a free and unconventional form of expression that transforms urban landscapes into an art gallery accessible to all.

Its origins are deeply rooted in countercultural movements and the desire to give a voice to marginalized communities. If traditional art was reserved for the elite, because it was difficult enough to understand how colors were applied to canvases with paintbrushes, urban art came as a response to this exclusivity - it emerged and developed in public spaces, where messages could be seen and appreciated by anyone, regardless of social status.

Urban art, "with deep roots in countercultural and protest movements, has evolved into a powerful means of expressing the thoughts, emotions and aspirations of communities around the world. A

prime example is the "Favela Painting" project in Brazil, where artists Jeroen Koolhaas and Dre Urhahn collaborated with residents to paint the facades of buildings. Through art, these communities were able to convey a message of resilience and hope, challenging the negative stereotypes associated with favelas." (Ștefan, 2024)

One of the most significant roles of urban art is its ability to serve as a form of protest and social awareness. Urban artists use city walls as platforms to address critical issues, from social and racial inequalities to human rights violations and climate change. In this sense, urban art becomes a mirror of society, reflecting both its beauty and its imperfections.

Research methods

The main research methods were: questionnaire survey, comparative analysis and content analysis of empirical materials. This study involved about 110 respondents, first year students of the Academy of Economic Studies of Moldova, representing various faculties and specialties (Finance and Banking - 50 students, Information Technologies, Applied Informatics and Cybernetics - 30 students, Business and Administration - 10 students, Human Resources Management and Economics - 20 students).

The questionnaire included 19 questions, of which 15 closed and 4 open questions. The survey was conducted online, using the Google Forms questionnaire platform, the aim was to identify existing perceptions and attitudes towards the variables investigated.

The questionnaire was conducted between September 4 and September 17, 2024. A thematic questionnaire was distributed to the students in order to: identify the respondents' level of familiarization with the murals, determine the impact on national and international cultural identity, identify social messages and themes that would have a multicultural influence.

At the same time, the focus was on determining the strengths of the murals and identifying their role in nonverbal communication. Other aspects of thematic interest are related to the history of murals in the Republic of Moldova, their notoriety and their perception as street art to promote beauty in the public space.

Results and discussions

Street art is increasingly being recognized as a creative way to reinvigorate urban landscapes, transforming concrete walls into colourful and lively works. The vibrant energy of the murals is reflected in the variety of creative designs found on city streets. This perfect combination illustrates the city's dynamic mix of modern and traditional culture.

The capital of the Republic of Moldova also stands out for its diversity of murals. Chisinau's Botanica district has the most murals, which can certainly be easily discovered. The sector is home to a variety of incredible works by artists from both home and abroad, such as Dmitrii Potapov, Radu Dumbravă, Inna Jeleascova, Victor Zucker and Sergiu Aftenev, Rafał Roskowiński and Wojciech Woniak etc. Identifying these places of interest is an excellent and accessible way to explore new emotions. Thus, the gigantic mural with the portrait of the Dacian king Decebal with his warriors, painted on a block on Decebal Boulevard, comes with a message of manliness, bravery and encouragement. The 220-square-meter painting "The Column of the Nation" is the largest historical wall painting in Moldova. The "Butterflies of Freedom" mural was created by a group of Polish artists as part of a partnership between Moldova, Poland and Romania. The painting "The Rights of the Child" symbolically refers to the concepts of the path of life and freedom. Suggestively named "Hope", the wall painting is dedicated to childhood, dreams and aspirations for a European future. The story "The Old Maid and

the Old Man's Daughter", painted on a block in the same area, was unveiled next to a children's playground.

The project of decorating the blocks in the Botanica sector with monumental works of art aims to revitalize the social and cultural life of the area, as well as to promote urban art.

Returning to our research, we find that, for the most part, respondents are unfamiliar with murals (about 62%), while the rate of those who know about these aspects of street culture is 35%. At the same time, the majority of the students definitely state that murals are a form of nonverbal communication (about 92% overall).

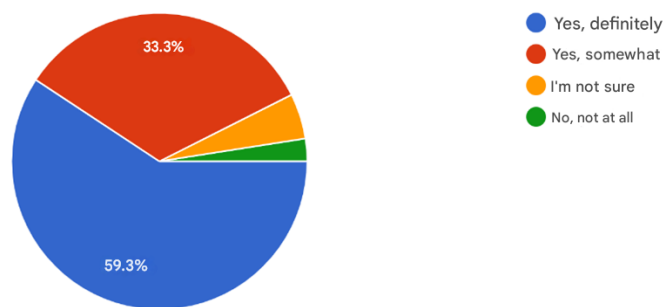


Figure 1. Murals as a form of nonverbal communication

Source: authors based on survey results

We note that most students consider the strengths of a mural to be its vibrant colors, imposing size, fine details, powerful message, innovative artistic style and harmonious integration into the environment. At the same time, originality, originality of idea, idea, values promoted, visual impact continue the string of mural accents.

In this context, the respondents were asked if they know any famous murals from Chisinau or other cities in Moldova. Only about 40% said that they knew about them, and more than half had not heard of or seen any notorious murals.

But no conversation about street art in Chisinau would be complete without mentioning the newest mural unveiled on May 24, 2024. The kaleidoscopic "Olympic Dream" mural is dedicated to our athletes who competed in the 2024 Paris Olympics. It represents the values of sport: discipline, perseverance and team spirit.

"The mural was unveiled on an apartment block on 6 Stefan cel Mare Boulevard in Chisinau. It covers an area of about 400 square meters and was completed in eight days by artists Dmitry Potapov and Victor Zucker, with the involvement of a volunteer from Romania." (Beșleaga, 2024) This work of art celebrates the courage, dedication and passion of the Olympians. "Every detail is carefully crafted to capture the spirit and determination of our champions. Each member of the Olympic Team who will represent our country at the Olympic Games in Paris will have their name written on the mural," (Inaugurarea oficială a picturii murale „Visul Olimpic”, 2024) emphasizes the National Olympic Committee.



Source: <https://olympic.md/inaugurarea-oficiala-a-picturii-murale-visul-olimpic/>

"From an audience's perspective, art facilitates a deeper and more empathetic understanding of everything around us. It can broaden the horizons of perception and enrich the soul and intellectual capacities of the individual. From the artist's perspective, art is a versatile and elevated tool for expressing the self and reality as perceived through the filter of human experience". (Aga, 2024) Therefore, talking about cultural identity and the promotion of national and universal values, the majority of the respondents stated that murals can be tools to promote them (87.6%). The attitude of young people towards cultural heritage is generally one of protection, pride and responsibility. Respondents are aware that they are responsible for the protection of human heritage values and show a proactive and involved attitude.

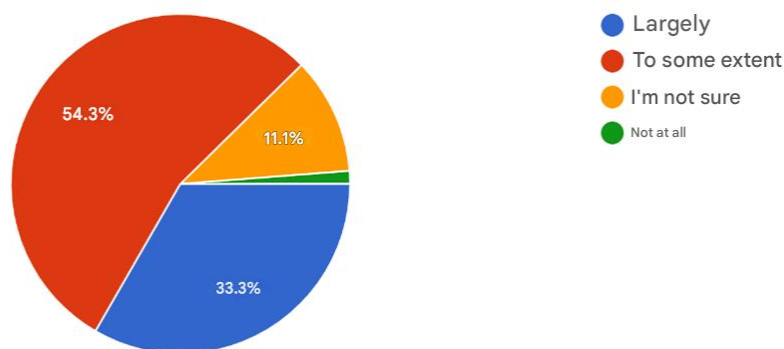


Figure 2. Murals as a tool to promote national and universal values

Source: authors based on survey results

"Visual art is a very good tool to convey messages, to interest and involve young people in activities based on sensitive topics, such as gender equality or combating violence against girls and women, etc.", (Bordian, 2021) said EVA project manager Polina Panainte. This project involved young people from several localities in the republic, who painted 24 murals conveying social messages.

Our respondents confirm that murals are an effective social tool, with 82.7% saying that murals can be used to educate or raise awareness on various social issues.

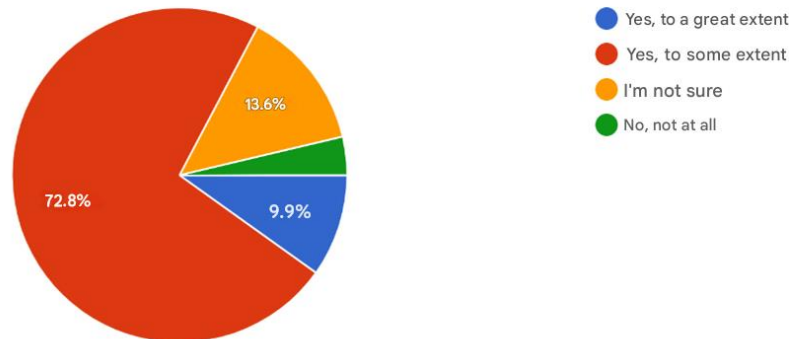


Figure 3. Murals as a way to educate or sensitize the public on various social issues

Source: authors based on survey results

When asked about the social messages that could be conveyed by the murals, respondents particularly mentioned contexts related to equality, justice, cultural diversity and solidarity, friendship, acceptance, tolerance, family, promoting traditions and history, pride in country, protecting the environment. They could raise awareness on issues such as climate change, human rights, social inclusion and the fight against discrimination. Messages could also promote peace, intercultural dialog and the importance of community, encouraging people to engage in positive civic action. Social signifiers also refer to strong, positive messages, such as natural landscapes symbolizing harmony with the environment, portraits of people who have made significant contributions to the community, or scenes representing cultural diversity. Also well seen are abstract or geometric murals that add an element of mystery and invite reflection. Images that express progress, creativity and universal unity.

At the same time, 95% of the students are of the opinion that murals can promote beauty and art in public spaces and can positively influence the perception of urban spaces (87.7%).

Regrettably, about 91.3% of the respondents have little or no knowledge of the history of murals in the Republic of Moldova. In this context, we report that in 2012, Rafał Roskowiński and Wojciech Woniak from the School of Mural Painting in Gdańsk, together with the Moldovan artist Alberto Șveț, realized a first mural painting on a wall of the block of flats on bd. Dacia no. 28 in Chisinau, with the theme "Solidarity". The work is one of the first contemporary artworks to be present in Chisinau's public space. (Cember, 2013)

Only 22.2% of respondents have occasionally or rarely participated in mural-related events and activities. There are a number of reasons why people are reluctant to engage with this type of art, but the most common is that urban art is mistaken for vandalism. Therefore, the role of street art is mainly to differentiate the aesthetics, the beautification of a city's building facades and public space from their destruction or degradation over time.

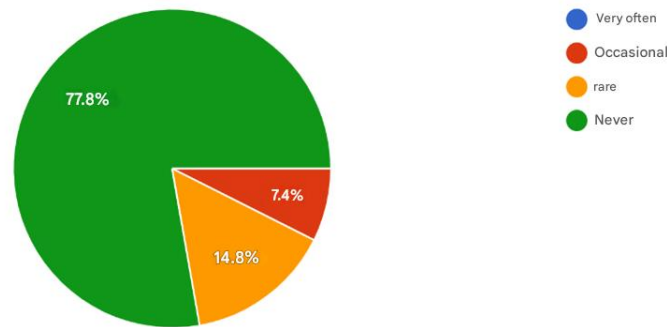


Figure 4. Participation in mural-related events or activities

Source: authors based on survey results

In many cities around the world, local authorities have begun to work with urban artists to revitalize public spaces and encourage creativity. Public art programs, which support the creation of murals and art installations, have become increasingly popular. Street art festivals also attract thousands of visitors each year, contributing to the recognition and appreciation of this art form. 75.3% of ASEM students believe that local authorities should support murals and support these artistic endeavors to breathe new life into concrete walls. Such an urban accent is, de facto, "a detail pronounced through line, color, size, shape or location". (Șincari, 2019)

Conclusions

"Art is a very important channel of communication in any society. It mirrors the realities that surround us and through it the intangible and perhaps less obvious aspects of humanity are documented and expressed. In addition to its introspective character, which helps us to know ourselves better both individually and collectively, art can express and define the ideals and visions of a society." (Aga, 2024) With this in mind, we present the conclusions drawn from this study:

Murals are seen as a form of cultural expression. They reflect the cultural identity of communities and can convey profound messages about traditions, values and beliefs. They serve as a medium for visual communication that transcends language barriers, facilitating intercultural interpretation.

Universal human values are also promoted through murals. Many wall paintings deal with general themes such as love, solidarity, respect and human rights. By representing these values, murals can help to create a sense of belonging and promote social cohesion in diverse communities.

Street art is also perceived as a social tool. Murals are often used as forms of activism, addressing social and political issues. They can raise public awareness of inequalities, discrimination and other challenges, thus stimulating intercultural discussions and promoting social change.

Community interaction and public involvement can be achieved through street art. The creation and appreciation of murals often involves community participation, making them tools for dialog and collaboration. This participatory process can strengthen social bonds and encourage mutual respect between different cultures.

The impact on intercultural perception is confirmed by the murals. Murals can influence perceptions and attitudes towards other cultures, helping to reduce stereotypes and prejudices. By representing cultural diversity and shared human experiences, they can promote a better understanding and appreciation of intercultural differences.

These findings underline the importance of murals not only as art forms, but also as essential tools for communicating and promoting human values in diverse societies.

Acknowledgement

We cordially thank the first year students of the Academy of Economic Studies of Moldova, participants of the "Questionnaire on knowledge and perceptions about mural paintings in the Republic of Moldova", representing various faculties and specialties: Finance and Banking, Information Technologies, Applied Informatics and Cybernetics, Business and Administration, Human Resources Management and Economics. The contribution of the respondents is substantial and appreciated.

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THE ROLE OF LIFELONG LEARNING IN DEVELOPING AND PROMOTING PROFESSIONAL COMPETENCES

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Abstract: In a dynamic and competitive world, lifelong learning is an essential necessity for adults. Developing new skills and personal growth, adapting to new technologies and diverse cultures, improving skills and qualifications leading to new career opportunities, increasing the quality of professional and personal life, balance - all these and many other reasons can lead and motivate an adult to opt for continuing learning, which results in "improving knowledge, innovations, skills, competences and/or qualifications for personal, social or professional reasons". The shortcomings faced by adults in the education system can be overcome through micro-skills as an alternative for developing and promoting professional skills, and rapid adaptation to new situations and challenges on the labour market from an intercultural perspective can ensure a civilized intercultural dialogue in which the stakeholders concerned would have the opportunity to build socio-economic and cultural partnerships based on high-quality values and indicators.

Keywords: Lifelong learning, adult education, skills, qualification, micro-skilling, intercultural dialogue.

JEL Classification: A2, I2, M12

1 Introduction

Motto: *"If the country (...) is to have a place in the concert of Europe (...), then it will not be able to reach it through industry, nor through commerce, but only through education."* (Mihail Kogălniceanu)

To begin with, let us distinguish between *lifelong learning* and *adult education*.

Lifelong learning, according to the publication "English-Romance Glossary of Terms in Adult Learning and Education (ALE) and Lifelong Learning (LLL)", means "all learning activity undertaken throughout life which results in the improvement of knowledge, innovations, skills, competences and/or qualifications for personal, social or professional reasons".

Lifelong learning, according to Pedro Moreno da Fonseca, Cedefop's lifelong guidance manager, is "all learning activities undertaken, individually or collectively, whether in educational, occupational, family or other social contexts, with the aim of enhancing understanding, knowledge and skills, thus responding to individual or group aspirations and needs, whether leading to formal certificates or qualifications."

The Education Code of the Republic of Moldova stipulates the following: "(1) **Lifelong learning** includes learning activities realized by a person throughout his/her life, with the aim of training or developing competences from a personal, civic, social and professional perspective; (2) (...) general, vocational-technical and higher education, as well as general adult education, initial and continuing vocational training."

Adult education is defined in the Education Code of the Republic of Moldova as: "a) general education, which ensures the general development of adults in cultural, socioeconomic, technological, ecological aspects; b) initial vocational training, which means any training process in which an adult who does not have a qualification receives the appropriate training to acquire the minimum professional skills necessary to obtain a job; (c) continuing vocational training, which means any training process whereby an employee, already having a qualification or a profession, supplements his vocational skills by acquiring further knowledge in the field of his basic specialization or by acquiring new methods or processes applied in that specialization. "

Content and methods

The research methods that allowed us to prepare this article are: theoretical sources in the field of Lifelong Learning (LLL), the opinions of experts in the field of lifelong learning, adult education, certain normative acts, as well as the knowledge gained through participation in workshops on specialized topics, the opinions and experiences shared by international experts on the issue at hand, own experience in the field of continuing vocational training, the role of a trainer, etc. The methods used in the research of the issue are specific to the tools of social sciences, humanities, psychology, economics. They were used: documentation, method of analysis and synthesis, description.

What can drive and motivate us today to be lifelong learners?

There are a lot of reasons and factors that can motivate and motivate us to learn lifelong learning. For example: the need to adapt to changes in the economy and technology in order to remain competitive in the labour market; the development of critical thinking, digital skills and effective communication, which are fundamental for social and professional integration (especially in a multicultural environment); the recognition and validation of competences acquired as a result of transversal lifelong learning; institutional support for the implementation of professional development and counselling initiatives; the promotion of the culture of continuous learning so essential for adapting to changes in the socio-professional environment." etc.

In this article, however, we aim to address two, in our view, key reasons for developing and promoting professional *skills*:

The first reason is to learn to self-improve, to improve our skills and performance in various fields.

In support of this approach we bring to your attention the study "Evaluation of the system of initial and in-service teacher training in the Republic of Moldova"¹ , carried out by the international

¹The purpose of this study (carried out within the project "Strengthening the system of training and professional development of human resources in education" and implemented by the Institute for European Policy and Reform,

consultants Dr. George Pataki and Dr. Ciprian Fartușnic, who, while recognizing the progress made in the system of in-service training in the Republic of Moldova in the last ten years, nevertheless, in discussions with various specialists in the field, providers and decision-makers, note certain shortcomings faced by the education system in general:

- "The mechanisms/methodology of accreditation of continuing education programs are rigid, administrative, quantitative. But in fact they should be less formalized (...) The market must remain open to any provider with experience in education. Lifelong learning is not a direct right of higher education institutions (...)";
- "The costs for accreditation of programs exceed the financial possibilities of small providers or providers that are just starting out (over 15,000 MDL)";
- "If, for private providers, the law stipulates that their trainers must have certificates attesting their competence in adult education, in the case of higher education institutions, university teachers do not need this specialization to be active in continuing education";
- 'The credit map (ECTS system) provides for an exaggerated number of credits for attestation, and providers propose incredibly long programs for continuing training (...) This system is the European standard for initial training and it is unusual for it to be adopted for continuing training, precisely because it involves a very large number of hours' etc.' etc.

In the field of lifelong learning, the international consultants mentioned also highlighted **some critical issues for stakeholders to reflect on**, namely: "The needs of the employer and the employee in terms of lifelong learning must coincide. The employer can only invest in employee training if the employee improves his or her skills for the benefit of the company. If, for example, a company implements a new technology, it is normal to want to train employees to work optimally with it. If the employee wants a new skill, which is not in the company's scope of activity, it is absurd to ask the employer for support (financial or leniency related to absences for attending courses). Moreover, after obtaining the new qualification, the employee may leave the company and in so doing may harm the employer. Then, the law² does not specify what happens if the employer does not allocate at least two percent of the payroll fund for employee training or if he is forced by circumstances to spend these resources on something else."

The recommendations of the international consultants Dr. George Pataki and Dr. Ciprian Fartușnic are largely aimed at the employer, namely: "The employer may be obliged to create the necessary conditions and to promote the professional training of employees, including bearing all the costs related to it, only if the training (initiation, refresher, qualification) is strictly related to the activity profile of the institution. The minimum 2% of the payroll fund for staff training may be transferred at the beginning of the year to a separate special account. The manager does not have the right to change the use of the money for other budget categories until the following year even if it remains unspent. Employees' personal or professional development (including through continuing training), which is not directly related to the company's business profile, be encouraged to take place outside working hours and be funded from employees' own sources, sponsorship or grants."

with the financial support of the Open Society Foundations) was to assess the initial training system at ISCED 5-6-7 level and the system of in-service teacher training, at a time when education in the Republic of Moldova is once again at a crossroads. The opinions expressed in this study represent solely the views of the authors and not necessarily the official position of IPRE or the Presidency of the Republic of Moldova.

² International consultants referred to the Labor Code of the Republic of Moldova, Art.213, (1), (2), (3), (4).

In order to overcome other challenges in the system of continuing vocational training, it is appropriate to mention the recommendations of the EU-Republic of Moldova Association Council and the European Commission (also discussed at the Workshop of the Platform on Adult Learning and Education (ALE) entitled "Updates to the Education Code and outlining perspectives in policy development" on 11.07.2024, which was attended by the authors of this article)³.

Thus, as an alternative for the development and promotion of professional competences would be micro-qualification (MC), i.e. the application and recognition of micro-certificates across institutions, enterprises, sectors and countries.

Micro-certificates attest the results of short-term learning experiences such as a short course or training. They offer a flexible and targeted way to help adults develop the knowledge, skills and competences they need for personal and professional development. To this end, according to the Director of DVV International Moldova, Adela Scutaru-Guțu, some amendments have been made to the Education Code, the GD on the approval of the National Qualifications Framework and the Regulation on Continuing Adult Training.

Micro-qualification, according to qualifications and accreditation expert Anastasia Pouliou, is "a growing phenomenon - it addresses the limitations of the formal Qualifications System (QS) in order to respond in a timely manner to the needs of the labor market". The expert emphasizes that *micro-qualifications* include "a number of overlapping functions with modern ones: 1- they promote lifelong learning; 2- they allow for alternative learning pathways; 3- they are jointly defined with stakeholders." In addition, the expert points out that "in the labor market, but also for further learning" *micro-skills* will become valuable both as a means of access and progression in employment and as a social value.

It is also worth noting that ***micro-qualifications, as a tool for prior learning (RPL)***, according to expert Anastasia Pouliou, can be used to: 1- obtain a partial qualification; 2- obtain a full qualification; 3- benefit from access to educational programs, including transition from VET to higher education; 4- benefit from exemptions from part of the educational programs and/or to shorten their duration; 5- benefit from exemptions from part of the vocational qualifications. In this vein, the expert in the field of qualifications and accreditation also exemplifies ***good practices***: "New Zealand - micro-qualifications system as part of the regulated education and training system; Sweden - increased stakeholder involvement; Catalonia - pilot program for accreditation of micro-qualifications; Finland - closer cooperation between academia and the labor market - hygiene passport; Slovakia - legislative conditions for the introduction of micro-qualifications in practice".

What would be the benefits of micro-qualifications as a tool not only for prior learning but also for developing and promoting professional skills?

Micro-qualifications can offer numerous benefits:

- 1) opportunities/entry routes into the labor market;
- 2) provision of professional IT/AI solutions, especially if we aim to technologize the most important areas of socio-professional life (such as: public services in health, agriculture, education, justice, etc.);
- 3) shaping industrial ecosystems.

³ Workshop of the Platform on Adult Learning and Education (ALE) on "Updates of the Education Code and mapping perspectives in policy making" on 11.07.2023, SUMMIT EVENTS & CONFERENCE CENTRE, Barcelona Hall. Moderator: Adela Scutaru-Gutu, Director DVV International Moldova.

To these benefits could be added others (based on good practices in Estonia), namely:

- 1) curriculum development in cooperation with business;
- 2) quality assurance, evaluation and recognition of achieved results.

According to Anastasia POULIOU, expert in VET, qualifications and credentials, although micro-qualifications would also entail certain **barriers to adoption** (such as: "lack of appropriate and transparent accreditation standards; uncertainties about the nature of micro-qualifications; the way learning outcomes are assessed and documented; lack of formal recognition by national authorities; incompatibility of some micro-qualifications with NC systems; limited opportunities for accumulating and combining micro-qualifications"), nevertheless, **micro-qualifications are a good opportunity for adults aspiring to train and/or develop acquired, verified and recognized knowledge and skills through further education**, in line with the needs of the labour market in particular and society in general.

The second essential reason, in our opinion, for developing and promoting professional skills is to learn quickly to adapt to new situations and challenges in an intercultural framework.

The second essential reason, in our opinion, for developing and promoting professional competences is to learn quickly to adapt to new situations and challenges in an intercultural setting.

In other words, lifelong learning (including the opportunity to pursue a micro-skilling) can give an adult not only a sense of security in his/her own performance, certain incentives to improve work-life balance, career guidance, skills to use socio-professional support platforms, but also **proactive integration in an intercultural context as an essential desideratum in awareness preventing and remedying barriers in the process of social cohesion, reflecting on various intercultural issues as a continuous learning process, which highlights the individual's value system, beliefs, feelings and emotions that guide adults in making decisions on lifelong learning, adopting a certain attitude and socio-professional behavior.**

Lifelong learning is currently a pressing need, especially in the context of the integration of European standards in **intercultural dialog**. Schön's triple learning loop model (Argyris and Schön, 1996) is therefore ideally suited to this.

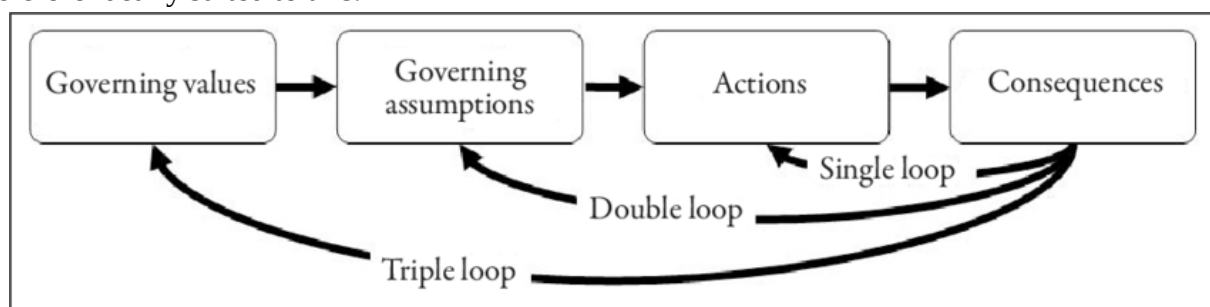


Figure 1 Single-, double-, triple-loop learning

Source: Adapted from Argyris and Schön (1996)

Under this model **learning** and **reflection** can be harnessed within teams and individuals. Understanding these ways helps teams to reflect on day-to-day activities and beyond. All the more so the questions underlying the three loops in the model, namely ***Can I be differently? Can I think differently? Can I act differently?*** could guide the adults involved in organizing and carrying out the lifelong learning process (implicitly the learners) in valuing intercultural dialogue.

An *eloquent argument* in this respect is represented by refugees who, under the influence of external factors, realize that in order to integrate in a social and cultural environment different from the usual one, it is necessary to learn not only the language of the host country (Romanian), a language different from their mother tongue, but also English, a language of international circulation as a bridge between different cultures and an opportunity to increase their chances of employment.

Undeniably, integration into a social and multicultural environment often involves linguistic and psychological barriers. This is why the stakeholders involved in this process of cultivating intercultural dialogue, including trainers of Romanian, English, etc., also have an important role to play in this intercultural dialogue: creating a learning climate conducive to refugee resilience through employment opportunities, skills development and social cohesion.

Lifelong Learning is first and foremost about **Attitude**, and Attitude in turn means **Change!** According to the publication "English-Romanian Glossary of Terms in Adult Learning and Education (ALE) and Lifelong Learning (LLL)", funded by BMZ (German Ministry for Economic Cooperation and Development), attitude to learning is "motivation to learn, learning preferences, self-confidence in learning, enjoyment of learning". Source: European Glossary for Adult Learning, Level 2.

Stakeholders (investors, educational institutions, lifelong learning centers, beneficiaries of educational and vocational services, employers, etc.) directly or indirectly interested in promoting assertive intercultural dialogue could implement this through *three learning steps*:

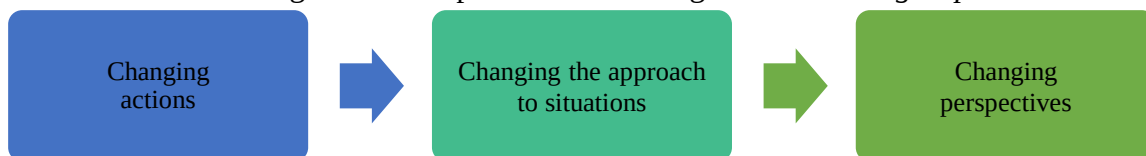


Figure 2 The three learning steps in promoting intercultural dialogue

Source: Prepared by the author

It is well known that adults involved in intercultural dialog (including refugees, migrants, national minorities) have certain interests, which they try to protect. But do these interests not contradict the law of civilized dialogue? Are the rights of others respected?

In order to prevent such divergences, it is essential that several key principles are taken into account when promoting skills to support intercultural dialogue:

- Say "No" to bullying, "No" to judgment;
- Avoiding feedback perceived as criticism! Yet, this blocks lifelong learning and in no way leads to resilience of a refugee/migrant/national minority;
- To correct actions and behaviors (with a focus on solving problems and getting results), but without neglecting the fundamental assumptions or beliefs underlying those actions;
- To encourage adults to learn to integrate in a multicultural environment through the laws of civilized intercultural dialogue, and if their behaviour is not correct, to motivate them to revise their social cohesion strategy;
- To encourage adults learning to conduct intercultural dialogue to reflect on the correctness of their actions, taking into account the patterns of behavior displayed and the role they themselves play in this context;
- To motivate adults to practice continuous reflection on the process and context of lifelong learning, the assumptions and values that motivate lifelong learning. However, individuals from different

backgrounds and cultures, with different learning systems, but who at the same time support lifelong learning, can generate new alternatives for resolving intercultural differences and new prospects for socio-professional cohesion.

Conclusions

In this context, it is essential to realize that, in order to develop and promote professional competences, stakeholders must first identify and remedy the deficiencies in the lifelong learning system. Significant learning deficiencies include, on the one hand, **economic, geographical and social barriers** and, on the other hand, **educational resources that are not suited to the objectives and purposes of training, insufficient and/or lack of qualified teachers in terms of social, digital and entrepreneurial skills, and in the field of continuing adult education**. Once these shortcomings have been overcome, it will also be possible to analyze the training needs of stakeholders interested in personal and professional development. Training needs analysis is usually carried out by educational service providers and clients, employers, employee representatives working together to identify the training needs of employees and then design them into a learning program.

According to lifelong learning specialist Pedro Moreno da Fonseca, there is a need to increase the value of **micro-skills** through a complex ecosystem: policies, governance and funding, smart skills needs, innovative and flexible learning pathways and programs, inclusive skills programs - all in line with the value standards or what is meant by fair certification. In conclusion, a community is truly proactive only if it promotes a "learning culture" by developing effective local partnerships between community sectors, supporting, motivating individuals and organizations to learn, broadening their horizons (IQ, EQ, SQ, LQ, DQ, etc.), using their knowledge and skills to solve social-economic, cultural problems and thus contributing to their personal and professional development as well as to that of the community they are part of.

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OPTIMIZING ORGANIZATIONAL PROGRESS: UNDERSTANDING THE SIGNIFICANCE OF HUMAN RESOURCES FUNCTION

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Abstract: This article analyses the paramount importance of the human resources function within a company or enterprise. As the modern business environment becomes increasingly competitive and complex, it is very important to pay a closer attention to HR activities and responsibilities. First, this article emphasizes the role of the HR function in the hiring process, emphasizing the importance of attracting and selecting the right candidates for company vacancies. This process ensures that the company has talented employees with the potential to both support and lead its evolution. At the same time, the article analyzes personnel development as another primary function of human resources. Planning and implementing development programs helps employees develop new skills and capabilities necessary for the best productivity within a company. Next, this article examines the management of performance as an important aspect of the HR function. Tracking, evaluating, and providing feedback to employees are essential elements in ensuring that both the individuals and the organization's goals are met. The article also investigates the significance of the relationship with employees, emphasizing the role of human resources in managing internal communication, conflict resolution, and providing support in various personal and professional situations. Finally, the article emphasizes compliance with laws and organizational policies in the field of human resources. The HR function ensures that the organization acts in accordance with labor law and applies effective policies in recruitment, equal employment and other essential matters. In conclusion, the HR function plays a vital role in the development of the organization through careful recruitment and selection of employees, staff development, performance management, managing employee relations and compliance with laws and policies. A well-managed HR function is key to ensuring long-term organizational growth and success.

Keywords: Human Resource function, HR performance, HR management, HR professional, organizational progress

JEL classification: M12, M14, M51, J24, J62

Introduction

Human resources are one of the most important facets of a business enterprise. HR is responsible for the development and implementation of policies and procedures that help the governance of a

business. Without HR, a business cannot function accordingly. This reality, makes many experts in the field state that the competitive advantage of an enterprise, more and more, resides in its people. The fact that people are what separates a successful company from an unsuccessful company is becoming undeniable. Without an adequate workforce, an organization will not be able to function at maximum capacity or top productivity. The management function of human resources performs as a function to attract talent, which through HR policies and programs has to be kept within the business. This is why, regardless of the industry, profile, size, products and services, all companies possess web pages with dedicated sections for current and potential employees, emphasizing the role of human resources in reaching competitiveness in the market.

Today, all enterprises that performs management activities of human resources, at an advanced or reduced to the base, administrative and tactical activities. Actually, the management of human resources (HRM) has expanded so much in the last few years, therefore experts are declaring that human resources policies should become an effort for collaboration between professionals in the field of human resources and the line managers of business companies, and their implementation would should be shared between the HR function and line management (Porter, Bingham and Simmonds, 2008).

Thus, we can conclude that any person who occupies a managerial position or tends to it must understand the mechanisms by which human resources contribute to the fulfillment of organizational objectives and the ways in which people can be motivated will determine the profitability of organizations. Human resources specialists must act strategically and coordinate all activities that in one way or another affect the organization's personnel. (Lefter, Deaconu and Manolescu, 2012, p. 6) In the specialized literature, it is increasingly recognized that in a modern society, characterized by a real informational explosion, human capital has a determining role in the strategy of any organization, surpassing the importance of financial capital in this particular aspect.

Based on the research carried out by human resources specialists, we have made a selection of the most significant visions related to human resources:

- "Human resources represent the organization; people are a common resource, but at the same time, a key resource, a vital resource for organizations, contributing to their development and competitive success" (Manolescu, 1998, p. 11).
- "Human resources have special characteristics that directly influence the percentage of use and productive capitalization among the other categories of resources" (Rotaru and Prodan, 1998, p. 2).
- "Human resources must meet certain criteria to contribute to competitiveness, they represent a category of valuable resources for the organization that are quite difficult to replace" (Manolescu, 2003, p. 20).

Taking into account the opinions of specialists in the field, we can clearly understand why, over time, human resources have acquired a primary role within organizations and why, gradually, the staff has become a resource, the use of which must be permanently optimized.

But all of this depends on the ability of people within the organization to execute strategies, plans and processes to make a business successful. Every part of business comes down to people. And by managing people, organizations can be more profitable, lead more effectively, create brand loyalty and work better.

The human resource function (HR) of an organization plays a major role in increasing its profit/and the success of its business strategy. HR provides an organization with the best services and systems that generate both profit and team synergy.

Why is HR so important?

For any organization, all resources (material, human, financial and informational) are important, but human resources and their management have a decisive role in their confrontation with the unknown, they constitute "the creative, active and coordinating element of economic activities and/or with social-educational character". (Petrescu, 1998, p. 459)

Human resources are the **creative element** of the organization, because they constitute the main source of nature to ensure its adaptability to the requirements of the external environment, they create the new, ensure the necessary competitiveness and the quality of goods or services, being the only ones capable of producing and reproducing all other resources available to an organization. They are the only inexhaustible resources of creativity, solutions and new, original and valuable ideas for any public or private organization.

The human factor is at the same time the **active element** of the organization, because the potential, experience and passions of human resources, their initiatives and development actively contribute to the increase of organizational efficiency and effectiveness. Without the effective presence of people it is simply impossible for an organization to achieve its objectives.

Human resources constitute the **coordinating element** of the organization, being the only ones capable of harmonizing management decisions with the actions and functioning of the organizational subsystems in order to achieve the foreseen objectives. For this, the management must secure the respective people, earn their services, develop their skills, motivate them to the highest possible levels of efficiency or effectiveness and ensure that they will continue to maintain their attachment to the organization.

Many entrepreneurs start their businesses successfully, but struggle with human resource management as the business begins to thrive. Managing staff takes time and requires specific skills. HR is an area of expertise that many business owners lack.

Regardless of skills, the value of human resources in business is not always immediately obvious. With just a few employees, business owners feel like they have their finger on the pulse when it comes to the people they hire and manage.

But as a business grows, owners often find they don't have time to deal with the day-to-day management and recruitment of staff, and the focus on people can easily be lost. This is a costly mistake and can affect employee satisfaction, culture and long-term success.

The importance of human resources in business

The nature of business is competitive. To gain an edge over competing companies, the company could consider new tools that allow the team to work better and the company to reach more potential customers. But one of the most important areas in which the company must invest is HR. There are countless reasons why HR is important to businesses of all sizes and shapes. We will analyze some of them in the following:

HR helps workers adapt to the new world of work

The pandemic period has demonstrated why HR is important to keeping businesses afloat. The pandemic has brought unprecedented changes to the world of work, as companies have been forced to go digital and allow employees to work remotely. HR professionals have played a critical role in keeping employees productive and engaged under stressful circumstances.

With employees returning from remote work, companies have taken different paths. Some companies have returned to "business as usual" in their office model. On the other hand, many organizations

have transitioned to a hybrid model. Human resources were critical to ensuring a smooth transition from remote work to a hybrid or in-office model during these adjustments. They are a valuable resource to employees because they can listen to staff and make adjustments that help keep workers positive and productive in the face of change. (Why HR is important to the success of a business)

HR provides meaningful connections and engagement

Human resources can play a vital role in encouraging workplace engagement.

Engagement is an essential component of any company culture. In fact, researchers have found that organizations with high employee engagement are 21% more profitable on average than other businesses. When workers feel valued and part of a team, they are more likely to work hard: 69% of employees said they would work harder if they were more valued.

HR professionals support employees so that they feel valued and part of the team. By addressing employee satisfaction and assisting managers in their leadership roles, HR helps deliver critical engagement for the business.

The HR department supports employee morale and helps employees develop a deeper commitment to the company and its goals. HR also addresses employee satisfaction by helping managers become more effective leaders. HR connects managers with valuable coaching, training and feedback that equips them to lead their teams and support their people. (Nouri, 2019).

HR ensures better hires and onboarding

Every team member is essential to the success of a company, no matter how big it is. Finding the right people to work in a company's business can be difficult. The recruitment process can take months and a bad hire can be a costly mistake. The US Department of Labor estimates that a bad hire can cost a business 30 percent of the company's earnings in the first year, but many experts believe it's even more than that. A bad hire can create a negative company culture, lost productivity and lost customers. Finding the right person when it comes to recruiting talent is one of the most important aspects of HR. Overstaff, understaff or recruit the wrong candidate and the business will suffer.

HR is critical to making sure every hire is a productive one. These are essential to the recruitment process and to ensure that the right people apply for the right positions.

However, hiring success isn't just about finding the right person. The first days and weeks at a new job are a vital part of a new employee's performance. HR's Onboarding Process Is Critical to Both Employee and Company Success: A survey found that the onboarding process is critical to employee engagement, workplace culture and performance.

The importance of onboarding is perhaps the most underrated part of the recruiting process. Not to be confused with orientation, onboarding refers to the entire experience of hiring, welcoming, orienting and hiring a new employee and the help received from HR as the new employee adapts to the organization's culture. Good onboarding maximizes employee engagement and increases retention. Conversely, poor onboarding can have a hugely negative impact and leave new hires disillusioned from the start.

HR improves performance

Almost everyone starting a new business will have some skills gaps. And promoting from within creates the need for an effective means of training and supporting workers in new positions.

HR is critical to addressing these skills gaps. They provide crucial training and identify external training programs to ensure everyone has the training to succeed. (Why HR is important to the success of a business)

It is widely recognized that employee training and development contributes to better employee engagement, increased productivity, reduced employee turnover and a more positive culture. Staff training and development helps strengthen any weak links in the company. Investing in employees strengthens the organization and gives the business a competitive advantage. (Sands, 2022)

HR helps employees achieve their career goals

HR advises employees on career paths within the organization, but also provides tools to help employees decide which path to take.

By designing internal training and identifying external training providers, HR professionals develop a curriculum that helps employees develop their strengths and address areas of development. HR also helps employees make connections, for example by giving them access to an interactive organizational chart.

An interactive organizational chart shows the different roles within the company and gives employees a new way to learn about the different career opportunities that exist within the organization. Understanding the structure of a company can motivate employees on their way to landing their dream job. (Nouri, 2019)

HR improves company culture

HR plays an essential role in developing, strengthening and changing a company's culture. Payroll, performance management, training and development, recruitment and onboarding, reinforcing business values are all essential elements of business culture covered by HR.

Making the right culture is not so easy. It requires a multi-pronged approach and requires consistent care. Especially, human resources play an important role when it comes to defining the right tone regarding the company culture.

Additionally, the customers can feel the enthusiasm and happiness of company employees, which will in turn create loyal customers if the company culture is positive, or will actually turn customers away if the employees are unhappy.

Therefore, it is not surprising that many organizations are taking corporate culture very seriously. In a survey of over 1.400 financial directors, over 50% mentioned that the company culture is influencing its productivity, creativity and profitability.

HR professionals play an important role in the maintaining a positive company culture. Their capacity to stimulate interaction and connection between employees, to provide valuable feedback to leadership, and to implement changes that improve morale, and are contributing to a healthy company culture.

Also, HR can identify employees with high potential and can offer them the tools to continue to grow within the company. The employees that are being supported and can imagine a future in the company, are a lot more inclined to have a positive attitude, that will induce in turn to a better corporate culture.

Through the promotion of a company centered on employees and a productive workplace, HR is an integral part of any company's culture. (Why HR is important to the success of a business)

HR improves the communication within a company

To better function, enterprises need an efficient communication. A good communication attenuates misunderstandings, increases employees involvement, creates the base for better customer relations, encourages innovation and creativity and helps create a positive culture.

Effective communication is necessary for any initiative to gain traction within an organization, and HR is an important catalyst in ensuring that all individuals involved have the information they need.

HR also supports communication in the workplace by ensuring that appropriate feedback loops are in place so that individuals have opportunities to voice their opinions and ask questions. (Rolul resurselor umane în transformarea organizațională)

HR is implementing new technologies

Technology is never a “one and done” process. It is constantly evolving and offers companies new ways to improve their operations and gain an edge over competing companies. Research shows that digitized organizations are 23% more profitable than their peers.

By getting feedback from employees, customers, and reviewing processes, HR can identify which technology could help improve collaboration. Human resource management also plays a crucial role in the implementation of new technology. The training they provide to employees helps create excitement and a smooth transition.

When employees better understand how new processes and technologies can serve them and receive detailed instructions on how to use them, they are more likely to embrace it. (Why HR is important to the success of a business).

Legal and regulatory compliance

HR professionals have a thorough understanding of employment law and the regulatory requirements of a business associated with staffing. This enormous area should not be underestimated; a wrongful dismissal claim can be a costly mistake. (Sands, 2022)

Conclusions

As both employees and employers are concerned about what the future of work holds for them, the importance of the HR function is hard to overstate. It provides a critical link between employees and management and empowers employees to be as productive and efficient as possible.

HR professionals perform more than just managing staff or processing payroll. The whole department has a vital role and can contribute to the development of a company's strategy and its overall culture. It can help the enterprise achieve its goals and objectives by optimizing employee productivity and efficiency. The human resource function is an integral part of any business strategy, with the role of increasing productivity, identifying and addressing problems early, providing constructive and useful feedback, and promoting a corporate culture of safety.

Without the effective presence of people who know what, when and how to do it, it is impossible for organizations to achieve their goals. The existence of organizations is inextricably linked to people, their physical and intellectual qualities, their ability to create and develop organizations.

Besides the fact that any kind of organization simply cannot exist without human resources, it also cannot develop without their help. In short, the human resource is the only one capable of producing or reproducing absolutely all the other resources needed by a firm/company. As the only active resource, people can increase or, on the contrary, decrease the efficiency and effectiveness of the organization.

The truth is that human resources represent, both internally and externally to customers, exactly the image of the organization. So investing in quality people actually translates into investing in the image of the company. They will influence the customer's attitude towards the business and they will also successfully mirror the management style. (RL, 2021)

Hiring a dedicated HR professional is not a luxury for organizations, it is essential. It is common for entrepreneurs to start their business wearing the HR hat, but taking care of HR and the complexities of

employment law is not efficient time management and is costly to the company when something goes wrong.

Outsourcing HR needs, or hiring a part-time HR manager, allows business leaders to focus on growing their business. Having someone to handle employee matters, from managing absences to parental leave policies and more, will keep the business compliant and employees more engaged.

The duties of an HR department are many and varied, as it is responsible for managing human capital to meet business objectives. Therefore, this department is vital in any company and its main tasks are to find, maintain and develop human capital in order to achieve the success of an enterprise. Of course, this is also achieved by creating effective programs and by following the rules and procedures established in the field.

As business partners and advisors, HR is at the heart of any initiative that influences employee mindset and behavior. Therefore, the role of HR in organizational transformation should be to ensure that individuals have the tools and resources to understand the need for change and to assume their role in making organizational change successful. On an ongoing basis, HR helps leaders instill new values in their teams and supports employees through every stage of the HR cycle.

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CHARACTERISTICS OF MAJORITARIAN, PROPORTIONAL AND MIXED SYSTEMS

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Abstract: Choosing an appropriate electoral system depends on a society's priorities in terms of political representation, government stability, and the complexity of the electoral process. In an ideal world, an electoral system should combine fair representation with governmental stability and be simple enough to be understood by all voters. Thus, each society must evaluate what compromises it is willing to make and choose the system that best reflects its specific values and needs.

At the current moment, the importance and purpose of developing this scientific endeavor, arises from the author's intention to highlight some doctrinal and legislative landmarks in the field of majority, proportional and mixed systems. At the same time, there is also the urgent need to carry out a comprehensive analysis regarding the essence of the research subject.

In the process of developing the scientific article, we were guided by several and various scientific research methods that made it possible to properly investigate the titular subject, among which we can list: the analysis method, the synthesis method, the deduction method, the systemic method, the historical method, as well as the comparative method.

The theoretical and legal basis of the scientific approach includes the defining material such as the activity reports of key institutions with responsibilities in the electoral field, as well as the specialized literature, both local and international - which directly or indirectly addresses the essence and content of the subject under research.

Keywords: majority system, proportional system, mixed system, parallel system, mixed-proportional system, proportional representation, single transferable vote, etc.

JEL Classification: K 10; K 14

Introduction

For several decades, the topic of electoral law has been addressed, as well as the manner of conducting elections. The electoral system in a broad sense represents a mechanism, a harmonious system of various legal norms that regulate the procedure for granting electoral rights, the conduct of elections and determining the results of voting. This mechanism as a whole constitutes the Right to Vote (Gladcenco, Pușcaș, 2019). In the Republic of Moldova, several electoral systems have evolved. Each system has left its visible traces in the history of the state. Today we can talk about three electoral systems (majoritarian electoral system, proportional representation electoral systems and mixed electoral system), one of which is relatively new – the mixed electoral system. The mixed electoral system is an electoral system in which part of the mandates are distributed to the majority system and part to the proportional system, so two electoral systems are used together. Thus, thanks to a mixed system, the quality of the lawmaking process is improved and citizens are given a greater degree of sovereignty (Gladcenco, Pușcaș, 2019)

Results obtained based on scientific analyses

Majoritarian system

The majority system is the electoral system in a collegiate body (parliament), which is characterized by the fact that the winner is considered the candidate who has accumulated the majority of votes. There are electoral systems that require an *absolute majority* (50% plus 1 vote) and systems of *relative majority*, which means that the one who accumulates more votes than any other competitor involved in the competition wins the election. Of course, the majority system is beneficial for those who have money and real influence, and such a system separates us from the European political ideal of building a modern party political system.

The advantages of the majoritarian system are the following: this system is considered universal, it can be used to elect both individual representatives and collective bodies of state power or local self-government, the majoritarian system allows small parties to participate and win elections.

This family of electoral systems includes five voting systems: the simple majority system (FPTP), the two-round system, the alternative vote, the block vote and the block vote for the party.

1. The first-past-the-post (FPTP) system or the single-round majority system The „*First-past-the-post*” system (Bakken, Sorescu, 2020) is also known in the literature as the „*First-Past-The-Post*” (FPTP) system – a name inspired by horse racing and which would translate as „*the first to cross the finish line takes the pot*”. The first-past-the-post system is one of the simplest electoral systems. Under this system, a country is divided into as many electoral districts as there are seats in parliament (Bakken, Sorescu, 2020). If there are 150 seats in parliament, there will be 150 districts. In each district, the electorate votes for one electoral candidate, and the candidate who accumulates the most votes (relative majority) obtains the seat in that district (Bakken, Sorescu, 2020).

2. Two-round system. Similar to FPTP, the two-round system (TRS) operates in single-member constituencies, and the vote is given to a candidate and not to a party. However, in TRS, it is not enough for a candidate to accumulate a majority of votes to win the race. In the case of majoritarian TRS, if a candidate does not obtain an absolute majority (i.e. 50% + 1 of the votes) in the first round, a second round of voting is organized in which only the top two candidates who accumulated the most votes in the first round compete. In the second round, one of the candidates will receive the majority and will be declared the winner. In the majoritarian-pluralist TRS, a minimum threshold is set for candidates to qualify for the second round of voting. Since more than one candidate can qualify in the second round, the candidate with the most votes – a not necessarily absolute majority – is declared the winner. The majority TRS system is more common, while the majority-pluralist TRS is applied for parliamentary elections in France (Bakken, Sorescu, 2020).

3. Alternative voting. The alternative voting (AV) system also operates in single-member constituencies and requires an absolute majority to determine the winner of the election race. The main difference between AV, on the one hand, and FPTP and TRS, on the other, is that in AV, preferential ballots are applied. The preferential ballot requires the voter to sort the candidates in order of preference, that is, to number the candidates (1, 2, 3, etc.), thus indicating who is the first preferred candidate, who is the second, third, etc. In other words, while FPTP and TRS require voters

to indicate only the most preferred party or candidate, AV allows for a more sophisticated expression of voters' preferences (Bakken, Sorescu, 2020).

4. Other Majoritarian/Pluralist Systems. Block voting (BV) and party block voting (PBV) are two other systems in the family of majoritarian/pluralist electoral systems. The main difference between these two systems and the others mentioned above is that they both operate in single-member constituencies. BV and PBV systems are neither widely used nor supported by electoral experts, and therefore only a brief overview of these systems is provided in this report.

In **Block Voting (BV)**, voters have a number of votes equal to the number of seats allocated for the constituency, and seats are won by the candidates who obtain the highest number of votes. In other words, BV is similar to FPTP, but it is applied in multiple-member constituencies.

Party Block Voting (PBV) works similarly to BV with two important exceptions: i) instead of voting for individual candidates, voters vote for lists of candidates proposed by parties and ii) voters have only one vote. The winner is determined by the majority of votes, and the party that obtains the highest number of votes obtains all the seats available in the constituency (Bakken, Sorescu, 2020).

BV is used for parliamentary elections in the Cayman Islands, the Falkland Islands, Lebanon and Syria, while PBV is used for certain parts of parliamentary elections in Chad, Egypt and Singapore (Bakken, Sorescu, 2020).

Proportional systems

The proportional representation system is the most democratic method of determining election results. This electoral system ensures the relative representation of small parties as well. In practice, several proportional representation systems are known: the rectified quota system, the single number system, the Hondt system, etc. In the Republic of Moldova, the proportional representation system is applied following the election results.

There are two main types of proportional representation system: **Proportional representation (PR) and single transferable vote (STV)**. The PR system can be subdivided into two groups: *PR on party-blocked lists (PR-CL)* and *PR on party-open lists (PR-OL)*.

a) Proportional representation. Proportional representation systems operate on the basis of different electoral formulas, which can be divided into two large categories:

- largest remainder: the number of votes accumulated by each party is divided by a quota that represents the number of votes needed to obtain a mandate. There are different ways of calculating the quota, the main two being the Hare quota and the Droop quota;
- largest average: the number of votes obtained by each party is divided successively by a set of divisors. The set of divisors used varies – the main divisors are d'Hondt and SainteLague. The size of the plebiscite-nominated constituencies can vary. According to the rules of the PR, an electoral district must correspond to at least 2 mandates. On the other hand, it is possible for a country to have only one electoral district, in which case the number of mandates elected in this district would be equal to the total number of mandates in parliament. Between these two extremes there are considerable variations – from small constituencies (3–5 representatives) to medium (5–10) and large (15 and more representatives) constituencies. As a general rule, the larger the constituencies, the more proportional the results will be. And vice versa, small constituencies tend to reduce the proportionality of election results (Bakken, Sorescu, 2020).

Main advantages and disadvantages. The strongest argument in favor of party-list proportional systems – or proportional systems in general – is their ability to ensure a „fair” (Bakken, Sorescu, 2020) transformation of votes cast in elections into seats in parliament. In many new democracies, the issue of fair representation, including access for smaller parties or groups in society, is considered unfavourable for the consolidation of democracy. In volatile contexts, it may be difficult for a party with 20% of the vote to accept that it may not obtain even a single seat in parliament, which can happen in majoritarian systems. Another side effect is that proportional systems produce fewer wasted votes, which assures voters that elections are meaningful. Proportional systems also promote the development of a multi-party system, as they offer possibilities to include smaller parties. This in turn gives rise to coalition governments based on power-sharing arrangements that provide for compromises across the political spectrum (Bakken, Sorescu, 2020), rather than „either-or” solutions to political challenges. Some argue that proportional systems promote political continuity and stability (Bakken, Sorescu, 2020). The argument is that „regular changes in government between two ideologically polarized parties, as can occur in FPTP systems, make long-term economic planning more difficult, while coalition governments with broad representation contribute to the stability or coherence in decision-making that enables national development”. Criticisms against proportional systems focus on how this system promotes coalition governments and the fragmentation of political parties. Coalition governments are believed to lead to legislative gridlock that could stall policy implementation and development. Moreover, coalition arrangements concluded by political parties after the elections reduce the possibility for voters to participate in the formation of governments. And even if a party enjoys only 10–15% of the electorate's support, the leader of such a party could still become the country's prime minister. Proportional systems promote the fragmentation of the party system, which can lead to undue influence by small parties: if neither of the two large blocs in parliament has a majority, small parties in the middle gain considerable power. In addition to the arguments for and against proportional systems, mentioned above, they are appreciated for promoting the representation of different groups in society. In order to attract voters, political parties are encouraged to present a diverse list of candidates that reflects the structure of the population, for example, men/women, young/old, rural/urban population, ethnic/religious/racial groups, etc. In particular, party-list proportional systems are appreciated for promoting women in elected positions. While under FPTP, parties are encouraged to promote the „most acceptable candidate” (Bakken, Sorescu, 2020), under list-based proportional systems parties must present the „most acceptable list of candidates”, in which women are given a fair share. In particular, party-list proportional systems allow for the easier introduction of quotas for women's representation, which is already being done in many countries (Bakken, Sorescu, 2020).

Proportional systems with blocked lists (PR-CL) represent the simplest form of proportional systems. It involves voters voting for a party in a single-member constituency. Based on the distribution of votes, parties obtain a number of seats in parliament, and the order of candidates on the party lists determines who obtains these seats. Under PR-CL, the order of candidates on the list presented to voters is determined by the party's central committee or the party body of the constituency. The structure of the ballot paper provides considerable control to political parties.

Proportional systems with open lists. Proportional systems with open lists (PR-OL) represent a more sophisticated version of the proportional list system. It differs from PR-CL in one important aspect: the

structure of the ballot paper. While under PR-CL, voters can only vote for a specific party, PR-OL offers voters the opportunity to influence the choice of candidates on the list (Gladcenco, Pușcaș, 2019).

b) Single Transferable Vote. The Single Transferable Vote (STV) is a preferential voting system. Voting takes place in single-member constituencies with the application of a proportionality formula – a quota – to distribute the mandates. But at the root of the STV system is preferential voting: voters are asked to order individual candidates according to their preference. When the votes are counted, all candidates who receive a number of votes cast with the preference „1” equal to or greater than the established quota are elected. Subsequently, a process of redistributing the surplus votes of the elected candidates and eliminating the candidates with the lowest number of first preference votes takes place until all the mandates are distributed (Gladcenco, Pușcaș, 2019).

Main advantages and disadvantages. The general advantages and disadvantages of PR systems in general are also relevant for the STV system. Beyond them, STV provides more value to voters' votes, expressed in favor of parties and candidates. In practice, STV is applied more in electoral districts with rather small nominal folds, which have the advantage of bringing elected representatives closer to voters. Compared to party-list PR, STV also increases the chances of popular independent candidates to be elected to represent voters in parliament. Some of the main disadvantages of the STV system are quite obvious: it requires voters to cast a rather complicated vote, and the calculation of the distribution of mandates is quite complex. There are also opinions that STV causes party fragmentation and internal party splits, since candidates from the same parties can compete on the ballot (Bakken, Sorescu, 2020).

Mixed systems

In order to minimize the shortcomings of the majoritarian system, as well as the proportional system, some countries use the mixed system, which, in essence, represents a combination in different proportions of the advantages of both systems while minimizing the disadvantages. Thus, in the Federal Republic of Germany, half of the members of the first and main chamber, the Bundestag, are elected through the majoritarian system in a single round at the country level, and the other half are elected through proportional voting based on the states. In mixed elections, the voter, as a rule, has two votes - one is given to the candidate from the single-member constituency, and the second is given to those elected on party lists. The advantage of the system is that, having two ballot papers, the voter can choose on two levels: at the electoral constituency level – locally and nationally. In Australia, for example, the House of Representatives is formed according to the absolute majority system, and the Senate - according to the proportional representation system. Recently, two more European states have switched to the mixed electoral system – Lithuania and Hungary. The practice of political life has shown that the mixed electoral system, unlike the proportional system, can solve in a more appropriate and acceptable manner both the problem of minority representation in legislative bodies and the formation of the majority necessary for stable governance. The solution or the possibility of solving this problem of particular importance served as a reason for a dispute in several countries in Europe, including the Republic of Moldova, regarding the transformation of the proportional system or even the transition to the mixed system. The main arguments put forward not only by voters in favor of changes are indisputable, given the fact that the proportional system itself is not established to benefit voters, but one intended to represent the interests and will of political parties.

There are two types of mixed electoral systems: **the parallel system and the mixed proportional system (MMP)**. The main difference between the two is that, in the case of the former, the two combined systems are distinct and independent of each other, while in the case of the latter, the combined systems are linked to each other. Since the way the two systems work in terms of voter choices is quite similar, it is worth examining in this paper. Both the parallel system and the MMP vary considerably from country to country.

- *Number of ballots*: In some mixed systems, voters have a single vote, which is used to elect a candidate in the majoritarian/pluralist component and to elect a political party in the proportional component of the election.

- *Majoritarian/pluralist component*: Most mixed systems use either FPTP (e.g. Japan, Russia and Ukraine) or TRS (e.g. Lithuania and Hungary) to select candidates in single-member constituencies, but other systems may be used.

- *Proportional component*: Mixed systems use party-list PR in the proportional component, some with closed lists, others with open lists.

- *Seats per system*: Mixed systems can vary in the number of seats elected in each system – in some cases half of the parliamentarians are elected in each system, but the practice can vary from country to country. The number of mandates distributed by the different systems influences the outcome (Gladcenco, Pușcaș, 2019), for example:

I. Mixed parallel systems. Despite their differences, parallel systems have one characteristic in common: they all consist of two separate electoral systems, which operate completely independently of each other. In other words, some members of parliament are elected according to majority/plurality rules, and some members of parliament are elected according to proportional representation (Bakken, Sorescu, 2020).

II. Mixed member proportional system. The key feature of mixed member proportional (MMP) systems is the way they link the two systems used – namely, the way in which the seats offered in the proportional component are used to compensate for the disproportionality produced in the majority/pluralist component of the system. If a political party wins 20% of the votes but only 5% of the seats under majority/pluralist rules, it is awarded additional seats from the proportional component to compensate for the gap (Bakken, Sorescu, 2020).

Conclusion

In conclusion, I can say with certainty that each type of voting system has distinct advantages and disadvantages, which influence the quality of political representation and governmental stability. Majoritarian systems favor stability and simplification of the electoral process, but may neglect fair representation. Proportional systems provide more fair and diverse representation, but may lead to governmental instability. Mixed systems attempt to balance these aspects, combining elements of both systems to achieve more efficient and fair representation and governance.

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SESSION V.

**INNOVATION AND COMPETITIVENESS IN
ACCOUNTING AND AUDITING OF ENTITIES**

ACCOUNTING SITUATION OF PUBLIC INSTITUTIONS UNDER THE CONDITIONS OF THE EUROPEAN COURSE

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Abstract: The methodical-scientific approach of this paper is concretized in the analysis of the main elements that may undergo changes in the process of accession of the Republic of Moldova (RM) to the European Union structures. The normative regulation of accounting of public institutions is the benchmark to be adjusted according to the new requirements of international and national bodies, but not least, the new requirements of financial-accounting information requested, in particular, by external users. At the same time, the importance and influence of the European budgetary process in the organization of accounting cannot be neglected in relation to: commitment, liquidation, authorization and payment of expenditure of public institutions. Another important aspect concerns the implementation in the Republic of Moldova of the European System of National Accounts, which must comply with the worldwide methodology of national accounting. Its role is to prepare the necessary information for reporting to various European bodies and in particular to the European Commission (Eurostat). Another problem concerns the need to change the ideology regarding the national plan of accounting accounts in public institutions. Currently, the existing plan is drawn up in strict accordance with the economic budget classification, but because the content and structure of this classification is based on principles of a different nature from the accounting principles, it creates a number of problems for accountants. In this regard, we consider important the need to review it and make changes in which accounting principles prevail. Internal managerial control is another area that needs to be reviewed and updated in line with the new EU requirements and in line with national realities.

Keywords: problems of organization of accounting of public institutions, accounting law chart o accounts, off-balance sheet accounts

JEL Classification: M41

1.Introduction

The specificity of the activity of public institutions is the starting point in the search for solutions to streamline their accounting. They may carry out social, cultural and/or administrative activities without obtaining financial benefits. Their activity is carried out on the basis of the financial sources received from the state budget, called in professional terms budgetary credits. The organization of accounting becomes a direct function of the type of activity carried out and the sources of financing that can differ significantly from one institution to another. The study in this article focuses on the regulatory issues faced by professional accountants in Romania and the Republic of Moldova. However, regardless of the factors mentioned above, the accounting law is the basic element that guides all the entity's asset management processes. In this perspective, the comparative study analyzed the basic laws of both countries, combined later with a series of other legal norms meant to develop and concretize certain problems.

Comparative study of accounting law

In the Republic of Moldova, accounting is organized on the basis of two laws. The first law was approved and published in 2007 with 48 articles, while the second law was published in 2018 with 37 articles. The area of application of both laws results from article 2, thus the provisions of the first law apply to all legal and natural persons carrying out entrepreneurial activity, non-commercial organizations, including public institutions. The second accounting law is the result of the policies and strategies promoted by the Republic of Moldova in the process of joining the European Union and is aimed at legal and natural persons carrying out entrepreneurial activity, with the exception of budgetary institutions based on Directive 2013/34/EU. In Romania there is a single accounting law first published in 1991 with 49 articles. The scope results from the 6 points of article 1 with reference to all categories of legal and natural persons with the obligation to organize and management of accounting. Point 2 of this article refers to public institutions, associations and other legal entities with and without patrimonial purpose that have the obligation to organize and manage financial accounting and, as the case may be, management accounting.

The public institutions of the Republic of Moldova organize and keep double-entry accounting based on the methodological norms for the budgetary sector approved by the Ministry of Finance. The head of the public entity is responsible for accounting and financial reporting, and the chief accountant may have higher or secondary specialized education. In Romanian accounting, the responsibility for the organization and management of accounting rests with the budget authorizing officer. The economic director or the chief accountant are responsible for the organization and management and must have higher economic education and must demonstrate attributions regarding the management of the entity's accounting. As can be seen, it is not clear the field of education of the chief accountant in the Republic of Moldova.

Moldovan public institutions recognize and account for economic transactions based on a cash and/or accrual basis accounting. The main object is the patrimony of the state and the administrative-territorial units. The standard accounting policy for public institutions is developed and approved by the Ministry of Finance. The accounting of income and expenses is kept according to the chart of accounts, the budget classification and the approved budget. The expenses are financed within the limits of the expenditure budgets, and the result of the budget execution is determined annually by the closure the income and expenditure accounts. The cash, bank and settlement documents, financial, commercial and calculated debts can be signed by the head of the entity alone or by two persons with the right to sign: the first signature belongs to the head or another authorized person, the second - to the chief accountant or another authorized person confirmed by the application of a stamp. The financial statements shall be signed until the moment of their presentation to the users by the manager and the chief accountant. The Ministry of Finance of the Republic of Moldova prepares the consolidated report of public institutions quarterly and annually.

Romanian public accounting includes the accounting of budget revenues and expenditures, reflecting the revenue collection and the payment of expenses related to the budgetary year. At the same time, it includes general accounting based on the principle of recognizing rights and obligations related to changes in the financial and patrimonial situation, as well as the patrimonial surplus or deficit. On the other hand, it represents the main provider of information for credit officers regarding the execution of income and expenditure budgets, the patrimony under administration, as well as for the preparation of the annual

general account of the execution of the state budget, the annual account of the execution of the budget state social insurance, special funds, as well as the annual execution accounts of local budgets.

The quarterly and annual financial statements are the official document of the public institutions justifying the situation of the patrimony under the administration of the state and administrative-territorial units and the situation of the execution of the income and expenditure budget. They shall be signed by the credit officer and the head of the financial-accounting department. The Ministry of Public Finance prepares the annual balance sheet of public institutions. The financial exercise for Romanian public institutions corresponds to that of the Republic of Moldova and is the budget year. Another particularly important element consists in keeping and archiving financial-accounting documents. From the Romanian accounting law, these provisions directly follow, namely that the mandatory accounting records and the supporting documents underlying the financial accounting records are kept for 10 years, salary States - 50 years, there is also a list of financial-accounting documents that are kept for 5 years.

While in both accounting laws of the Republic of Moldova do not directly indicate certain limits, they it is referred to a specific normative act. The analysis of this act demonstrates that the limits for archiving differ from the Romanian ones, for example: financial statements - permanent, salary payment statements - 6 years, reports on labor remuneration (form IRV, REV, IAL, IPC 18, CAS 18-YEAR etc.) -75 years, registers of current accounts -6 years.

Comparative study on the structure and content of the chart of accounts

In researching the specifics of the chart of accounts from one country to another, we take into account the specifics of economic development and culture of the respective country. Although the analysed countries speak the same language and have the same religion, however, the way of organizing accounting differs significantly. In this perspective, the process of transition of accounting from socialist to capitalist accounting had different trajectories.

The period corresponds for both countries, that is, the late 1980s - early 1990s, but the predominant factor that marks the difference is the type of accounting system used. The normalization of Romanian accounting started with the elaboration of a chart of accounts whose structure fully corresponds to the French one. The accounting reform in the Republic of Moldova in the period 1995-1998 is characterized by important changes based on the conceptual framework of International Accounting Standards. In general terms, the major differences in the methodology of organization of accounting in the two countries are determined by the initial objectives set. Thus, the structure of the chart of accounts resulting from the Moldovan accounting reform points us more towards the Anglo-Saxon accounting system, while the Romanian one has more similarities with the continental-European accounting system. Currently, these two accounting systems have more of a theoretical value with historical roots, but the present accounting is moving towards globalization with a general conceptual framework that can be applicable in all countries.

The comparative study of a chart of accounts starts from the general analysis of the structure presented in Table 1.

Table 1. Structure of the main elements of the chart of accounts

Group	Romania	Class	Republic of Moldova
10	Capital accounts, reserves, funds	1	Income
20	Fixed asset accounts	2	Expenditures

30	Inventory and production accounts in the course of execution	3	Non-financial assets
40	Third Party Accounts	4	Financial assets
50	State treasury accounts and commercial banks	5	Liability
60	Expenditure accounts	6	Funds sent and transfers between accounts
70	Income and financing accounts	7	Results
80	Special accounts: 8.1. Off-balance sheet accounts 8.2. Credits budgets 8.3. Budget commitments 8.4. Closing and opening balance sheet	8	Off-balance sheet accounts: 8.1. Off-balance sheet accounts related to budgetary receivables 8.2. Off-balance sheet accounts related to budget debts 8.2. Off-balance sheet liabilities and other off-balance sheet accounts

Source: Developed by the author on the basis of Ordinul MFP nr. 1954/2005; Ordinul MF nr. 216/2015)

Analysis of the structure of the chart of accounts demonstrates the significant differences between these accounts, but a more detailed examination is necessary for clarification. For example, fixed assets are found in group 20 of the fixed assets accounts and classes 3, 4 of the chart of accounts of the Republic of Moldova. A more detailed examination of each category of long-term assets separately demonstrates that the accounting essence is the same, but the way of establishing an accounting formula differs by direct relationships with the budget classification. In this perspective, we are investigating the method of accounting for the most widely used economic operation - the procurement of fixed assets (cars, machinery, equipment) from suppliers with subsequent payment.

Table 2. Comparative accounting format of an economic operation

	Accounting formula				
Romanian accounting	71.01.02*	213	=	404	71.01.02*
	„Technical installations, means of transport, animals and plantations”			„Fixed asset suppliers”	
	* Cars, equipment and means of transport				
Moldovan accounting	Debit account 314110 „Procurement of machines and equipment”				
	Credit account 431100 „Current accounts in the treasury system in the national currency” /or				
	Credit account 51922 „Debts to suppliers outside the budget system”				

Source: Developed by the author on the basis of (Ordinul MFP nr. 1954/2005; Ordinul MF nr. 216/2015; Ordinul MFP nr. 1917/2005)

The structure of the Moldovan accounting accounts demonstrates that the economic classification is integrated with the chart of accounts being structured in 6 levels: type, category, chapter, article, paragraph, element. Each level of the Economic Classification has a separate meaning represented by a single sign, constituting a code consisting of a total of 6 signs developed in accordance with the

standards of the Government Finance Statistics (GFS) 2001. In this perspective, the model formula proposed in Annex 2 of the Order of the Minister of Finance of the R M no. 216 of 28.12.2015 does not really correspond to the accounting truth, because the reflection of any purchase from suppliers implies the recognition of a debt by crediting this account, and the payment involves the cancellation by debiting this account. The proposed accounting formula does not include these rules and proposes a cash account, which, although it is an asset account, begins to function by crediting, which contradicts the accounting truth. All these inconsistencies and violations of accounting principles are the result of the direct unification of the chart of accounts with the economic budget classification. It is no coincidence that the Romanian accounting model was used for comparison in order to demonstrate how a unification can be achieved, in an indirect way, between the accounting plan and the economic budget classification. Any accounting formula in public institutions in Romania is prepared on the basis of a single chart of accounts specific to both the public and private sectors. The difference is marked by the articles in the economic classification of public finance indicators that are used in the development of each accounting formula. For example, the economic operation presented in table 2 uses the same budget item 71.01.02 for the debtor and creditor account. Another difference that needs to be noted refers to the existence in the Romanian regulatory framework of reconciliation tables between the accounting accounts of expenditure (income) and the economic classification of public finance indicators, as shown in table 3.

Table 3. Extract from the reconciliation table between the income and expenditure accounting accounts and the economic classification

Accounting account	Indicator name
641 „Employer compensation costs”	10.01.01 Basic salary 10.01.02 Merit pay 10.01.03 Management allowance 10.01.04 Seniority bonus ... 10.01.07. Overtime 10.01.07. Food allowances

Source: Developed by the author on the basis of (Ordinul MFP nr. 1954/2005; Ordinul MFP nr. 1917/2005)

As can be seen from the information presented in table 3, each expense (income) accounting account has a list of items from the economic classification that are added for each accounting formula alongside the accounting account. We appreciate this more correct methodology because the accounting principles are not distorted and at the same time the provisions of the regulatory framework specific to economic operations in public institutions financed from the national state budget.

The situation of off-balance sheet accounts

Another problematic aspect to which we would like to refer relates to the content of the off-balance sheet accounts in the chart of accounts (table 1). This time we focus on the financial side of accounting, namely on budget credits and commitments. In the Romanian chart of accounts, these are called special accounts because a good part of them refer to management accounting in public institutions. Budget credits should be the point of reference in examining this issue, but in the RM

public finance law, it is missing. In this perspective, we use Romanian sources to demonstrate the necessity of introducing the budget credit with reference to the amount approved in the budget and represents the maximum limit up to which payments can be ordered and made within the limits of the contracted commitments. It should be noted that the law on public finances and budgetary-fiscal responsibility includes the notion of commitment, but it is not clear to which phase of the budgetary process it refers. Practitioners face a series of actions that should be assigned to one of the elements of the budgetary process:

- budget commitments are strictly limited to approved budget credits;
- commitment credits, legal commitments, the liquidation of expenses, the ordering of expenses and their payment refer to budget execution.

The lack of additional explanations in the national budgetary regulatory framework creates a series of dilemmas for internal and external users of the information provided by public institutions and last but not least the internal managerial control that is missing in the notion of the budgetary process.

Conclusions

In examining the problems of professionals in public institutions we note a number of problems much more serious than those in the corporate sector. A good part of the regulators justify the problems on account by the specific nature of the activity. Regardless of the level of economic development and geographical position, the financial reports of public institutions must be prepared on the basis of a clear methodology and by respecting simultaneously the principles of accounting and the budget process. The transparency of the information presented leads us to include detailed information on budget execution. The managerial internal control has a special place and concerns not only to discipline the management persons, but also the need for a clarification in relation to the economic operations that must be approved by the internal control before they are executed.

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THE ROLE OF THE STATUTORY AUDIT IN ENSURING THE QUALITY OF FINANCIAL INFORMATION

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Abstract: Statutory audit provides independent assurance that the financial statements of entities such as correctly reflect their situation. Experience in many countries has shown that insufficient attention being paid proper role of statutory audit in the process of restructuring and modernization creates vulnerability and may lead to financial scandals, financial crises and long-term damage to the capital markets and lending. The role of statutory audit in the context of restructuring and modernization of the economy is reflected in ensuring the reliability of financial information reported by various entities. There can be no doubt that a reliable information enhances the confidence of investors and creditors, particularly important in this context.

A good regulation of the statutory audit strengthens the confidence of investors and creditors, which is particularly important in the financial markets. Effective, investigative and independent oversight of the audit activity is vital in this context. The transposition of the audit directive and the Regulation on the specific requirements for the audit of entities of public interest provides an opportunity to improve the regulatory framework for audit activity and public supervision. The investigation used the qualitative research method and the observation technique based on the analysis of national and international normative acts. The results indicate a good harmonization of the regulatory framework of the financial audit activity in the Republic of Moldova with the international practices in this field.

In order to better align with the provisions of the audit directive, the incorporation of some regulatory aspects of the statutory audit activity into the national legislation would be welcome. In order to exercise the public supervision of the audit activity, it is necessary to restructure and modernize the system, namely the creation of the Agency for the public supervision of the audit, which will be the only competent authority with final responsibility for the public supervision of the audit activity.

Keywords: audit activity, international auditing practices, financial statements, professional standards, public supervision.

JEL Classification: M42

1 Introduction

Experience from many countries has shown that the role of statutory audit in the context of restructuring and modernization of the economy is to ensure the reliability of financial information reported by various entities. In the opinion of American researchers statutory audit provides independent assurance that the financial statements of the entities accurately reflect their financial position (Arens & Loebbecke, 2010).

Statutory audit is the activity of auditing the annual financial statements or consolidated financial statements for the purpose of expressing professional and independent opinion on the authenticity of the reported information. Statutory audit is performed by auditors who are certified and licensed for this type of activity.

Failure to give adequate attention to the role of statutory audit in a restructuring and modernization process creates vulnerability and can lead to financial scandals, financial crises, and long-term damage to capital and credit markets. That is why researchers in the field note that there can be no doubt that reliable information strengthens the confidence of investors and lenders, which is particularly important in the given context (Vanstraelen, A. et al. 2012).

The reliability of the financial and accounting information summarized in the financial statements is then validated by a professional accountant, who acts as auditor. He or she no longer applies the checks already carried out within the company, but carries out checks ranging in scope from assurance assignments to related services such as the compilation of financial statements.

The approach to financial auditing, in terms of the current need for information, should be carried out not only by means of global but also European standards. At present, within the European Union certain rules are applied, which regulate the audit of consolidated financial statements, as well as special requirements for identifying the professional qualification of the person who is entitled to be engaged for the exercise of statutory audit.

The Republic of Moldova has signed the Association Agreement with the European Union and has undertaken the commitment to comply with the provisions of Directive 2006/43/EC on statutory audit of financial statements and consolidated accounts, Regulation No. 537/2014 of the European Parliament and of the Council of April 16, 2014 on specific requirements for statutory audits of public-interest entities.

2 Results obtained and discussion

Since state audit by content is a form of economic control, at the macroeconomic level this activity is promoted by audit firms and at the microeconomic level it is represented by the audit committee. Unlike the other forms of state economic control, statutory audit activity is placed in the sphere of entrepreneurial activities.

Statutory audit according to ISA 200 presents an independent expert examination of financial statements by authorized persons for the purpose of determining their authenticity, completeness and compliance with the provisions of the normative and legislative acts regulating the keeping of accounts and preparation of financial statements, as well as other types of controls (ISA 200, para. 12).

Auditing can also be defined as the process of checking the entity's accounts for authenticity and fairness. The same conclusion has been reached by specialists in the field who consider that the statutory audit activity is a process through which a competent and independent worker accumulates and evaluates evidence about the information subject to qualitative appraisal and related to the peculiarities of the economic system, for the expression of the degree of compliance of this information with the predetermined criteria (Toumeh, A., et al. 2018).

Based on the definitions given to statutory audit, we can note the following directions of contemporary auditing adjacent to related services:

- audit of financial indicators of the entity or audit of financial statements;
- audit of management activities on the efficiency of the entity's asset management;

- organization and bookkeeping services, preparation of financial statements and tax returns;
- control of the entity's economic system based on accounting data.

The mentioned directorates have also appeared in the Republic of Moldova, but under the aspect of other concepts presented in Table 1. As a rule, external auditors provide independent certification of the veracity of financial statements. It should be noted that financial statements serve as a basic source of information for decision making by investors, creditors, suppliers, customers of the entity.

The correspondence audit is applied in the interests of the management, and the statutory audit is applied on the initiative of the owners of the entity. Therefore, it is considered that these audit functions must be carried out by different persons, in parallel or simultaneously, and usually independently. The compliance audit is usually carried out at the request of the entity's management by its own subdivision, empowered with such functions. While the audit of the financial statements and the statutory audit respectively come from the initiative of the owners and can be exercised by a third party on a contractual basis or according to the legislation in force, by the Censors Commission, as in the case of the Joint Stock Company.

Table 1 Common and specific features compliance and statutory audit

Criteria examined	Compliance audit	Statutory audit
Object analyzed	Economic and financial activities	Internal control policies and procedures
Purpose pursued	Analysis of the efficiency of economic and financial activities	Assessment of the adequacy and effectiveness of internal control systems
Beneficiaries	Management and owners of the economic agent	
Enforceable	Internal and external auditors	

Source: author own study or based on Hategan, C.D. et al. (2015)

This synthesis of the features allows us to ascertain the fact that the correspondence audit differs from the statutory one according to the object researched and the purpose pursued. However, both directorates have the same beneficiaries and executors. Notwithstanding the fact that the audit objectives can be achieved by both their own and external auditors, they know better all the details of each activity. Therefore, at the first attempt at synthesis, it would seem that the statutory or compliance audit is carried out more qualitatively by the entity's employees or by external auditors who have been auditing the same client for a long time.

However, since the statutory auditor is more experienced, auditing different entities, his recommendations regarding the methodology of improving the internal control system may be more successful than in the previous case. In other words, any analysis, any control, any verification and any study on a section or part of the accounting or financial statements of an entity can be qualified as a statutory audit task.

The public expects the statutory auditor to play a role in protecting its interests by providing reassurance on: the accuracy of financial statements, the continuity of operations and the solvency of the entity; the existence of fraud; the entity's compliance with its legal obligations; responsible behavior of the entity towards environmental and social issues.

Businesses large or small have to use the services of auditors or chartered accountants without always knowing who these professional accountants are, what they are and what they do.

Underlying the study of internal control and the assessment of control-related risk are three key concepts (Lowensohn, S. et al. 2007). According to the first concept, namely managerial responsibility, the responsibility for preparing the financial statements is borne by the management of the entity, but not by the auditors. Namely, the former must define and supervise the application of the entity's internal control procedures, while the auditor is only obliged to objectively express his opinion about the authenticity of the situation reflected in the financial reports.

The second concept is reasonable assurance. It follows from the recital that the entity must be permanently concerned with the efficiency of the internal control procedures, so that the latter provide reasonable assurance that the financial reports reflect the true and fair situation. Also, according to this concept, the company is not in a position to introduce an ideal internal control system, as its costs may be too high in relation to the benefits obtained from its commissioning. In many cases, it is more cost-effective to request the services of an audit firm or even the maintenance of an internal audit department, than to incur high expenses related to the existence of internal control.

For the audit of financial statements, the third key concept of internal control, namely inherent restrictions, is of the same interest. The authors of this concept state that internal control procedures cannot be considered perfectly effective, because if internal control employees will design an ideal system, then its effectiveness will depend on the professional competence of the people who will use it. In fact, the conception is fully true even from the following example. Material stocks are released from the warehouse to the production section only if the consumption limit sheet contains the signature of the chief engineer. This procedure can be easily avoided if there is a secret agreement between the depository and the head of the production section regarding the quantity released. As is known, in production it is practically impossible to find out exactly how much raw material is consumed. The veracity of the data reported to the accounting depends largely on the honesty of the persons materially responsible.

In the audit process, in order to achieve the overall objective, the auditor will obtain reasonable assurance on the financial reports if they do not contain material misstatements, as a result of fraud or error, and present a report of the financial statements in accordance with the auditor's conclusions. In all cases, where this objective has not been or cannot be achieved, the auditor shall be required to amend the corresponding audit opinion or withdraw its commitment. To this end, the auditor shall obtain sufficient and adequate audit evidence in the context of the achievement of the overall audit objective. However, even if the rules refer to more than one objective, one objective cannot be achieved individually and in this situation the auditor will consider the objective achieved if all the other objectives provided for by the same standard are achieved by the auditor (ISA 700, para. 7).

The opinion of the statutory auditor expresses the results of the substantive verification of the main elements of the financial statements. At present, however, in order for the opinion of the statutory auditor to provide assurance on financial information, the substantive verification is also accompanied by the risk-based approach. By means of testing techniques of accounting and internal control systems, statutory auditors try to minimize the risk of identifying material misstatements.

Any definition of statutory audit shall take into account the needs and expectations of users, to the extent that they are reasonable, as well as the ability of the statutory auditor to meet those needs and expectations.

Thus, if in the past the opinion of the statutory auditor was largely based on audit evidence obtained through substantive tests, nowadays in order to ensure its adequacy and sufficiency, it is necessary to carry out missions to assess significant risks and misstatements.

Thus, the objective of any type of audit is to improve the use of information. Not only for the statutory audit, the purpose of the audit is to express the opinion on the financial statements of the entity, but also in other situations specified above. From this point of view, we consider that the use of the term financial audit in local legislation instead of statutory audit used in European legislation creates confusion.

Statutory audit involves the examination by a competent and independent professional accountant of an entity's financial statements in order to express a reasoned opinion on the fair, clear and complete picture of its financial position and position as well as its results or performance.

In other words, the statutory audit is the financial audit carried out by statutory auditors who examine or verify, i.e. certify in their entirety the financial statements according to the audit rules, including taking into account activities and operations specific to the audited entity, by virtue of legal provisions as a result of the mandate received from the owners of the entity.

Table 2 Evolution of statutory audit

Statutory audit objectives	Character of the audit engagement		
	In the past	currently	Looking ahead
Background check of assets, liabilities, income and expenses	assessment	assessment	assessment
Assessment of significant risks and misstatements	aid	assessment	assessment
Appreciation of business decisions	counseling	aid	assessment

Source: author own study or based on Zhang, J. et al. (2017)

However, the current statutory audit cannot provide any other than reasonable assurance regarding the true and correct picture of the financial situation. The opinion of the statutory auditor ensures compliance with the financial reporting framework rather than a view of the entity's financial health. The basic elements of the statutory audit concept are:

- the competent and independent professional who can be a natural person or a legal person;
- the object of the examination carried out by the professional accountant is the financial statements of the entity, in their entirety: balance sheet, profit and loss account and the other components of the financial statements, depending on the applicable accounting framework;
- purpose of the examination: to express a reasoned opinion on the fair, clear and complete picture of the financial position, financial position and results achieved by the audited entity;
- the quality criterion according to which the examination is made and the opinion is expressed is the auditing standards and accounting standards.

For expressing an opinion, those auditing standards recommend that the auditor use the phrases: "the financial statements present fairly, in all material respects" or "the financial statements give a fair and true and fair view", which are equivalent (ISA 700). And in order to ascertain the truthful and complete picture, the auditor must seek and accumulate sufficient and adequate evidence to substantiate the answers to the following questions regarding:

- the correspondence of the value of the property with the balance sheet data;

- the correspondence of the results of the economic and financial activities (profit or loss) with the data of the profit and loss statement;
- the size of the dividends;
- the real value of the receivables and the effective possibilities of repayment in the near future;
- the real value of the loans and the certainty in the absence of other debts not reflected in the balance sheet;
- the probability of bankruptcy of the entity.

Based on these answers, the beneficiaries of the audit report, being more confident in the authenticity of the financial statements, are more confident in making decisions about making investments, granting loans, supplying raw materials, etc.

The effectiveness of control procedures depends to a large extent on the environment in which internal control operates. The control environment is a basic component of internal control, which is related to the attitude of the management and members of the board of directors towards the need for effective internal control within the entity. The control environment influences the effectiveness of certain control procedures. For example, a strong control environment, such as one with strict budgetary control and an effective internal audit service, can considerably complement certain control procedures. Factors that determine the control environment would include:

- the functions of the board of directors and its committees;
- management philosophy and leadership style;
- the organizational structure of the entity and the method of establishing powers of attorney and responsibility;
- the management control system, including the internal audit service, the policy and procedures related to the staff, as well as the division of responsibilities.

There are other important factors that determine the control environment. For example, the effectiveness of this type of control depends very much on the professional and individual qualities of the internal control staff. Among the individual qualities of auditors and internal controllers - sincerity (honesty) is the most important trait of the employed person. Honesty, according to the Code of Ethics for Professional Accountants, involves not only professionalism, but also sincerity. Objectivity, in turn, requires auditors and accountants to be fair, intellectually honest and not involved in conflicts of interest.

Statutory auditors must provide assurance that financial reports reflect the effect of fraud and that all necessary details are declared. So, the public expects the possibilities of fraud to be minimized. The management must take measures to organize and maintain the internal control systems that reduce the chances of fraud. Thus, statutory auditors must confirm in the audit report that such internal control exists and mention whether it exists and works.

Conflicts of interest in the appointment of the statutory auditor would disappear if this responsibility were assigned to the owners or a third party. It is also logical for the appointment to be made by auction and to be the responsibility of shareholders, investors, other parties with commitments and interests in the business of the audited entity but not in the responsibility of management.

Participation in the regional process, reshaped by the enlargement of the European Union, involves the development of a series of very important internal events, which also aim at the adoption by the Republic of Moldova of an effective set of rules and practices in various fields, including regarding statutory auditing. In order to achieve these objectives, the Republic of Moldova is to ensure the

resolution of problems related to statutory auditing and quality assurance for statutory auditors and audit firms auditing public interest entities.

In the European Union, Regulation No 537/2014 and the revised Audit Directive have considerable implications for the structure of the existing audit framework. Thus, a regime is established under which a single competent authority must be designated with final responsibility for all regulatory tasks related to statutory audit. At the same time, the State may delegate to other authorities some supervisory and quality assurance tasks, subject to supervision by a competent statutory audit authority.

Regulatory and supervisory bodies, such as the Audit Supervisory Board, the National Bank of Moldova and the National Commission for Financial Markets, will continue to play an active role in strengthening efforts in implementing regulations in the field of statutory audit. Therefore, it is proposed that these bodies engage in an awareness-raising dialogue on the benefits of strengthening existing financial reporting and auditing practices in all public-interest entities, including significant state-owned enterprises.

In order to ensure the independence of the auditor and the objectivity of the audit opinion, it is necessary to prohibit the provision of non-audit services. The services, which cannot be performed simultaneously with the audit of the financial statements for the period from the beginning of the audited period until the issuance of the auditor's report, are:

- tax services (preparation of tax returns, providing tax advice, on payroll taxes, customs duties, etc.);
- services involving participation in the management or decision-making process of the audited entity, bookkeeping services and preparation of financial statements;
- designing and implementing internal control or risk management procedures for the preparation and/or verification of financial information or information systems for financial information;
- legal services, in terms of providing general advice, negotiating on behalf of the audited entity and representation in dispute resolution procedures, services related to the internal audit function of the audited entity;
- services related to the financing, capital structure and modification, as well as the investment strategy of the audited entity, with the exception of the provision of insurance services such as the issuance of confirmation letters in relation to prospectuses issued by the audited entity.

3 Conclusions

The statutory audit has a significant role in maintaining efficient business relations as it is the key to supporting vibrant financial markets in the process of restructuring and modernizing the economy. The opinion of the statutory auditor expresses the results of the substantive verification of the main elements of the financial statements. At present, however, in order for the opinion of the statutory auditor to provide assurance on financial information, substantive verification needs to be linked to the risk-based approach.

Although the auditor's role is to ensure that financial reporting adequately reflects the needs of a wide range of financial information users, the current statutory audit cannot provide any assurance other than a reasonable one regarding the true and fair picture of the financial position. The opinion of the statutory auditor ensures compliance with the financial reporting framework rather than a view of the entity's financial health.

Good statutory audit regulation strengthens investor and creditor confidence, which is particularly important in financial markets. In this context, effective, investigative and independent oversight of audit work is vital. The transposition of the Audit Directive and the Regulation on specific requirements for the audit of public-interest entities provides an opportunity to improve the regulatory framework for audit and public oversight. In order to better align with the provisions of the Audit Directive, the incorporation of regulatory aspects of statutory audit activity into national legislation would be welcome.

This activity, first of all, must be supported by a legal framework that would provide the mechanism for managing conflicts of interest inherent in the current landscape of statutory auditing, such as: the issue of designation and determination of the size of the statutory auditor's fees; poor turnover of audit firms; the provision by audit firms of services that are not related to the respective field.

The problem of implementing an effective system of investigations and sanctions to detect, correct and prevent improper auditing of financial statements remains topical. It is also considered necessary to establish specific requirements for audits of public-interest entities, such as: restriction of fees, prohibition of the provision of non-audit services, inclusion of mission quality assessment requirements. Special provisions will apply to the appointment of the auditor and the duration of the engagement, the content of the auditor's report.

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AUDIT CAPACITIES IN THE PUBLIC SECTOR OF THE REPUBLIC OF MOLDOVA: CHALLENGES AND OPPORTUNITIES FOR INCREASING THE EFFICIENCY OF THE INTERNAL AUDIT FUNCTION

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Abstract: This study investigates the capacities of internal audit within the public sector of the Republic of Moldova, emphasizing the critical role of organizational structure, resources, and processes in determining the effectiveness of the audit function. The research aims to address the significant challenges faced by internal audit subdivisions, including under-resourcing, insufficient staffing, and the lack of standardized procedures. These factors hinder the ability of internal audit units to provide comprehensive audit coverage, independent assurance and consulting, thus to contribute to effective risk management and internal control. By conducting a detailed analysis of various public entities, based on their annual self-assessment reports, the study uncovers substantial disparities in resource allocation, with many audit units struggling to meet their responsibilities due to limited personnel and fragmented organizational structures across various entities and levels of the administration. The findings highlight the urgent need for strategic investments in human capital, the adoption of uniform procedures, and alignment with international standards. Enhancing audit capacities is essential not only for improving audit quality and scope but also for strengthening governance, ensuring responsible public finance management, and upholding transparency and accountability in public administration. These improvements are vital for fostering greater trust and efficiency within Moldova's public sector, contributing to better public service delivery.

Keywords: Internal audit, public sector, audit capacities, risk management

JEL Classification: H83

1. Introduction

Internal audit is a fundamental component of public administration, contributing to creating a transparent and responsible control environment. In particular, audit capacities – related to organization and functioning – are crucial for ensuring an effective internal audit that can respond to emerging challenges in a continuously changing context. It is essential that audit structures are efficiently organized to improve risk management, internal control, and governance of public entities. These capacities have been continuously adjusted to adapt to new contextual challenges, digitalized and simplified processes, and to develop the necessary competencies for internal auditors.

According to the Institute of Internal Auditors, internal auditing is an independent, objective assurance and consulting activity designed to add value and improve an organization's operations. It helps an organization accomplish its objectives by applying a systematic and methodical approach to evaluate and improve the effectiveness of risk management, control, and governance processes (IIA, 2017).

In this context, this article aims to analyse internal audit in the public sector of the Republic of Moldova, exploring audit capacities related to organization and functioning and the relationship between internal audit and managerial internal control – two fundamental components for the proper functioning and credibility of public administration in the Republic of Moldova.

The Republic of Moldova has recognized internal audit as a crucial tool for maintaining the integrity and efficiency of the public sector, but greater attention is needed to ensure that audit functions adapt to new realities. From the perspective of audit capacities, it is important that the internal audit function has clear organizational structures, sufficient resources, and well-defined procedures that allow it to operate at a high level of efficiency and effectiveness. A well-organized and efficiently functioning internal audit contributes to better risk management and optimal use of resources.

In conclusion, analysing the capacity characteristics of internal audit, such as organization and functioning, and evaluating their impact on audit effectiveness provides a solid foundation for the future development of the internal audit function in the public sector of the Republic of Moldova. These capacities, if developed and adapted appropriately, can significantly contribute to strengthening public confidence and promoting values of transparency, accountability, and integrity at the national level. By achieving these objectives, the article seeks to provide a detailed perspective and a comprehensive analysis of internal audit capacities, thus contributing in a great extent to enhancing transparency and accountability in the public administration of the Republic of Moldova.

2. Materials and methods

To provide a detailed analysis of internal audit in the public sector of the Republic of Moldova and to support the arguments presented in this article, the following data sources were used:

1. The annual consolidated Report on public internal financial control for 2022: this report provides critical data on existing structures, audit processes, and procedures used,
2. Internal audit activity Reports: these reports provide qualitative and quantitative data collected from 56 public entities,
3. Scientific publications and specialized articles: a series of scientific works and specialized articles discuss aspects related to the efficient organization and functioning of internal audit, presenting international best practices, current challenges, and development opportunities in the field,
4. Reports and publications from international organizations: documents and publications developed by international organizations such as the World Bank, the International Monetary Fund, and SIGMA of the OECD underline the importance of a well-organized and functional internal audit function in ensuring sound and responsible governance.

The research methodology includes analysing primary and secondary sources to understand the state of internal audit in the public sector of the Republic of Moldova and to identify trends and best practices. A critical and synthetic approach is used to evaluate strengths and weaknesses, combining information for a comprehensive view. Both qualitative and quantitative methods are applied to analyse data and assess audit performance. Additionally, content analysis is employed to thoroughly examine relevant themes and conclusions.

3. Essential capacity characteristics: organization and functioning

Internal audit, defined as an independent and objective activity, plays an essential role in developing governance, risk management, and control within public entities, providing added value in achieving

their objectives (Ministry of Finance, 2018). By its nature, internal audit monitors and improves the internal control environment, helping the entity identify and remedy weaknesses / risks and achieve its objectives ethically, compliantly, and effectively.

In the public sector of the Republic of Moldova, the mechanisms for conducting internal audit are diverse, allowing adaptability based on the needs and resources of the public entity. Proper organization and efficient functioning of internal audit are crucial to identifying and promptly remedying deficiencies or irregularities, thus contributing to achieving organizational objectives. A well-structured and adequately resourced internal audit subdivision can offer valuable recommendations for improving operations, optimizing resources, and strengthening the culture of integrity and responsibility within the entity (Lenz and Hahn, 2105).

Thus, at the beginning of 2023 (Ministry of Finance, 2023), it was found that 131 public entities had established internal audit subdivisions within their organizational structures. However, only 58% of these subdivisions were functional – staffed with audit personnel. This highlights the importance not only of establishing such subdivisions but also of ensuring their efficient operation.

Examining the subdivisions of various public entities reveals that, although there are 14 ministries, only 8 have functional internal audit subdivisions, with a staffing level of 50%. Other public authorities and institutions subordinated to the Government of the Republic of Moldova show a better staffing level of 61%. In contrast, public entities subordinated to central bodies and Parliament have staffing levels of 55% and 40%, respectively. Local bodies (second-level) have a staffing level of 38%, reflecting significant challenges in staffing.

Thus, the effectiveness of the internal audit function in public entities is directly influenced by the structure and organization of internal audit subdivisions. The fact that only a small proportion of subdivisions are functional highlights the challenges related to resources and organization within public administration. This not only limits the ability to conduct comprehensive and quality audits but also significantly impacts the efficiency, transparency, and accountability in managing public resources. Qualified personnel and adequate resources are essential to ensure that internal audit fulfils its role properly, thus contributing to strong governance and judicious use of public resources.

Therefore, one of the main obstacles to achieving an effective and efficient internal audit is the lack of specialized personnel. With an average staffing rate of 51% in the public sector and significant fluctuations, there is a clear need to address this issue. Among the causes of this situation are the perception of the salary system and the lack of promotion opportunities.

Similarly, the impact of the audit team's size on the quality and effectiveness of the audit is evident (Lenz and Hahn, 2105). With the current staffing level, the public sector faces challenges in attracting and retaining internal auditors. At the beginning of 2023, there were 134 internal auditors employed in the public sector – this fact, combined with a turnover rate of 9.3%, suggests an urgent need for measures to improve the attractiveness and efficiency of the internal audit profession.

An alarming aspect is that two-thirds of internal audit subdivisions consist of a single internal auditor, which significantly reduces audit capacity and process efficiency. This situation contrasts with legal requirements that stipulate a minimum number of personnel units for the respective subdivisions in the structure of certain entities. For example, entities such as ministries, social fund, and health fund should have at least three personnel units dedicated to internal audit, but these requirements are met by only a limited number of entities.

Another major challenge is the fragmented structure of internal audit in the public sector. Internal

audit subdivisions are unevenly distributed and concentrated in small structural units. Approximately 63% of internal audit subdivisions have "service" status, while 20% are individual internal auditors outside an autonomous subdivision. This limited and fragmented organization can lead to difficulties in implementing professional standards and systematically evaluating the activity areas of the public entity.

4. Results of internal audit and their operationalization

The effectiveness of internal audit is closely linked to its ability to correctly and completely identify risks and vulnerabilities. This not only ensures the integrity and reliability of organizational processes but also protects the assets of the public entity and the interests of stakeholders. Recommendations formulated following the internal audit are seen as crucial, having the capacity to guide the entity towards problem resolution and process optimization.

A key point of the study is that effectiveness is not measured solely by the number of identified problems. The quality of recommendations, as well as their relevance and applicability in the specific context of the entity, is also essential. An efficient audit, as highlighted in the study, will directly influence the quality of internal control and contribute to the continuous improvement of organizational processes.

An independent set of variables (factors) regarding audit capacities is analysed according to the following study areas, a set selected based on the data sources used.

Essential capacity characteristics of internal audit

Resources, procedures, and audit techniques used are vital for conducting an efficient and effective internal audit. The final list of rows from the dataset related to audit capacities extracted from individual reports of public entities is as follows, along with their names:

Table 1. List of factors for the "Audit capacities" characteristic

Factor	Name
CAP_0	<i>Name of the public entity</i>
CAP_1	Number of subordinate entities
CAP_2	Number of subordinate entities that have established an internal audit subdivision
CAP_3	Personnel units provided according to the staffing headcount
CAP_4	Persons who were effectively active as of December 31
CAP_5	Internal audit subdivision sized based on the volume of activity
CAP_6	Degree of coverage of the entire internal audit object
CAP_7	Procedures for conducting internal audit activities developed and approved
CAP_8	Planning involves systematic auditing of the entire internal audit object
CAP_9	Planning involves assessing exposure to risks, including risks of fraud and corruption
CAP_10	Planning involves determining the required and available resources
CAP_11	Planning involves coordination with stakeholders
CAP_12	The internal audit subdivision has a strategic plan
CAP_13	The internal audit subdivision has an annual plan
CAP_14	Proportion of time resources allocated for conducting internal audit missions in the total available resources
CAP_15	The internal audit subdivision has a quality assurance and improvement program
CAP_16	The internal audit subdivision has established key performance indicators

Source: own work

Another set of dependent variables (efficiency and/or outcome indicators) is analysed in the following research areas, a set selected based on the information sources.

Results of internal audit and their impact on managerial internal control

When conducted correctly, internal audit provides a series of essential recommendations for the public entity. These recommendations serve as the basis for managerial decisions and the initiation of corrective actions. Moreover, the effectiveness and quality of these recommendations are directly influenced by the essential characteristics of internal audit, among which audit capacities are evident. The final list of rows from the dataset related to audit results extracted from individual reports of public entities is as follows, along with their names:

Table 2. List of result indicators

Indicator	Name
REZ_0	<i>Name of the public entity</i>
REZ_1	Total planned internal audit missions
REZ_2	Planned assurance missions
REZ_3	Planned consulting missions
REZ_4	Total completed internal audit missions
REZ_5	Completed ad-hoc missions
REZ_6	Planned missions that were not completed
REZ_7	Compliance audits
REZ_8	System audits
REZ_9	Financial audits
REZ_10	Performance audits
REZ_11	IT audits
REZ_12	Period of the last financial-accounting mission
REZ_13	Period of the last public procurement mission
REZ_14	Period of the last asset management mission
REZ_15	Period of the last IT mission
REZ_16	The internal audit subdivision conducted internal audits in subordinate entities
REZ_17	Positive findings reflected in internal audit reports
REZ_18	Conclusions and recommendations reflected in internal audit reports
REZ_19	Number of audit recommendations provided
REZ_20	Total number of audit recommendations followed up
REZ_21	Audit recommendations implemented on time
REZ_22	Audit recommendations implemented after the deadline
REZ_23	Partially implemented audit recommendations
REZ_24	Unimplemented audit recommendations
REZ_25	Degree of implementation of the annual internal audit plan
REZ_26	Proportion of audit missions completed on time
REZ_27	Satisfaction level of audited units

Source: own work

The effectiveness of internal control is evident in how internal audit identifies deficiencies or vulnerabilities. Findings made within the internal audit can signal the need for reviewing or improving internal control. Thus, there is a symbiosis between internal audit and internal control. An effective internal audit can lead to significant improvements in internal control, while a robust internal control

can facilitate and enhance the audit process. In the specific context of our analysis, we chose to use Spearman and Pearson correlations to evaluate the relationships between variables in the CAP and REZ datasets, which reflect aspects of audit capacities and audit results. Thus, the analysis of the factors and indicators mentioned in the previous section led to the following results.

Here are the top 9 Spearman correlations identified between audit capacity columns and audit results:

CAP_3 and REZ_20: 0.64 CAP_4 and REZ_21: 0.56 CAP_1 and REZ_16: -0.50
CAP_15 and REZ_21: -0.54 CAP_3 and REZ_2: 0.52 CAP_15 and REZ_20: -0.50
CAP_3 and REZ_1: 0.52 CAP_3 and REZ_21: 0.50 CAP_4 and REZ_20: 0.48

It is interpreted that there is a positive correlation between the number of available personnel (both planned and actual) and the implementation of audit recommendations. This suggests that the availability of adequate human resources is crucial for the efficiency of the audit process.

There is a negative correlation between the timely implementation of audit recommendations and the existence of a quality assurance and improvement program. This may indicate that the presence of such a program may delay the implementation of recommendations, possibly due to more rigorous review and approval processes.

The relevant correlations highlight the importance of human resources and quality processes in internal audit. To improve the efficiency of internal audit and ensure the effective implementation of audit recommendations, it is essential to pay attention to the available human resources and balance the rigor of quality processes with the need for agility in implementing improvements.

The respective results according to Spearman can also be visualized in the following figure as a heatmap.

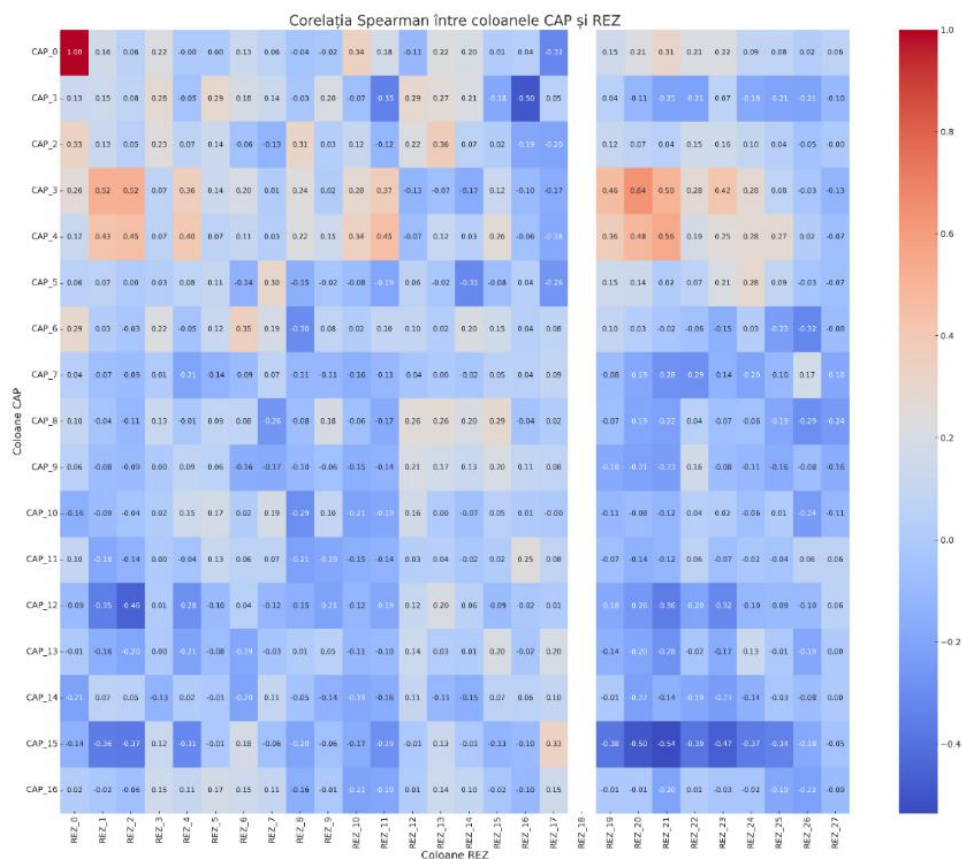


Figure 1. Heatmap on capacity factors according to Spearman

Source: own study

Here are the top 10 Pearson correlations between capacity and result columns:

CAP_3 and REZ_22: 0.7607	CAP_3 and REZ_20: 0.7477
CAP_4 and REZ_4: 0.6479	CAP_4 and REZ_21: 0.6288
CAP_3 and REZ_4: 0.5901	CAP_3 and REZ_21: 0.5791
CAP_1 and REZ_22: 0.5538	CAP_3 and REZ_19: 0.5082
CAP_4 and REZ_20: 0.4990	CAP_3 and REZ_23: 0.4974

An immediate interpretation denotes that the correlations are positive, indicating that as the values of one variable increase, the values of the other variable tend to increase as well. The closer the correlation coefficient is to 1, the stronger the relationship between the two variables.

For example, CAP_3 has a strong positive correlation with REZ_22, REZ_20, REZ_4, REZ_21, REZ_19, and REZ_23, suggesting that an increase in CAP_3 is associated with an increase in these REZ variables.

However, it is essential to analyse the context and specific content of each variable to understand the practical significance of this correlation. A high correlation coefficient does not necessarily imply causality. In other words, even if two variables are strongly correlated, it does not necessarily mean that one variable causes the change in the other. There may also be unobserved variables that influence both variables.

These correlations can be used to identify potential relationships between different aspects of the data and to develop additional hypotheses for further analysis or predictive modelling.

A heatmap generated visually demonstrates Pearson correlations, as seen in figure 2.

In general interpretation, the following is identified after analysing and interpreting each correlation:

- CAP_3 (Personnel units provided according to staffing headcount) and REZ_22 (Audit recommendations implemented after the deadline): 0.7607
 - This strong correlation suggests that the number of personnel units allocated according to the staffing chart is closely related to the implementation of audit recommendations after the deadline. The more personnel allocated, the more likely it is that the recommendations will be delayed, which requires a detailed analysis to identify the causes and the effect on resource allocation.
- CAP_3 (Personnel units provided according to staffing headcount) and REZ_20 (Total number of audit recommendations followed up): 0.7477
 - A significant correlation indicates that personnel allocation is correlated with the total number of audit recommendations tracked. It is essential to analyse how the efficient allocation of personnel can be optimized to maximize the tracking and implementation of audit recommendations.

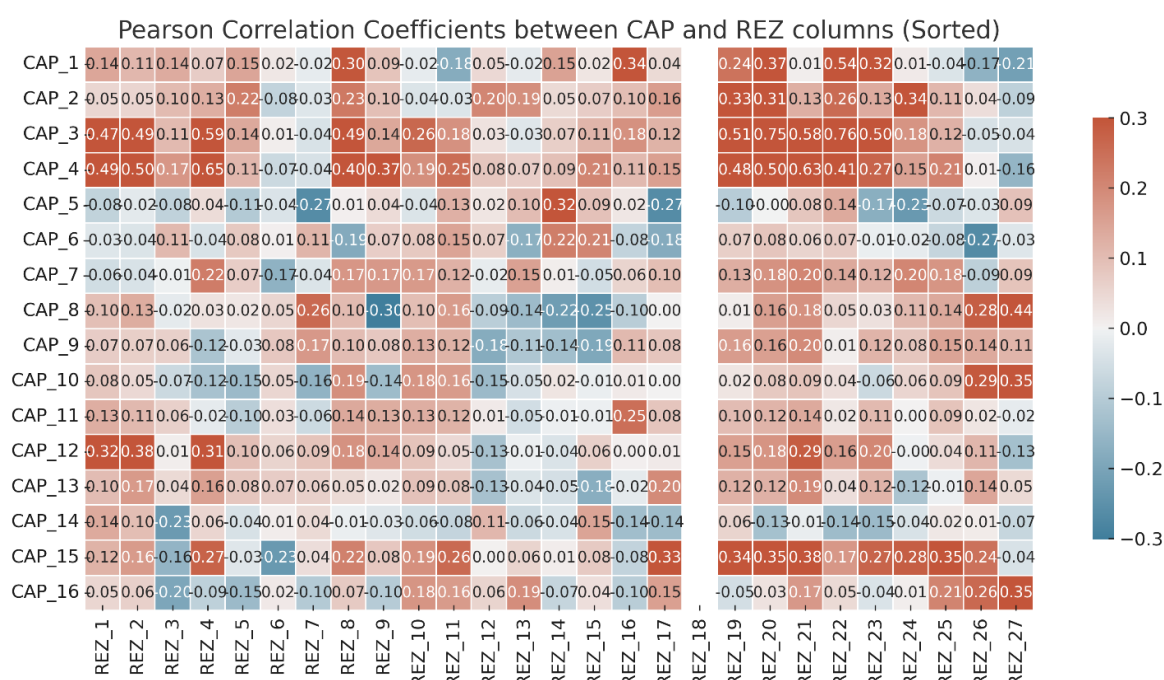


Figure 2. Heatmap on capacity factors according to Pearson

Source: own study

Each set of correlations provides a detailed view of the relationship between different characteristics and internal audit results. An in-depth analysis of each correlation and understanding of their context and implications can significantly contribute to the continuous improvement and optimization of internal audit processes. In this context, the effectiveness of internal audit and its quality prove to be direct reflections of this internal control.

5. Conclusions

Challenges associated with the organization and functioning of internal audit are exacerbated by the establishment of undersized internal administrative structures at central and local authorities. This restricts the ability to systematically and comprehensively evaluate all aspects of the activities of public entities and implement professional standards to ensure the quality of internal audit activities. In this situation, senior managers in public entities cannot fully assess the importance and capacity of internal audit to strengthen internal control systems and achieve institutional objectives. Attention to resource allocation for internal audit is reduced, a circumstance that is not conducive to establishing competent and responsible public financial management.

Compliance with standards and norms, both nationally and internationally, remains a constant challenge. Adapting to ever-evolving requirements and ensuring that internal audit practices are aligned with global best practices requires continuous vigilance and adaptability. Moreover, the approval of new Global Internal Audit Standards, which will come into force starting from 01.01.2025, is mentioned.

The relationship between essential characteristics and audit results illustrates a symbiosis between these factors, highlighting the interdependence between effective internal audit and robust internal control. This mosaic of conclusions brings to the fore the complexity and multidimensionality of internal audit

in the public sector, emphasizing the need for an integrated and adaptable approach to navigate a continuously changing landscape and to support organizational integrity, efficiency, and resilience.

Based on these, a series of recommendations are outlined in the following areas of interest:

1. Innovation and effective adaptation:

In the digital era in which we live, adopting innovative and adaptable strategies is essential. A revolution is needed in how internal audit is perceived and implemented. Exploiting technology and digitalization to optimize audit processes and ensure a rapid response to changes in the external environment is no longer a luxury but a necessity.

2. Refining audit processes:

Internal audit processes must be not only efficient but also adaptable to the complexity and dynamics of the public sector. Continuous review and optimization of these processes will ensure that they remain relevant, efficient, and capable of providing accurate and objective assessments.

3. Effective inter-institutional partnership:

Collaboration and knowledge-sharing among different entities and agencies will not only improve the quality of internal audit but will also stimulate innovation and efficiency at the national level.

4. Optimizing audit resources and capacities:

Addressing the challenges associated with the under-sizing of internal audit subdivisions and the proper allocation of resources is essential. In this context, it is imperative to strengthen the capacities and competencies of the personnel, thus ensuring that internal audit is equipped to provide precise, objective, and valuable assessments.

These recommendations are formulated to guide critical improvements needed in internal audit practices, thereby enhancing the effectiveness and accountability of public financial management in the Republic of Moldova. Through the strategic incorporation of innovation and continuous refinement and by paying meticulous attention to quality and efficiency, the public sector can successfully manage in a complex and dynamic context, achieving a significant positive impact on public administration.

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PARTICULARITIES OF EXPENSE ACCOUNTING IN BUDGETARY INSTITUTIONS

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Abstract: This article addresses the specific and problematic aspects related to the accounting of expenses in budgetary institutions in the Republic of Moldova. The expenses of budgetary institutions represent economic and social relations in monetary form, manifesting between the state, on one side, and individuals and legal entities, on the other side, during the allocation and utilization of the state's financial resources to fulfill its functions. The expenses of budgetary institutions materialize in payments made by the state from resources mobilized through various means, for the purchase of goods or services necessary to achieve the various objectives of state policy: general public services, socio-cultural actions, military maintenance, and activities in the economic field, among others. These expenses are categorized according to the functional classification into parts, chapters, subchapters, and paragraphs, and according to the economic classification into titles, articles, and sections. Public administration has two major responsibilities: to provide public goods and services, and to redistribute income and wealth through transfers. These responsibilities are generally fulfilled through the expenses of budgetary institutions.

The accounting of expenses in budgetary institutions in the Republic of Moldova is regulated by the following categories of legislative and normative acts: the legal framework underlying the activity and accounting records, and the legal framework underlying the registration of expenses related to the activities of budgetary institutions. The classification of expenses in budgetary institutions and their accurate accounting is important for measuring the allocation of publicly funded sectors, ensuring the possibility of verifying compliance with legislative authorizations, reviewing policy and performance analysis, and for the daily administration of the budget.

Keywords: budgetary institutions, expenses, personnel expenses, expenses for goods and services.

Jel Classifications: M 40, 41

Introduction

Public administration, in any society, whether classical or modern, represents an indispensable instrument of the state in achieving major objectives determined by it, in realizing political values

established through legal acts, with the aim of satisfying the general interest through the actions of public authority. These actions signify attracting as many economic agents as possible to its territory to collect more revenues for the budget, in order to meet the daily needs and demands of citizens.

The tools at the state's disposal for fulfilling its functions of resource allocation, income redistribution, and microeconomic stabilization are represented by the public budget, through its coercive force.

At the state level, the budget is an account that shows how much the state spends and how public expenditures are financed.

The centralized financial resources available to the state, through the components of the consolidated general budget, are primarily intended to finance the "public sector," which, according to Professor Gheorghe Manolescu, is defined as follows: "In this sense, it can be admitted that the public sector, or the state (as an economic agent), encompasses all activities, institutions, and organizations characterized by collective or political decision-making processes, within which the choice procedures are realized through the voting mechanism" (Manolescu, 1997). The main "consumer" of these public funds is, therefore, the public sector through its institutions.

Budgetary institutions—a category that includes the Parliament, Presidency, Government, ministries, the judiciary, and other specialized bodies of central and local public administration—ensure their financial resources, necessary to fund their maintenance and operation, largely from the state budget and local budgets. In this context, they are obligated to carry out all payment and receipt operations exclusively through the State Treasury, whose activity operates under state guarantee.

Unlike commercial companies and those autonomous in accounting terms, public institutions have the following particularities:

- They are not profit-oriented.
- They do not generate profit.
- The financing of current (operational) expenses and capital expenses (for investments) is fully ensured by the state budget, or from extra-budgetary revenues or funds with specific purposes.
- Revenues are composed of taxes, fees, and other revenues established by law.
- Amounts resulting from sales or the valorization of other goods constitute revenues for the state or local budget.
- Fixed assets resulting from investment expenses or received through transfers increase the fund of the invested assets in question.
- They have specific chart of accounts.
- Information carriers are both common and specific (documents with specific characteristics).
- They do not determine the cost of services to individuals but do calculate the cost of productive activities and the cost of service provisions with a productive nature.

The content of the research

The accounting of budgetary institutions ensures the recording of recognized rights, collected revenues, budgetary commitments, legal commitments, cash payments, and actual expenses, according to the subdivisions of the budget classification, in line with the approved budget and the methodological norms developed by the Ministry of Finance.

Budgetary expenditures – the total of approved payments in the budget/executed from the budget, excluding those related to financial assets and budget liabilities (Law on Public Finances and Budgetary-Fiscal Responsibility, 2014).

Budgetary expenditures are determined by the budgetary allocations specified in the annual budget laws/decisions and include personnel expenses, social benefits, purchases of goods and services, subsidies and transfers, debt servicing, expenses intended for the formation of fixed assets, and other expenses provided by law.

According to the Chart of Accounts for Budgetary Accounting and the Methodological Norms on Accounting and Financial Reporting in the Budgetary System, p.1.2, expenses represent "operations that reduce the net value of assets" and are reflected in Class 2 "Expenses" (Chart of Accounts, 2015). Class 2 "Expenses" of the Chart of Accounts for Budgetary Accounting includes the following subclasses:

Table 1. Subclasses of Expenses and Their Characteristics

Subclass	Name	Purpose of Accounts
21	„Personnel expenses”	Intended to summarize information related to expenses for settlements with personnel, specifically employee compensation (base salary, salary bonuses, awards, material assistance) and other employee salary entitlements (compensations for meals, transportation, etc.), as well as mandatory insurance contributions and premiums.
22	„Goods and services”	Intended to summarize information regarding expenses for goods and services necessary for the operations of budgetary authorities/institutions.
23	„Expenses related to asset depreciation”	Intended to summarize information regarding expenses for the depreciation of fixed assets and the amortization of intangible assets over their useful operational life.
24	„Interest”	Intended to summarize information regarding expenses for the payment of interest on loans and state securities.
25	„Subsidies	Represent payments made to producing entities or service providers with the purpose of influencing production processes or delivery prices.
26	„Granted grants”	Represent transfers for specific purposes to governments of other states, international organizations, transfers to self-managed public institutions through their founding public authorities based on the provisions of normative acts, as well as transfers to other beneficiaries.
27	„Social benefits”	Intended to summarize information regarding expenses for social benefits made to protect the entire population or specific categories from certain social risks.
28	„Other expenses”	Intended to summarize information regarding expenses that are not reflected in subclasses 21-27.
29	„Transfers granted within the national public budget”	Intended to summarize information regarding settlements between budgets.

Source: based on Chart of Accounts for Budgetary Accounting and Methodological Norms on Accounting and Financial Reporting in the Budgetary System (Chart of Accounts, 2015).

The following will describe the account groups included in each expense subclass of the Chart of Accounts in the budgetary system:

Table 2. Composition of the Expense Subclasses of the Chart of Accounts in the Budgetary System

Subclass	Name	Included Account Groups
21	„Personnel expenses”	211 "Employee remuneration" 212 "Mandatory insurance contributions and premiums"
22	„Goods and services”	221 "Goods - expenses related to stock usage" 222 "Services"
23	„Expenses related to asset depreciation”	231 "Expenses related to the depreciation of fixed assets" 232 "Amortization of intangible assets"
24	„Interest”	241 "Interest paid on external debt" 242 "Interest paid on internal debt" 243 "Interest and other payments made for internal loans and loans re-credited within the budgetary system"
25	„Subsidies	251 "Subsidies granted to state and municipal enterprises" 252 "Subsidies granted to private enterprises" 253 "Subsidies granted to non-governmental organizations" 254 "Subsidies granted to self-managed public authorities/institutions"
26	„Granted grants”	261 "Grants awarded to the governments of other states" 262 "Grants awarded to international organizations" 263 "Grants awarded to beneficiaries within the country"
27	„Social benefits”	271 "Social insurance benefits" 272 "Social assistance benefits" 273 "Employer social benefits"
28	„Other expenses”	281 "Other current expenses" 282 "Other capital expenses" 289 "Other expenses of budgetary authorities/institutions"
29	„Transfers granted within the national public budget”	291 "Transfers between the state budget and local budgets" 292 "Transfers within the Central Consolidated Budget" 293 "Transfers between local budgets within the same administrative-territorial unit" 294 "Transfers between local budgets of different administrative-territorial units"

Source: based on Chart of Accounts for Budgetary Accounting and Methodological Norms on Accounting and Financial Reporting in the Budgetary System (Chart of Accounts, 2015).

Conclusions

According to current accounting regulations, the responsibility for organizing and managing accounting in budgetary institutions falls to the credit authorizer or another person obligated to manage the respective entity. Budgetary institutions organize and manage accounting in distinct

departments, led by the economic director, chief accountant, or another authorized individual assigned to fulfill this role. These individuals must have higher education in economics and are responsible, together with their subordinate staff, for organizing and managing accounting in accordance with the law.

Individuals responsible for organizing and managing accounting in budgetary institutions must ensure, as required by law:

- ✚ The correct and up-to-date organization and management of accounting.
- ✚ The necessary conditions for preparing supporting documents related to transactions and economic events.
- ✚ The organization and execution of inventorying of asset and liability elements, including the evaluation of its results.
- ✚ Compliance with the rules for preparing financial statements and submitting them on time to the relevant authorities.
- ✚ The preservation of supporting documents, accounting records, and financial statements.
- ✚ The organization of management accounting according to the specific activities of the budgetary institution.

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PROBLEMATIC ASPECTS OF ACCOUNTING AT MOTOR TRANSPORT ENTERPRISES

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Abstract: Given Moldova's legislative requirements on accounting and taxation following International Standards, several problems, discussed in this article, concerning accounting practices in motor transport enterprises remain unresolved. To address this, certain challenges and potential solutions are offered. The article mainly examines the correlation between theoretical and practical aspects of accounting in motor transport enterprises.

Key words: motor transport, accounting, problems income expenses, standards, solutions.

JEL Classification: M41

Introduction

Studies on the accounting practices of national motor transport enterprises show that most do not differentiate between the concepts of costs and expenses or calculate the cost price for each service provided individually. Instead, many directly incorporate incurred expenses into the cost of sales and determine the financial outcome in monetary terms based on the total volume of services rendered. The distinction between costs and expenses has not been formally recognized in national accounting science and practice since 1998, following the National Accounting Standard 3 (NAS)

Costs and expenses in domestic science and practice have not been identified as concepts since 1998, when the National Accounting Standard 3 (NAS) "Composition of Costs and Expenses" was adopted.

The term "expenses" became used widely at the beginning of the 20th century, simultaneously with the emergence of the dynamic concept, according to which the financial result is defined as the difference between the income and expenses of the enterprise. As we find in "Corporate Financial Resources" Dictionary, "an expense in accounting is the money spent, or costs incurred, by a business in their effort to generate revenues. Essentially, accounts expenses represent the cost of doing business; they are the sum of all the activities that hopefully generate a profit" (Corporate Financial Resources, 2024).

The definition of the "costs" term today in the current regulatory acts of the Republic of Moldova is considered directly in the "Methodological Guidelines on Accounting of Production Costs and Calculation of the Cost of Products and Services" (hereinafter referred to as the Methodological Guidelines): "Production costs are resources presented in monetary terms and spent for the production of products/provision of services" (Cod transporturilor rutiere, 2014). Domestic NAS clearly define costs in construction and agriculture, in this regard, such NAS as "Construction Contracts", "Features

of Accounting in Agriculture" have been developed and put into effect, however, in our opinion, an important issue is the clear definition of costs and expenses in motor transport enterprises.

Transport service is the final process of material production and at the same time the first stage of production or final consumption.

Motor transport companies operating in the Republic of Moldova provide a wide range of services:

- passenger transportation on urban, suburban, intercity and international routes;
- luggage transportation;
- storage rooms;
- mother and childcare services;
- freight transportation;
- forwarding, etc.

As studies show, 80% of motor transport companies do not use management accounts in their accounting practices, and therefore do not determine the cost of services provided for their main type of activity.

At present, a service is defined as the direct movement of goods in space, as well as any operation that is not a movement operation, but ensures its preparation and implementation, namely: packaging and marking of goods, their packaging, intermediate storage, and transportation of passengers.

Accounting

The primary activity of an enterprise pertains to the production of goods and/or the provision of services, representing the main purpose of its operations. Consequently, managers of such enterprises, along with other users of accounting information, often do not have enough critical data required for effective analysis and strategic business planning. In case of the enterprises studied, the majority record all expenses associated with vehicle used in their operations directly under account 711 "**Cost of sales**", **sub-account 7113 "Cost of services rendered"** without distinguishing by rolling stock or by each motor vehicle separately.

As a rule, motor transport enterprises incur direct costs, which, according to the "**Methodological Guidelines**", are given the following definition:

Direct costs are costs that can be attributed to a specific calculation object directly without intermediate calculations (Cod transporturilor rutiere, 2014).

Direct costs of motor transport enterprises include costs for:

- a) fuel and lubricants;
- b) wages of drivers;
- c) contributions for social and health care insurance derived from the drivers' accrued wages;
- d) travel expenses incurred by drivers;
- e) Motor vehicle repairs conducted in compliance with legal requirements, among other expenses.

This list may be expanded further based on the specific operational characteristics of motor transport enterprises.

Thus, for the reporting period it is possible to get the necessary information on the amount of costs for each motor vehicle separately.

Along with direct costs, there may also be indirect production costs, which are defined as follows:

"Indirect production costs are costs associated with the management and maintenance of the production units of the entity" (Cod transporturilor rutiere, 2014).

Based on this definition and activities of motor transport enterprises, indirect production costs may include the following:

- a) salary of the rolling stock manager;
- b) payments for social and medical insurance calculated from the accrued salary of the rolling stock manager.
- c) the manager's communication services;
- d) travel expenses, etc.

In other words, indirect production costs should be subject to distribution and relate directly to the provision of motor transport services.

The accountants of the motor transport enterprises we studied, guided by the **NAS "Expenses"**, write off most of the taxes or entertainment costs (expenses) to administrative expenses.

In our opinion, it would be more appropriate to account for road usage fees and other vehicle-specific annual charges not as part of administrative expenses but rather as costs allocated to each individual vehicle unit.

In this regard, we consider it necessary to open a sub-account **8211 "Mandatory fees from motor vehicles"** to account 821 "Indirect production costs" and offer a nomenclature of analytical accounts:

- **82111 "Fee for the provision of services for the carriage of passengers by road";**
- **82112 "Fee for parking vehicles";**
- **82113 "Fee for the use of water"**

The same proposal applies to the landscaping tax, which is calculated quarterly based on the average headcount of the enterprise's employees/staff, thereby allowing for the drivers of motor vehicles to be singled out separately.

Therefore, we believe it is necessary to propose taking into account part of the landscaping tax, calculated based on the average headcount of drivers and rolling stock management, quarterly accounting for the account:

- **82114 "Fee for landscaping, calculated from services".**

In our opinion, the proposed nomenclature of analytical accounts will provide a more precise representation of the financial data for motor transport enterprises, ensuring that such information is ultimately reflected in the cost of services rendered. However, it is ambiguous how entertainment expenses are categorized as administrative expenses in the enterprises we studied, given that the reception of foreign delegations is largely tied to the production processes of motor transport enterprises. Taking into account all above said, we consider it necessary to offer motor transport enterprises to keep records for each motor vehicle unit using management accounting accounts, which will form costs by responsibility centers, as well as accounting for the cost of sales from motor transport services rendered using analytical accounting accounts for account **711 "Cost of sales"** also for each motor vehicle separately.

In addition to all said above, we believe it is necessary to introduce into the accounting practice of motor transport enterprises, for complete information on costs and expenses, which may be necessary for managers and other users to make decisions, the accounting of costs and expenses by types of transportation: urban, suburban, intercity and international. Based on all details mentioned, we can conclude that in accordance with the current legislation, it is necessary for motor transport enterprises to develop a regulatory document (regulation) on the recognition and accounting of costs and expenses.

It is still unclear why the entertainment expenses of the motor transport enterprise are written off as administrative expenses of the enterprises under study, as the majority of the reception of foreign delegations is connected to the production process of the motor transport enterprises.

After all, according to the NBU, the main purpose of financial statements is to provide useful information necessary for making economic decisions by a variety of users, such as: owners (shareholders, participants), creditors, clients/customers, employees, public institutions and the public. Naturally, the recognition of income and expenses at the motor transport enterprise, as well as at other enterprises, should be based on basic assumptions, such as accrual, continuity, consistency of methods, and guarantee compliance with the following fundamental principles of accounting: non-repayment, autonomy (independence) of the enterprise, priority of content over form, periodicity, prudence. However, it is important to combine correctly these principles in the practice of economic activity. Additionally, it should be noted that due to the specifics of the implementation of motor transport activities, especially when transporting passengers, the process of providing services coincides temporarily with the moment of receiving funds and recognizing income. This does not mean that ATPs recognize income using the cash method, for example, when selling tickets. Today there are no instructions or guidelines for maintaining accounting records of income and expenses for ATPs in Moldova.

The Road Transport Code (Cod transporturilor rutiere, 2014) regulates the basic terms and conditions for the implementation of road transport of passengers, baggage/luggage and cargo on the territory of the Republic of Moldova by transport companies, including transport agents of other countries, with the exception of special road transport. Research shows that at road transport enterprises (RTE), including bus stations and taxi service agencies, compliance with the principle of presentation consistency requires recognizing the corresponding amount of the cost of services rendered, which predetermined the amount of recognized income, simultaneously with the recognition of income. Following this principle, it is necessary to reflect the cost of services provided, which can be measured by the planned (standard) or actual amount. The principle of consistent presentation - implies maintaining the order of presentation and classification of elements of financial statements from one reporting period to the next, except in cases where:

- a) as a result of a significant alteration in the nature of the entity's activities or as a result of an analysis of the financial statement indicators, another presentation or classification of elements of financial statements is more appropriate taking into consideration the methods and techniques of accounting policies developed in accordance with NAS "Accounting Policies, Changes in Accounting Estimates, Errors and Subsequent Events";
- b) the order of presentation of elements of financial statements was modified in the National Accounting Standards (Standardele Naționale de Contabilitate, 2013).

If the ATP determines the planned or standard cost of freight transportation services, the cost of sales will be recognized at the time of revenue recognition as the product of:

- a) the planned (standard) cost of one km traveled without cargo and the actual mileage without cargo (km);
- b) the planned (standard) cost of one km traveled with cargo and the actual mileage with cargo (km);
- c) the planned (standard) cost of 1 t/km and the volume of work performed in t/km, etc.

At the end of the month, the real cost of the rendered transportation services is determined, the amount of deviations of this cost from the planned (standard), which is written off by an additional accounting entry (if the deviations are positive) or by reversing it (if the deviations are negative).

The conducted studies show that some enterprises do not determine the planned (standard) cost of freight transportation services. In this case, until the end of the month the cost of sales is not recognized at the time of recognition of income received from the provision of services. Recognition of the cost of sales is postponed until the end of the month, when the actual cost of transportation services is determined. Consequently, only one accounting entry is made for the amount of the actual cost of sale of services. Naturally, the question arises about the violation of the principle of consistency in this case. We believe that there is no violation of this principle. After all, at the end of the month, for the same reporting period and for the entire volume of services provided, a calculation of the cost of services sold must be made and recognized as expenses.

In our opinion, the option for determining the cost must be reflected in the accounting policy of the enterprise.

1. Write-off of the planned or standard cost of services rendered:

**Debit 711 "Cost of sales", sub-account 7113 "Cost of services rendered",
Credit 811 "Main activity"** (Planul general de conturi contabile, 2013).

So, the amount of deviations from the planned (standard) cost of services rendered is determined at the end of the month, based on the actual calculation of transportation services. Depending on the nature of the deviations, an accounting entry is made.

2. Write-off of deviations of actual cost from planned (standard) cost using regular figures (numbers), when the sum of deviations is positive:

**Debit 711 "Cost of sales", sub-account 7113 "Cost of services rendered",
Credit 811 "Main activity"** (Planul general de conturi contabile, 2013).

A similar accounting entry, but with negative numbers, will be made when writing off negative deviations of the actual cost from the planned (standard) cost.

When a motor transport enterprise or a freight forwarding company does not calculate the planned (standard) cost of transportation services, it reflects income during the month, and at the end of the month - writing off the actual cost of services rendered without first writing off the planned or standard cost by accounting entry (3). Option with positive numbers.

3. Receipt of funds to pay off the accounts receivable of the recipient (customer):

**Debit 242 "Current accounts in national currency", 241 "Cash", 243 "Current accounts in foreign currency", or another account,
Credit 221 "Commercial accounts payable"** (Planul general de conturi contabile, 2013).

According to the qualitative characteristics of financial statements, the information must be reliable and comparable, where:

reliability – the information must be complete, neutral and without material errors;

comparability – financial statements must contain comparable information related to the previous period for all reporting elements of the current reporting period, unless otherwise permitted by National Accounting Standards (Planul general de conturi contabile, 2013).

The question of determining which activities are core or which income can be classified as income from ordinary activities is controversial and debatable. An enterprise may be created initially for the purpose of deriving benefits from the right to own assets owned by it, and this method of deriving income is specified in its constituent documents. Then income from leasing property, using intellectual property for a fee, income from participation in the capital of other organizations,

regardless of their size and regularity of receipt, are recognized as revenue - income from ordinary activities, i.e. core income.

Income from the provision of services is recognized if the following conditions are simultaneously met:

- 1) the amount of income can be reliably measured;
- 2) it is probable that the economic benefits related to the transaction will be received by the entity;
- 3) the stage of completion of the transaction as of the reporting date can be reliably measured; and
- 4) the costs incurred in performing the transaction and the costs of its completion can be reliably measured.

In order to normalize the accounting process, based on the practice of ATP research, and also in order to organize correctly the accounting of income and expenses from core activities, we consider it necessary to form income and cost of sales based on the proposed classification, and take into account the following during their final formation, for example:

Sales revenue:

611 "Sales revenue":

6113 "Income from services rendered":

61131 "by route type";

61132 "by transportation type";

61133 "by activity specifics".

Similarly, cost of sales: 711 "Cost of sales":

7113 "Cost of services rendered":

71131 "by route type";

71132 "by transportation type";

71133 "by activity specifics".

Further, for more detailed accounting, it is possible to propose sub-accounts for the formation of sales revenue and cost of sales, based on the classification of types of routes, types of motor transportation, and specifics of the activity.

We would also like to determine the expenses related to long-term assets.

The question is for what reasons, for example, should the book value and expenses on retired long-term tangible or financial assets be related to the above-mentioned group of expenses, if this is directly related to the main activity of the enterprise (for example, a car used in the activity and sold).

The Accountants of the motor transport enterprises under study, guided by the National Accounting Standard (NAS) "Expenses," typically allocate most taxes and entertainment costs to administrative expenses. However, in our opinion, it would be more appropriate to account for road usage fees and other vehicle-specific annual charges not as administrative expenses but as costs attributed to each individual motor transport unit (Planul general de conturi contabile, 2013), (Legea contabilității și raportării financiare), (Codul fiscal al Republicii Moldova, 2007).

Conclusion

1. The practice of research of accounting of revenues and cost of sales of motor transport enterprises has allowed us to state that the majority of enterprises do not determine revenues and cost of sales based on: types of routes, transportation, and specifics of the activity.

2. For the purposes of management accounting and the usefulness of information for managers, we consider it necessary to propose accounting of revenues and cost of sales based on the classification considered.
3. In order to improve the accounting of revenues and expenses of motor transport enterprises in the Republic of Moldova, it is necessary to develop special Methodological Guidelines, since there is no uniform approach in the accounting practice of enterprises.
4. Use a more detailed approach to the problem of determining the cost of services rendered, namely, determining the planned (standard) cost, such information will allow managers to make the right management decisions.
5. Based on the above, we consider it necessary to offer to take into account the costs of core activities under account 811 "Main activity". Such accounting complies with the Methodological Standards for the Use of Accounting Accounts, the Chart of Accounts in relation to the reflection of income and costs (expenses) of core and other activities, thereby excluding the use of sub-account 6113 "Income from the Provision of Services" opened by bus stations to the synthetic account 611 "Income from Sales" and the accounting of other income in accordance with our previously proposed classification of income from other types of activities using account 612 "Other Operating Income". Such information will be useful for both managers and users of financial statements.

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ANALYSIS OF THE PROVISIONS OF THE INTERNATIONAL STANDARD ON AUDITING FOR AUDITS OF FINANCIAL STATEMENTS OF LESS COMPLEX ENTITIES (ISA FOR LCE) AS APPLIED TO THE CONDITIONS OF THE REPUBLIC OF MOLDOVA

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Abstract: The necessity to elaborate the International Standard on Auditing the Financial Statements of Less Complex Entities (ISA for LCE) arose long ago, primarily due to the fact that when auditing the financial statements of such entities it is not always appropriate to comply with all the provisions of International Standards on Auditing for various reasons, including the fact that the entities are less complex. This standard does not define less complex entities; this prerogative is left to the competent authorities of various jurisdictions. Considering the provisions of this standard, the author analyzes various economic indicators that could be taken into account to classify as less complex enterprises for the Republic of Moldova. Assessing the business risks of the audited entity, the author considers a new category of intentional misstatements of financial statements. The article also analyzes the provisions of the International Standard on Auditing of Financial Statements of Less Complex Entities (ISA for LCE) in relation to the conditions of the Republic of Moldova.

Keywords: less complex entities, ISA, financial statements.

JEL Classification: M41

1 Introduction

In the context of increased business risks, auditing financial statements of enterprises and confirming their financial statements is of particular importance for the stable economic situation of various jurisdictions. In this regard, high-quality audit is of paramount importance for expressing a correct opinion on the reliability of financial statements. To this end, the International Auditing and Assurance Standards Board (IAASB) develops and promotes the use of International Standards on Auditing. At the same time, the large volume of documentation presented in these standards, which is mandatory for execution during the audit, is not always necessary when auditing less complex entities, taking into account achieving high audit quality. In this regard, the International Auditing and Assurance Standards Board (IAASB) published the International Standard on an Audit of Financial Statements of Less Complex Entities (ISA for LCE) in December 2023.

Analyzing the provisions of this standard and the International Standards on Auditing, it can be stated that: when conducting an audit of financial statements using the:

- ✓ *International Standards on Auditing, the auditor must use 37 standards, while,*
- ✓ *International Standard on Auditing for Audits of Financial Statements of Less Complex Entities, the auditor must comply with the provisions of 10 sections of this standard.*

The standard notes that it applies to the audit of financial statements prepared both on the basis of historical information and using the concept of market value. The prerogative of establishing the rules for the preparation of financial statements belongs to the competent authorities of each jurisdiction.

2 Analysis of the provisions of the International Standard on Auditing for Audits of Financial Statements of Less Complex Entities

The International Standard on Auditing for Audits of Financial Statements of Less Complex Entities does not define less complex entities, but it does set limitations on the use of the provisions of this international standard. At the same time, the limitations on the use of ISAs for less complex entities were divided into three categories:

- *specific types of entities for which it is prohibited to use the provisions of ISAs for less complex entities when conducting an audit,*
- *qualitative characteristics related to less complex entities that do not allow the application of the audit standard,*
- *quantitative values (certain limits) that are established by legislative or regulatory authorities of each jurisdiction independently.*

The specific types of entities for which the prohibition is established are reflected in the standard and include (IAASB n.d.):

- *entities for which the relevant jurisdiction has established regulations that require the use of auditing standards other than ISAs for less complex entities in conducting an audit,*
- *entities whose securities are listed on a stock exchange,*
- *financial institutions whose primary function is to accept deposits from the public,*
- *insurance companies,*
- *types of entities for which the use of the standard is prohibited by regulations in a number of jurisdictions.*

The standard notes that the above prohibitions on categories of enterprises cannot be changed by the authorized bodies of the relevant jurisdictions, however, they can make additions or expand the list of enterprises. For example: as a prohibition on the use of IAS's for less complex entities, the relevant jurisdiction can expand the list and include public interest enterprises.

The qualitative characteristics of enterprises that can influence the establishment of a prohibition on the application of this standard include:

- ✓ *business model or specifics of the enterprise's activities that can lead to significant risks,*
- ✓ *organizational structure of the enterprise (complexity, levels of subordination, etc.),*
- ✓ *owners and real beneficiaries,*
- ✓ *compilation of financial statements, for example: 5 or less employees are involved in the preparation of the enterprise's financial statements,*
- ✓ *information technology (software, information flows, etc.),*
- ✓ *the concept of preparing financial statements and the complexity of accounting estimates.*

The International Auditing and Assurance Standards Board (IAASB) notes that each jurisdiction may establish its own prohibitions on the application of ISAs for less complex entities, while establishing the criteria for classification as such enterprises. At the same time, the criteria for classification as less complex enterprises may be different: for example, the complexity of the business, types of activities, but at the same time, the most significant quantitative indicators that indicate the dynamics

of the enterprise are: sales revenue, total assets and number of employees. According to these indicators, micro, small and medium enterprises are classified worldwide.

It should be noted that the European Commission in its recommendations of 6 May 2003 "Concerning the definition of micro, small and medium-sized enterprises" (definition 2003), as well as in the SME Definition - user guide of 07/09/2020 (Definition n.d.) sets the following criteria for classification as small enterprises:

- *number of employees less than 50,*
- *sales revenue less than or equal to EUR 10,000,000,*
- *balance sheet total less than or equal to EUR 10,000,000.*

Thus, the Ministry of Finance of the Republic of Moldova, as the body that develops normative and legislative acts in this area, will have to establish criteria for classification as less complex enterprises. Based on quantitative criteria, there are various indicators for classification as small enterprises in the normative and legislative acts of the Republic of Moldova.

Table 1. Criteria for classification into the relevant categories of enterprises according to the regulatory acts of the Republic of Moldova.

Entities	Law 287/2017 on Accounting and Financial Reporting	Law 179/2016 on Small and Medium-Sized Enterprises
micro	on the reporting date, the limits of two of the following criteria do not exceed: 1. total assets – 5600000 lei; 2. sales revenue – 11200000 lei; 3. average number of employees in the reporting period – 10	the number of employees is not more than 9 people, the annual turnover is up to 18 million lei or the total amount of assets owned by them is up to 18 million lei
small	on the reporting date, the limits of two of the following criteria do not exceed: 1. total assets – 63600000 lei; 2. sales revenue – 127200000 lei; 3. average number of employees in the reporting period – 50	the number of employees does not exceed 49 people, with an annual turnover of up to 50 million lei or the total volume of assets owned by them up to 50 million lei
medium-sized	on the reporting date, the limits of two of the following criteria do not exceed: 1. total assets – 318000000 lei; 2. sales revenue – 636000000 lei; 3. average number of employees in the reporting period – 250	the number of employees does not exceed 249 people, with an annual turnover of up to 100 million lei or the total volume of assets owned by them up to 100 million lei

Source: compiled by the author based on the materials of the Laws of the Republic of Moldova (179/2016 n.d.) (287/2017 n.d.)

If we apply the Euro exchange rate on the last day of July 2024 to the criteria for classification as a small enterprise, as established in the recommendations of the European Commission, then it turns out that in order to be classified as a small enterprise, the following indicators must be met:

- ✓ *sales revenue must be less than or equal to MDL 192,066,000.00,*
- ✓ *balance sheet total less than or equal to MDL 192,066,000.00.*

The closest indicators to the above are those of Law 287/2017 "On Accounting and Financial Reporting", but they also require revision. Let's consider which criteria for classification as a less complex enterprise are most acceptable for the Republic of Moldova, for this we will analyze various economic indicators of the enterprises of the Republic of Moldova.

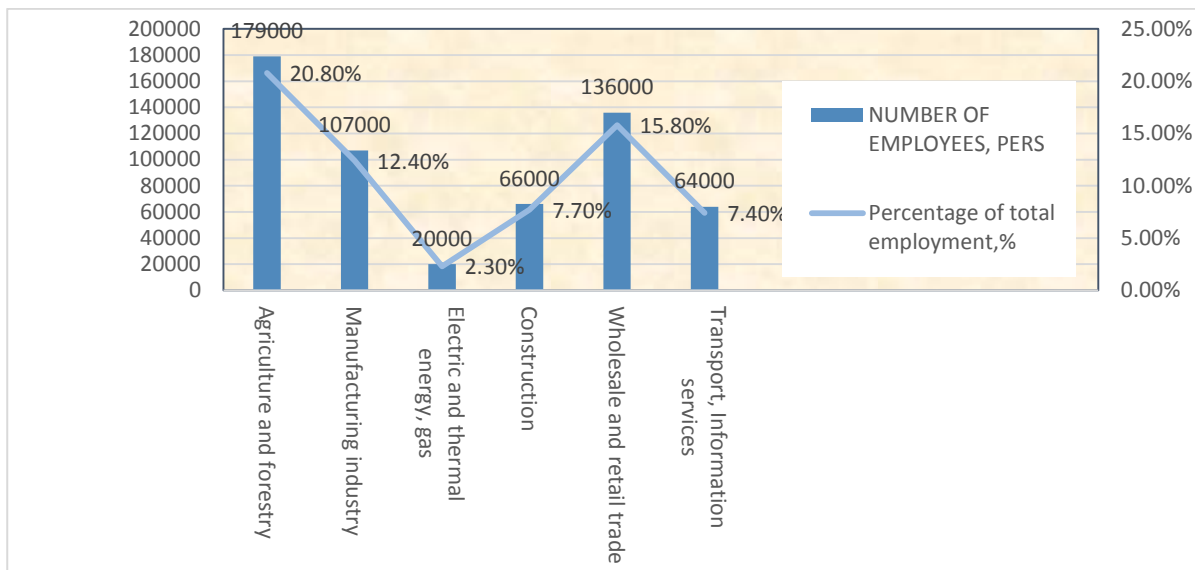


Figure 1. Employment of population by sectors of economy of the Republic of Moldova in 2022

Source: authors own study or based on statistical report (Statistical yearbook n.d.)

Analyzing the data in Figure 1, it can be stated that the largest employment of the population of the Republic of Moldova in 2022 is observed in agriculture, which accounts for 20.8% of the total employment of the population of the Republic of Moldova, in the manufacturing industry -12.4%, wholesale and retail trade -15.8%. By studying the economic indicators of enterprises in the Republic of Moldova, it is possible to analyze the most significant of them: sales income and profit before taxation, the information is presented in Figure 2.

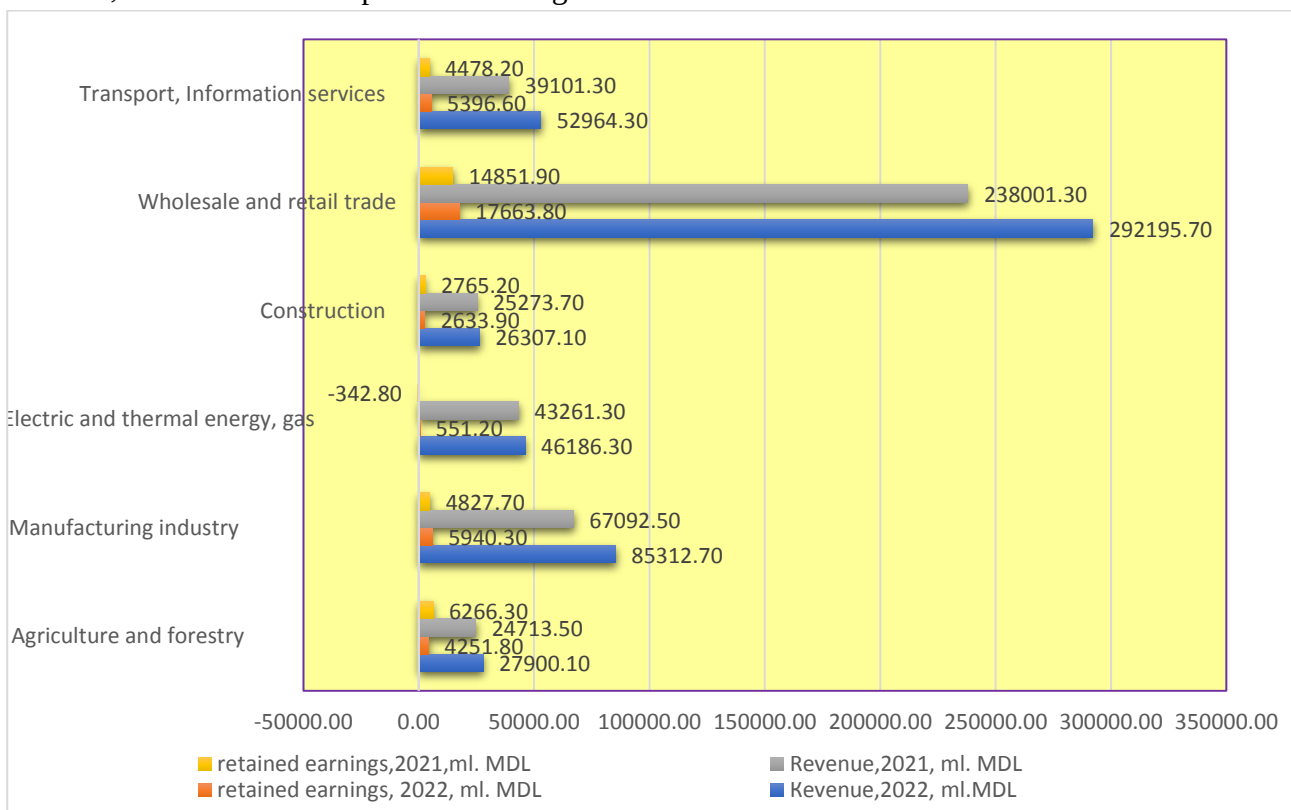


Figure 2 Dynamics of revenue and retained earnings by economic sectors of the Republic of Moldova

Source: authors own study or based on statistical report (Statistical yearbook n.d.)

Analyzing the main performance indicators of enterprises by sectors of the economy, it can be noted that wholesale and retail trade occupy the largest share in terms of both revenue and retained earnings, which is a positive thing, but for the effective development of the economy of any country, dynamic development of industries, services and agriculture is necessary. The transport industry, as well as information services and communications, demonstrate good performance.

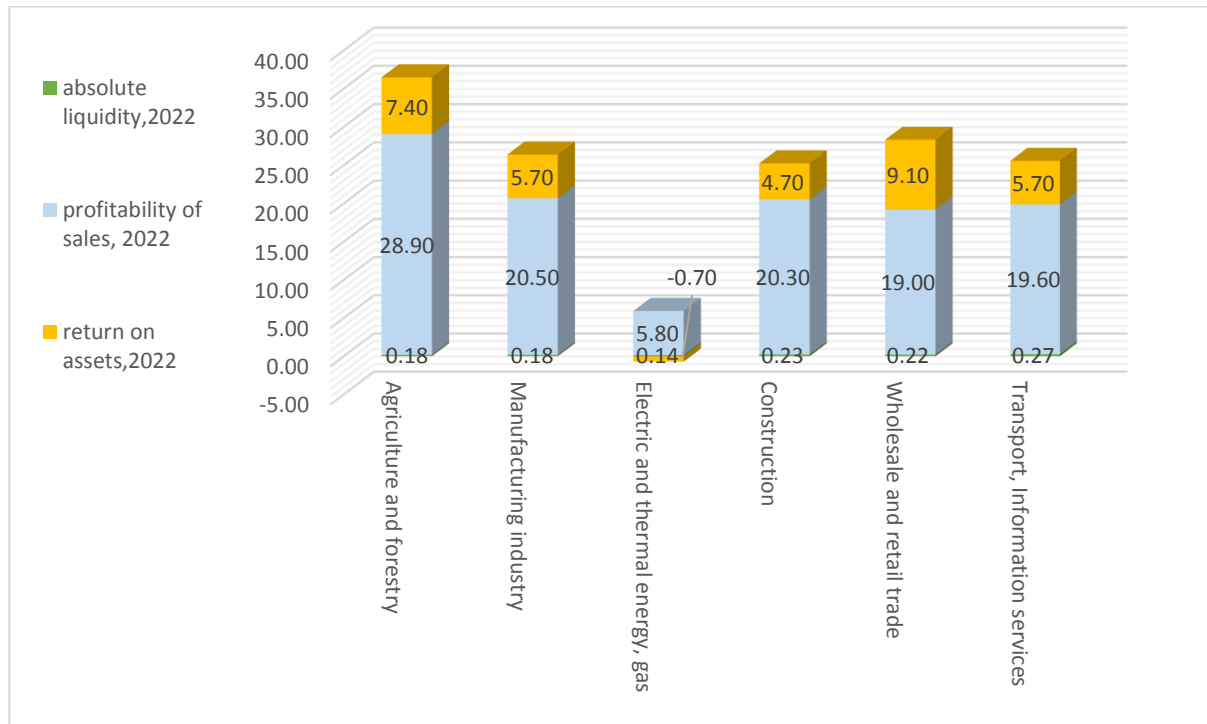


Figure 3 The main relative economic indicators of the activities of the sectors of the economy of the Republic of Moldova for 2022

Source: authors own study or based on statistical report (Statistical yearbook n.d.)

Analyzing the data, we can state the following despite the seasonality of work and high cost, agriculture shows high rates of return on sales and absolute liquidity. The highest economic indicators are inherent in information services, so in 2022 the absolute liquidity was 0.64, with a norm of 0.2-0.25. Thus, it can be stated that the relative values of the economic indicators of the selected industries are at a good level, which indicates the efficiency of enterprises. From the point of view of business risks by sectors of the economy that should be taken into account when conducting an audit, the general ones should include: not reflecting the entire amount of income, undeclared labor, etc. The International Standard on Auditing for Less Complex Entities (ISA for LCEs) has the following content:

Part A The ISA's authority for auditing the financial statements of less complex entities:

- 1. Fundamental Concepts, General Principles and Overarching Requirements,*
- 2. Audit evidence and documentation,*
- 3. Engagement quality management,*
- 4. Acceptance or Continuance of an Audit Engagement and Initial Audit Engagements,*
- 5. Planning,*
- 6. Risk Identification and Assessment,*
- 7. Responding to assessed risks of material misstatement,*

8. Concluding,

9. Forming an Opinion and Reporting,

10. Audits of Group Financial Statements,

Appendices 1-7

The first section, "Fundamental Concepts, General Principles and Overarching Requirements" of ISAs for less complex enterprises, addresses: ethical requirements and quality management at the firm level, establishes the auditor's objectives and general principles for conducting an audit, and addresses fraud detection situations. This section also focuses on regulatory and statutory provisions, related party transactions and communications with management of the audited entity and those with governance authority.

The second section of the standard addresses obtaining sufficient and appropriate audit evidence and the information to be used as audit evidence.

The third section, Engagement quality management, focuses on the responsibilities of the audit mission partner. The fourth section, Acceptance or Continuance of an Audit Engagement and Initial Audit Engagements addresses the objectives of the audit mission and the prerequisites for conducting an audit of financial statements, the grounds for accepting or continuing the engagement, and the terms of the audit engagement. An important point is that attention is also paid to initial audit engagements. This section sets special requirements for communication with the management of the audited entity and documentation. The fifth section, Planning, includes activities for planning and determining materiality.

The sixth section, Risk Identification and Assessment, is devoted to the procedures for identifying and assessing risks and related actions, and, above all, understanding the activities of the enterprise. An important point is the identification and assessment of the risks of material misstatements. The seventh section, Responding to Assessed Risks of Material Misstatements, sets forth audit procedures that respond to the assessed risks of material misstatements at the financial statement level, as well as audit procedures that respond to the assessed risks of material misstatements at the management assertion level. An important point is the process of accumulation of detected errors and distortions. The eighth section, Forming an Opinion and Reporting, deals with the provisions, procedures to be performed at the final stage of the audit of the financial statements, namely, assessment of misstatements identified during the audit, analytical procedures to help form the auditor's opinion, subsequent events, auditor's estimates and other actions to support the auditor's opinion, written representations, assumption of overall responsibility for management and achievement of quality. Section nine relates to the formation of the auditor's opinion and the presentation of the auditor's report. It presents the auditor's objectives in the course of forming an opinion on the reliability of the audited financial statements, the form of the auditor's report itself, cases of modification of the auditor's opinion, other paragraphs of the auditor's report, comparative information - relevant indicators and comparative financial statements.

The tenth section deals with the audit of the financial statements of a group of companies, addressing issues relating to:

- ✓ *planning the audit of the financial statements of a group of entities,*
- ✓ *determining materiality,*
- ✓ *understanding the structure of the enterprise group and its activities, the environment in which it is active,*
- ✓ *the concept of financial reporting,*

- ✓ *organization of the group's internal control system,*
- ✓ *identifying and assessing the risks of material misstatement of financial statements,*
- ✓ *responding to assessed risks of material misstatement of financial statements.*

All sections of the International Standard on Auditing for Audits of Financial Statements of Less Complex Entities (ISA for LCE) contain subsections on specific requirements for communication with the management of the audited entity and special documentation requirements. When studying the provisions of the first section " Fundamental Concepts, General Principles and Overarching Requirements " of the standard, special attention should be paid to the provisions related to the detection of fraud in an audit of financial statements. It is obvious that the responsibility for the prevention and detection of fraud lies with the management of the audited entity. Fraud can take various forms and may have different legal definitions from the point of view of regulations of different jurisdictions, but the auditor considers fraud that leads to material misstatements in the financial statements. The standard notes that fraud is distinguished from error by whether the actions that lead to misstatement of the financial statements are intentional or unintentional. In this case, the auditor pays special attention to two types of intentional misstatements - misstatements resulting from fraudulent financial reporting and misstatements resulting from misappropriation of assets. The author considers it appropriate to add another type of deliberate distortion, such as the reflection in accounting of false or inflated obligations to various counterparties, with the subsequent enrichment of the relevant employees.

The auditor must obtain reasonable assurance about whether the financial statements as a whole are free from material misstatement, whether due to fraud or error. The risk of not detecting a material misstatement due to fraud is higher than the risk of not detecting error, even if the audit is properly planned and performed. This is because fraud may involve complex schemes and may be carefully orchestrated by the management of the audited entity. If fraud is detected, or the auditor is faced with exceptional circumstances that cast doubt on his ability to continue audit, the auditor must first evaluate his legal and professional responsibilities that apply to the circumstances or consider whether to terminate the audit.

In performing an audit of financial statements, the auditor examines whether the audited entity has complied with laws and regulations, and management is responsible for ensuring compliance, with particular attention to those laws that affect the determination of amounts and disclosures in the financial statements.

The auditor is not responsible for preventing non-compliance and cannot expect to detect non-compliance with all laws and regulations during the audit. During an audit of financial statements, the auditor primarily focuses on situations where non-compliance with regulations results in a material misstatement of the financial statements. In this regard, non-compliance with laws and regulations can be classified as follows:

- *those cases where non-compliance directly affects the calculation and determination of material amounts and the presentation and disclosure of information in the financial statements (primarily these are calculations of tax and social obligations); and*
- *regulations that do not directly affect the determination of amounts and disclosure of information in the financial statements, but non-compliance with which may be of fundamental importance for the activities of the audited entity (for example, a violation of the terms of a license to carry out activities, compliance with regulatory requirements for solvency or compliance with environmental standards), i.e. non-compliance with such laws and regulations may have a material impact on the ability of the entity to operate.*

If the auditor has identified non-compliance with regulatory and legislative acts in the activities of the audited entity, he should first determine whether the law of the relevant jurisdiction requires that this information be communicated to the relevant regulatory or supervisory authorities. An important issue that is discussed in the first section is the audit of related party transactions, taking into account: circumstances in which a related party has a dominant influence over the audited entity, information that may indicate related party transactions or transactions that management has not previously identified and disclosed to the auditor; and significant transactions outside the normal course of the entity's activities.

Many jurisdictions have specific requirements when preparing financial statements regarding the accounting and disclosure of transactions and balances with related parties so that users of financial information can understand their nature and the actual or potential effect on the financial statements. Where such requirements are established, the auditor is responsible for performing audit procedures to identify, assess, and respond to the risks of material misstatement arising from an entity's failure to properly reflect or disclose related party transactions or balances. Even though the relevant jurisdiction does not impose specific rules on related party disclosure, the auditor still needs to obtain an understanding of such transactions of the entity to be able to conclude whether the information presented in the financial statements is reliable. It should be noted that the provisions of this standard should be applied to audits of financial statements of less complex entities for periods beginning on or after December 15, 2025.

3 Conclusion

Small enterprises are known to be the basis of any economy, and they account for the largest share of all audit services worldwide. The challenges in applying International standards on auditing for such enterprises are of great relevance to the IAASB. However, a key point needs to be emphasized: the simplicity of an enterprise's structure and operations does not mean that it is small. An enterprise can be large but still remain simple in its management and operations. In addition, there is a balance to be struck between simplification in terms of auditing and avoiding a reduction in audit quality as a result of applying ISAs to less complex enterprises. Since the standard does not define a less complex enterprise and this should be done by the relevant public authorities of each jurisdiction, the author analyzed various indicators of enterprises from different sectors of the Republic of Moldova, such as: number of employees, type of industry, sales revenues, value of assets, return on sales and assets. It should be noted that each branch of the economy has its own business risks, which may lead to distortions in the information presented in the financial statements. At the same time, the author concluded that quantitative indicators of income from sales, number of employees and amount of assets of the balance sheet are the most acceptable for the criteria of attribution to less complex enterprises.

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SESSION VI.
INFORMATIONAL TECHNOLOGIES
AND ECONOMIC CYBERNETICS

SOLVING RESOURCE AND PROCESS OPTIMIZATION PROBLEMS USING AI PLATFORMS

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Abstract: In the last period, the use of artificial intelligence (AI) has seen a significant expansion in various socio-economic fields, with the aim of making the time needed to perform various tasks more efficient. The academic field is no exception to this trend, being characterized by an increasing adoption of AI platforms, especially by students. These platforms are used to get quick but not always correct and complete solutions for lab assignments, seminars and assessments.

The present work focuses on testing free variants of AI platforms, such as Chat GPT and Copilot, in the context of solving problems specific to the Operational Research domain. The covered issues include aspects such as activity planning, stock management and analysis of queuing systems. The main goal of the research is to evaluate the effectiveness of these AI tools in solving complex academic problems.

In order to carry out a rigorous evaluation of the results generated by AI platforms, practical examples from the manual of Gamețchi and Solomon (2015) are used, where the solutions are already known. This approach allows a detailed comparison between the results provided by the AI and the solutions established in the manual, thus facilitating the identification of the strengths and limitations of each platform. Comparative analysis provides an in-depth understanding of the precision and utility of these tools in the academic context.

As a result of the research, conclusions were obtained regarding the use of these tools in the educational process and their impact on uninitiated people in the field of problems that require solutions.

Keywords: artificial intelligence, activity planning, stock management, analysis of queuing systems

JEL Classification: C02, C44, C50, C51, C65

1. Introduction

AI-based products are used in various fields for different purposes, such as creating presentations using templates, generating graphs and reports, studying languages, developing personalized programs for sports and nutrition, and many others. The paper addresses the use of Copilot and Chat GPT products. Copilot is an AI-based personal chat assistant developed by Microsoft, formerly known as Bing Chat, released on the market under this name in the fall of 2023. Copilot is available in the Microsoft Edge browser and on Windows 11 PCs. It's a free service for eligible users and those with a Microsoft account. It is typically used for chat discussions with text, voice, and image capabilities, document and web page summarization, image creation, web substantiation, etc. Microsoft also offers Copilot for Microsoft 365 with an annual subscription of €337.20 (€28.10 user/month), used in Microsoft applications. A separate license for an eligible Microsoft 365 plan is

required prior to purchase. Rates are available on the Microsoft 365 Copilot page (Microsoft 365 Copilot, 2024).

Another product used is Chat GPT - an AI model created by Open AI, based on the Generative Pre-trained Transformer – 4 (GPT) architecture, one of the most advanced versions currently available, according to the developers. He is trained to generate texts and answer questions coherently and relevantly based on the data he has learned from various information sources. The free plan offers copywriting assistance, troubleshooting, etc., access to GPT-4o mini, limited access to GPT-4o, limited access to advanced data analysis, file upload, detailed insight, web browsing, and custom GPTs and has a limitation on the number of messages. For early access to new chat features Open AI o1-preview, Open AI o1-mini, as well as access to GPT-4o, GPT-4o mini, GPT-4, more messages for GPT-4o, access to advanced analysis of data, uploading files, detailed perception and web browsing, image generation with DALL·E, creating and using custom GPTs requires a monthly subscription of \$20, Plus plan. GPT also has the Team plan with more generous features and a \$25 per month rate. GPT Chat offers users the opportunity to familiarize themselves with other AI-based products available in the Explore GPTs section of the menu displayed on the left side of the web page if the chat is accessed from a browser. The products are organized by categories to facilitate their quick finding. There are also proposed GPTs created by the GPT team that are oriented towards specific areas of interest, for example: DALL·E – for image generation, Data Analyst – for data analysis and visualization, Coloring Book Hero – for creating coloring book pages, Planty – expert in plant care, and other useful products.

In the paper, the free plan is used to solve some problems from the Operational Researches domain. The accuracy and correctness of the response provided by Chat GPT and Copilot is analyzed.

2. The Problem of Planning a Complex of Activities

The problem of planning a complex of activities is a challenge in the field of optimization and projects management, which involves the efficient organization and ordering of a set of interrelated activities. The goal is to achieve a specific goal under given conditions, such as limited resources (time, people, money) and constraints (deadlines, sequencing of activities). To test the results provided by the chats, the example on page 82 of Gameŭchi and Solomon (2015) was used, for which it was required to build the network-graph, to determine the critical activities, critical events and time parameters. Information about the project is presented in the Table 1.

Table 1. Project characteristics.

The activity	The following activities	Duration
A	B, C	3
B	D, E, F	8
C	G	5
D	G	6
E	-	15
F	H	4
G	-	7
H	-	6

Source: *Gameŭchi and Solomon (2015) page 82.*

According to the source of Gameṭchi and Solomon (2015), the critical path has the value 26, the critical events: x1, x2, x3, x6; critical activities: A, B and E; the total time reserve for activity C is 11, D – 2, F – 5, G – 2, H – 5; the free time reserve for activity C is 9, H – 5; the safe independent time reserve for activity C is 9. The network-graph of the project, critical activities and critical events are shown in Figure 1. The critical path consists of activities A → B → E. Critical events and activities are highlighted on the network-graph in red. In Gameṭchi and Solomon (2015), the values of the earliest/latest event times and the earliest/latest start and finish times of the activities are also found.

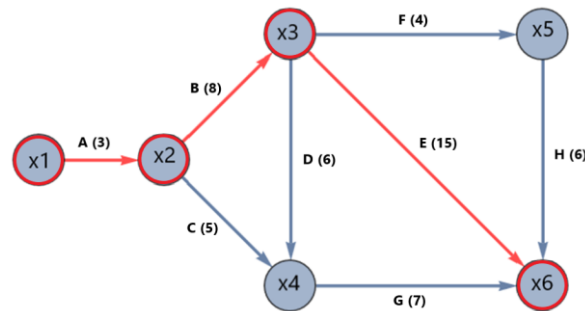


Figure 1. Network-graph, critical events and activities.

Source: Adapted by the author based on the example from Gameṭchi and Solomon (2015).

GPT chat provided the resolution steps. First, he once again defined the activities and the relationships between them, then described the construction of the network-graph, specified the initial event, the consecutiveness of activities and events until the final event is reached. The user can draw the graph taking into account the description provided by the chat. The network-graph constructed by Chat GPT is shown in Figure 2.

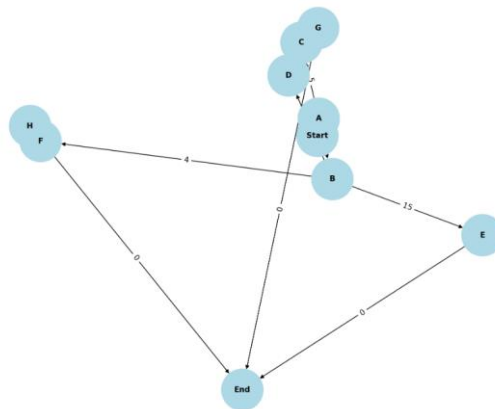


Figure 2. Network-graph of the project by GPT.

Source: Chat GPT.

If Figure 2 is analyzed, then the clear representation of the network-graph cannot be determined, the data is overlapping and difficult to read. The chat determined its next steps, then hung up and informed the user that the number of questions had been exceeded. A question follows: „Create the network-graph for the proposed problem?”, to which the chat comes with the answer in Figure 3.

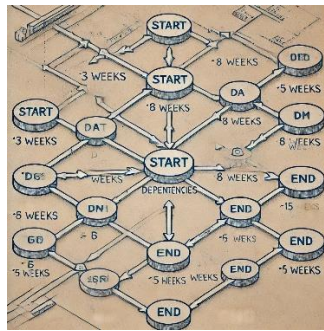


Figure 3. The new network-graph of the project by GPT.

Source: Chat GPT.

The representation in Figure 3 makes things even more confusing. It was pressed to get the answer to „What is the critical path?”. The chat provided the answer „The critical path is: Start → A → B → E → End, and it takes 26 weeks.”, which is correct. Next comes the question: „What are the time parameters of the project?”. The obtained result is presented in Table 2.

Table 2. Time parameters of the project.

The activity	Duration of activity	Gameŭchi and Solomon (2015)				Chat GPT				Copilot			
		$T_{ij}^{s.mi}$	$T_{ij}^{s.md}$	$T_{ij}^{e.mi}$	$T_{ij}^{e.md}$	$T_{ij}^{s.mi}$	$T_{ij}^{s.md}$	$T_{ij}^{e.mi}$	$T_{ij}^{e.md}$	$T_{ij}^{s.mi}$	$T_{ij}^{s.md}$	$T_{ij}^{e.mi}$	$T_{ij}^{e.md}$
A	3	0	0	3	3	0	0	3	3	0	0	3	3
B	8	3	3	11	11	3	3	11	11	3	3	11	11
C	5	3	14	8	19	3	7	8	12	3	3	8	8
D	6	11	13	17	19	11	12	17	17	11	11	17	17
F	4	11	16	15	20	11	17	15	21	15	15	19	19
E	15	11	11	26	26	11	11	26	26	11	11	26	26
G	7	17	19	24	26	8	19	15	26	19	19	26	26
H	6	15	20	21	26	15	20	21	26	19	19	25	25

Source: Made by the author based on the source Gameŭchi and Solomon (2015) and the results provided by Chat GPT and Copilot.

From the data presented in the table, it can be noted that for three activities (C, D, F) the values of the latest possible start time and the latest possible end time of the activity are incorrectly calculated by Chat GPT. Also, incorrect response is provided for the earliest possible start time and earliest possible finish time values for activity G. It can be noted that 25% of the values in the table calculated by Chat GPT are incorrect.

Copilot summarizes the requirements of the problem and provides a brief theoretical background. Propose the result for the time parameter values shown in Table 2, about 44% of them are incorrect. The results for activities C, D, F, G and H are wrong. As for the critical path, Copilot provides the answer: „The critical path is A → B → D → G, with a total duration of 24 weeks.” The question „Are you sure this is the critical path?” was introduced. The Copilot, after repeating the calculations, gives the answer: „Yes, the critical path is correct and consists of activities A → B → D → G, with a total duration of 24 weeks.” – it is not true. The Copilot was asked to create the network-graph of the

project. The chat offered several options, shown in Figure 4. None of them correspond to the network-graph of the project presented in Gameŭchi and Solomon (2015).

If the chats are queried on another day with the same problem, then the solution may differ. Other values for time parameters and another critical path may be presented. Chat GPT becomes solidary with Copilot regarding the value of the critical path. The approach to the problem differs, because of the tools used in the solution. In the process of finding and offering solutions, the sources approached may not always be consistent and correct. Therefore, the solutions proposed by the chat are not necessarily correct.

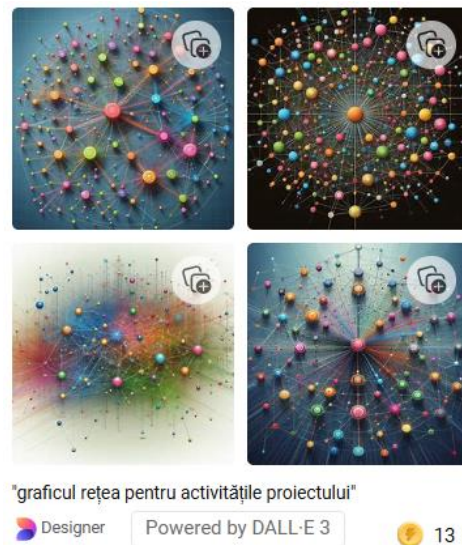


Figure 4. The network-graph variants of the project offered by Copilot.

Source: Copilot.

Both tools used in solving the problem provided incomplete and incorrect data. However, part of the calculations corresponds to those presented in Gameŭchi and Solomon (2015).

3. Queuing Systems with Infinite Queue

Chat capabilities were tested using the example on page 165 of Gameŭchi and Solomon (2015): „In a supermarket, three cash registers operate with the same productivity. It has been observed that during an hour an average of 40 buyers arrive and the average service time of a buyer is 3 minutes. Determine: the stationarity probability of the cash registers (P_0); the average tail length ($\bar{r}$); the average number of shoppers in the store ($\bar{k}$); the average time a shopper waits to be served ($\bar{t}_{wait.}$); the average time the customer is in the store ($\bar{t}_{sist.}$). Establish the conclusion about the effectiveness of the supermarket's activity.”

The result in Gameŭchi and Solomon (2015) is:

- the stationarity probability of the cash registers $P_0 \approx 0,11$;
- the average tail length $\bar{r} = 0,88 \approx 1$ buyer;
- the average number of shoppers in the store $\bar{k} = 2,88 \approx 3$ customers;
- the average time a shopper waits to be served $\bar{t}_{wait.} = 1,32$ min.;
- the average time the customer is in the store $\bar{t}_{sist.} = 4.32$ min.
- *Conclusion:* The activity of the supermarket must be considered efficient.

The GPT chat gives a brief presentation of the theoretical aspects and asks the user if there is a need to perform the full calculations using the proposed formulas. At some times may be displayed the message „*It seems like I can't do more advanced data analysis right now. Please try again later.*”

The proposed result of GPT is:

- $P_0 \approx 0,1111$;
- $\bar{r} = 0,89 \approx 1$ shopper;
- $\bar{k} = 2,89 \approx 3$ customers;
- $\bar{t}_{wait.} = 1,33$ min.;
- $\bar{t}_{sist.} = 4,33$ min.
- *Conclusion:* The supermarket operates quite efficiently, with a low waiting time and a relatively short queue.

The answer provided by Chat GPT, in this case, coincides with the answer in Gameŭchi and Solomon (2015).

Copilot, for the proposed example, gives the following answer:

- $P_0 \approx 0,111$;
- $\bar{r} = 0,099$ buyer;
- $\bar{k} = 2,099$ shoppers;
- $\bar{t}_{wait.} = 0,1485$ min.;
- $\bar{t}_{sist.} = 3,1485$ min.
- *Conclusion:* The operation of the supermarket is efficient.

The results obtained with the help of the Copilot do not coincide with those of Gameŭchi and Solomon (2015). One of the possible causes may be the incorrect establishing of the waiting system type or the formulas used. If a value is determined incorrectly, then all subsequent calculations can no longer be accurate and correct. If the user does not master the domain sufficiently, Copilot can lead him to wrong answers.

Analyzing that example, it can be seen that Chat GPT provided a correct answer, exceeding the possibilities of Copilot.

4. Stock Management

Stock management issues are common challenges encountered in effectively managing goods inventory. They are studied in the course in order to be able to avoid, in the future field of activity, overstocks, insufficient stocks, inaccurate demand forecasts, problems related to stock rotation, high management costs, problems with suppliers, etc. There are different management models used depending on the activity profile of the enterprises. Will test chat capabilities using the example on page 202 of Gameŭchi and Solomon (2015), which reflects the optimal lot size for several types of products: „*A store sells items of two types. The demand during the period of $T=30$ days is respectively of $S_1 = 500$ units and $S_2 = 1000$ units of articles. The fixed costs of selling a lot is $c_2 = 60$ m.u., but the unit keeping cost $c_{11} = 0,1$ m.u./day and respectively $c_{12} = 0,05$ m.u./day. Determine the optimal number of lots (n^*), the optimal lot size for each item type (q_1^* , q_2^*), the optimal delivery interval (τ^*).*”

The solution to the problem is:

- $q_1^* = 100$ units;
- $q_2^* = 200$ units;

- $\tau^* = 6$ days;
- $n^* = 5$ lots.

Copilot for the analyzed stock management problem provided the following results:

- $q_1^* = 141,42$ units;
- $q_2^* = 282,84$ units;
- $\tau^* = 8,47$ days;
- $n^* = 3,54$ lots.

It is noticed that the result is not a correct one. The cause is the formulas used by Copilot to get the result - they are not correct. The formula used for optimal lot size corresponds to mono-product stock:

$q_i^* = \sqrt{\frac{2Sc_2}{Tc_{1i}}}$, it was necessary to use formulas for inventories with several types of products: $q_i^* = \frac{S_i}{\sqrt{\frac{T \sum_{i=1}^k c_{1i} \cdot S_i}{2c_2}}}$ - the correct formula.

Querying the GPT Chat returned the following results:

- $q_1^* = 141,42$ units;
- $q_2^* = 282,84$ units;
- $\tau^* = 7,5$ days;
- $n^* = 3,54 \approx 4$ lots.

Because Chat GPT has rounded the value for the optimal number of lots, the optimal delivery interval differs from that provided by Copilot. Otherwise, all values are identical because Chat GPT used the same calculation formulas as Copilot.

For multi-product stock management, chats have proven to be ineffective. For the example on page 188 of Gameŭchi and Solomon (2015) – mono-product stocks, the chats gave the same results as in the manual.

5. Results Provided by Google AI

There is a wide range of products developed for users with the same goal - to facilitate the realization of activities. Another product is Gemini (Google AI) developed by Google. The free plan (limited) may be used or the advanced plan (with the latest innovations) for \$19.9 per month.

The problems analyzed above are offered for solution in the Gemini chat. For each problem, the chat provided theoretical information and solution steps. For the planning problem in point 2, getting the concrete numerical values involved a long series of questions. Initially the chat sampled the results for the time parameters only for the first three activities. Table 3 shows all the numerical values offered by the chat. The incorrect values are highlighted in red, approximately 38%.

Table 3. Project time parameters provided by Gemini.

The activi-ty	Dura-tion of activity	Gameṭchi and Solomon (2015)				Gemini			
		$T_{ij}^{s.min}$	$T_{ij}^{s.max}$	$T_{ij}^{e.min}$	$T_{ij}^{e.max}$	$T_{ij}^{s.min}$	$T_{ij}^{s.max}$	$T_{ij}^{e.min}$	$T_{ij}^{e.max}$
A	3	0	0	3	3	0	0	3	3
B	8	3	3	11	11	3	3	11	11
C	5	3	14	8	19	3	3	8	8
D	6	11	13	17	19	11	11	17	17
F	4	11	16	15	20	11	11	15	15
E	15	11	11	26	26	11	11	26	26
G	7	17	19	24	26	8,17	15	15	22
H	6	15	20	21	26	15	15	21	21

Source: Made by the author based on the source Gameṭchi and Solomon (2015) and Gemini.

Gemini does not provide clear and correct network-graph representation, a variant is shown in Figure 5, which has no tangent to the network-graph of the analyzed project, it is a network-graph on the internet. The critical path, according to the chat, has a value of 21 and it is: A → B → D → G → H.

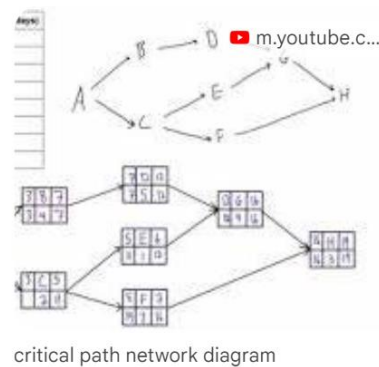


Figure 5. The network-graph of the project offered by Gemini.

Source: Gemini.

For the problem analyzed in point three, Gemini offers the answer:

- $P_0 \approx 0,2963$;
- $\bar{r} = 1,32$ clients;
- $\bar{k} = 2,19$ clients;
- $\bar{t}_{wait.} = 2$ min.;
- $\bar{t}_{sist.} = 5$ min.

Analyzing the result, it is observed that no value coincides with those in Gameṭchi and Solomon (2015).

The problem of managing the stock with several types of products, analyzed in point four, is solved by the Gemini chat and the results are obtained:

- $q_1^* = 63,25$ units;
- $q_2^* = 89,44$ units;
- $\tau_1^* = 3,8$ days;
- $\tau_2^* = 2,7$ days;

- $n_1^* = 7,89$ lots;
- $n_2^* = 11,11$ lots.

It is easy to see that the results are totally different from those of Gamețchi and Solomon (2015). Values for each product type are shown for both the optimal delivery interval and the optimal number of lots. The model used by Gemini is wrong and provides compromised results.

From the above, it can be realized that the chat developed by Google also provides incorrect and incomplete results. These tools cannot be used to obtain correct and complete answers to Operational Research problems.

Conclusions

Chats based on AI technology are increasingly used to quickly get answers to various questions. They are especially useful due to quick access to information, as AI can process and extract information from a wide range of sources, without the need for the user to manually search through multiple sites or go through documentation. Based on previous questions and interactions, these systems can learn user preferences and provide more relevant and tailored responses. Although AI models like those in GPT do not self-train in real-time after current interactions, they are initially trained on massive amounts of data, and subsequent models are always improved with new data. In some cases, they may be linked to external, up-to-date data sources to provide up-to-date information. AI-powered chats can automate repetitive tasks and execute complex commands, saving time and effort for users. The listed features make AI a valuable tool for solving problems, finding information, and even making data-driven decisions.

However, the results obtained are not always correct or complete, because essentially a machine can make mistakes. These tools are effective when the user has knowledge in the field, otherwise there is a risk of being misdirected. AI chats require guidance and additional questions to provide an appropriate response. In some cases, the user is advised to turn to other specialized applications for complex calculations or data analysis. Analyzed chats cannot be used to obtain accurate and complete solutions to problems of operational researches domain.

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THE EVOLUTION OF THE MARKET OF LANDLINE AND MOBILE TELEPHONY SERVICES IN THE REPUBLIC OF MOLDOVA

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Abstract: The paper presents a brief overview of the current development of the market of fixed and mobile telephony services in the Republic of Moldova. The topicality of the research is determined by the changes in the behavior of consumers of mobile telecommunications services in the last 5-6 years, during the Covid and post-Covid period. The main purpose of the research is to highlight the main characteristic trends in the development of the market of landline telephony and mobile telephony services in the Republic of Moldova. For this purpose, mathematical methods were used for the comparative analysis of official statistical data. The statistical data of the National Regulatory Agency in Electronic Communications and Information Technology (ANRCETI), published in the period 2018-2023, were analyzed. Key trends and issues facing this market are highlighted and discussed. Following the analysis of the evolution of the landline services market, it was found that this market shows a downward trend, with the number of subscribers (telephone lines) decreasing in the last 6 years by almost 260.8 thousand consumers (-23.53%). The volume of traffic in landline networks decreased by 2.11 times in the last 6 years, and the revenues from this service decreased by 2.5 times (from 556.9 million MDL in 2018 to 222.4 million MDL in 2023). This evolution has largely been influenced by the evolution of mobile phone services and mobile internet. In the last 6 years, the number of active SIM cards increased by 373.9 thousand (+10.28%). However, the volume of voice traffic in mobile networks shows a downward trend, the exception being the period of the Covid pandemic (2020-2021). Likewise, a continuous annual decrease of SMS messages was noted (from 1088.4 million in 2018 to 744.5 million in 2023). The changes that have taken place in consumer preferences are highlighted and analyzed, and aspects related to the prospects for the development of the market of fixed and mobile telephony services in the Republic of Moldova are examined.

Keywords: market, services, mobile telephony, cable telephony

JEL Classification: L96

1 Introduction

According to the statistical data of the National Regulatory Agency in Electronic Communications and Information Technology (ANRCETI, 2023), the volume of total revenues from electronic communications services in the year 2023 in the Republic of Moldova was 6286.4 million MDL and was mainly obtained from mobile phone services (3109.8 million MDL or 49.5%), which showed an increase of 5.3% or 157.7 million MDL. At the same time, revenues from fixed telephony services decreased by 17.6% compared to 2022 and have a share of 3.5% in the aggregate total revenue. At the same time, revenues from fixed Internet and dedicated mobile Internet access services hold the shares of 23.7% and 2.3%, respectively, in the structure of the global income achieved by the provision of telecommunications services. About 77.2% of the total cumulative income is owned by 3 companies: JSC "Orange Moldova" (35.4%), JSC "Moldtelecom" (26.2%) and JSC "Moldcell"

(15.6%). Although on 31.03.2024 there were 23 fixed telephony service providers active in the Republic of Moldova, however, JSC "Moldtelecom" held 92.5% of the landline services market (ANRCETI, 2024), and the macroeconomic indicators of this markets are strongly influenced by the economic activity of this monopolist.

In the context of the above facts, it is of interest to analyze how the market of fixed and mobile telephony services has evaluated in recent years, to highlight the main trends and problems present in this market, to identify consumer preferences and highlight trends in the evolution of telephone services in the Republic of Moldova.

2 Material and method

The paper analyzes the statistical data regarding the evolution of landline and mobile telephony services in the Republic of Moldova during 2018-2023. For this purpose, the official statistical data, provided by The National Regulatory Agency for Electronic Communications and Information Technology (ANRCETI), disposed on the official website of the agency (<https://www.anrceti.md>) under form of annual statistical reports, are analyzed. Also, series of macroeconomic indicators were used, published on the official website of the National Bureau of Statistics of the Republic of Moldova (<http://statistica.gov.md>). The comparative analysis of the data was performed using the mathematical and computer tools for statistical analysis of the data sets, and the results are presented in graphical form.

3 Results and discussions

According to statistical data provided by The National Regulatory Agency for Electronic Communications and Information Technology (ANRCETI, 2023) the number of subscribers to landline telephone services was 847,414 people in 2023 (Figure 1). This indicator has constantly decreased in the last 6 years with almost 260.8 thousand consumers (-23.53%). The downward trend intensified in the first semester of 2024, when the number of subscribers decreased by 14.2% and reached 808,555 people (ANRCETI, 2024). This sudden decrease in the customer base was determined, to a large extent, by the increase by JSC "Moldtelecom" from January 1, 2024 of the tariff for fixed telephony. Thus, the subscription with 200 minutes of national calls increased from 6 MDL to 40 MDL (Moldtelecom, 2024), generating a wave of contract cancellations by consumers. As a result of this fact, the fixed telephony penetration rate per 100 households decreased in the first semester of 2024 by 3.2% and constituted 60.7% (ANRCETI, 2024).

At the same time, the number of subscribers to mobile phone services shows an increasing trend in the last 6 years, the number of active SIM cards increased by 373.9 thousand units (+10.28%) (Figure 1). On January 1, 2023, according to NBS estimates (NBS, 2024), the population of the Republic of Moldova was 2,423,300 people. Thus, on average, each inhabitant of the Republic of Moldova currently owns ~1.52 SIM cards.

Examining the evolution of revenues from cable telephone services, it can be found that these revenues have decreased 2.5 times over the last 6 years (from 556.9 million MDL in 2018 to 222.4 million MDL in 2023) (Figure 2). The increase from January 1, 2024 by JSC "Moldtelecom" of tariffs for this service resulted in an increase in revenues in the first quarter of 2024 (compared to the first quarter of 2023) by 26.4% (or 11.4 million MDL) (ANRCETI, 2024). The new tariffs for landline services also stimulated a 43.4% increase in average monthly revenue per user (ARPU) compared to the same period in 2023 (ANRCETI, 2024). It remains to be seen which one it will be the impact of the tariff policy of JSC "Moldtelecom" on the volume of annual revenues in 2024 and whether the downward trend of revenues will change to an increasing one.

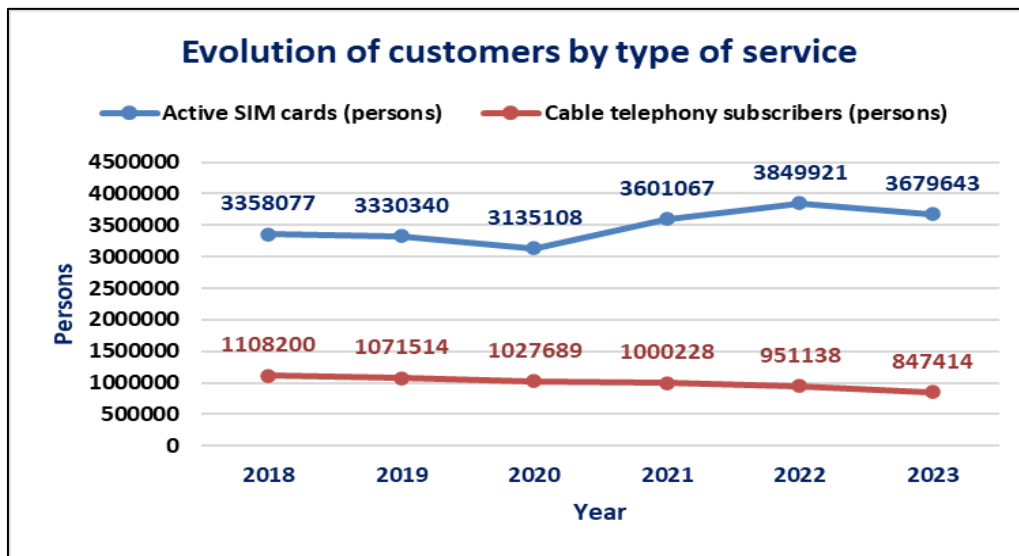


Figure 1. Evolution of customers by type of service

Source: Based on the official statistical data (ANRCETI 2018, 2019, 2020, 2021, 2022, 2023)

On the other hand, the revenues of mobile phone companies have recently fluctuated around revenues of 3000 million MDL per year (~ 155 million euros) (Figure 2). However, in the last 3 years there has been an increasing trend in the revenues of mobile phone companies. It is also obvious that mobile phone networks generate a higher net profit than terrestrial ones. In the year 2023 the revenues from mobile services were 14 times higher than revenues from cable services (Figure 2).

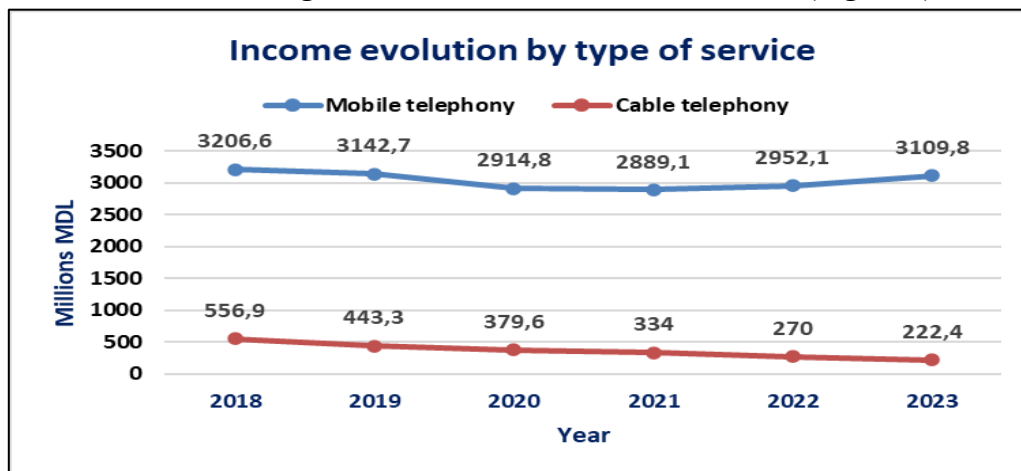


Figure 2. Income evolution by type of service

Source: Based on the official statistical data (ANRCETI 2018, 2019, 2020, 2021, 2022, 2023)

Analyzing the annual evolution of the volume of traffic in fixed and mobile networks (Figure 3), it can be easily seen that voice traffic in landline networks has decreased by 2.11 times in the last 6 years. This trend continues to be present in 2024. Thus, in the first quarter of 2024 voice traffic decreased by -16.2% compared to the similar period of the previous year (ANRCETI, 2024). In mobile networks, voice traffic stagnates at 6000 million minutes per year, except for 2 years of Covid (2020-2021), when it increased by about 7% (Figure 3). In 2023, the ratio of mobile to landline voice traffic was ~9.5.

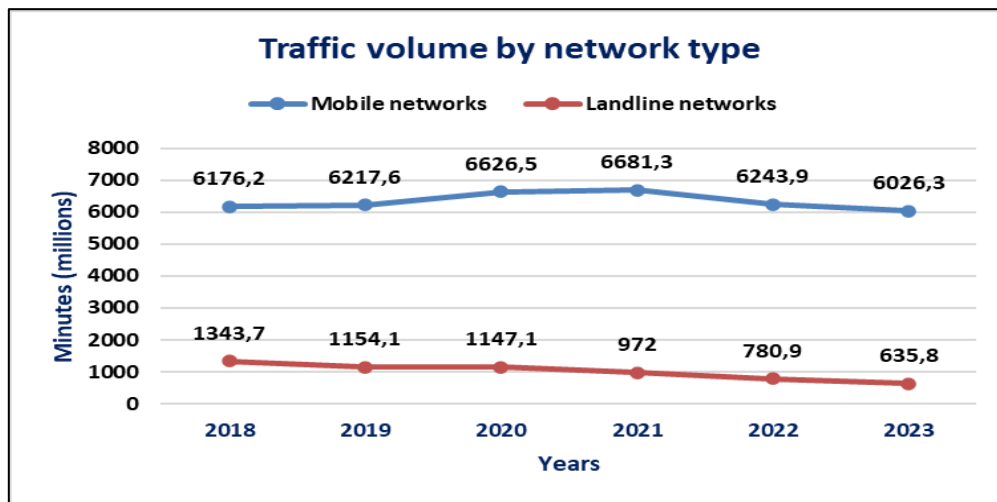


Figure 3. Annual traffic volume by type of service

Source: Based on the official statistical data (ANRCETI 2018, 2019, 2020, 2021, 2022, 2023)

The evolution of the average monthly traffic generated by a user (MoU) confirms the highlighted dependencies in the evolution of voice traffic volume in both types of networks (Figure 4). We notice that this indicator is decreasing in the last 4 years. However, a mobile phone user in 2023 spoke three times more on the network than a landline user.

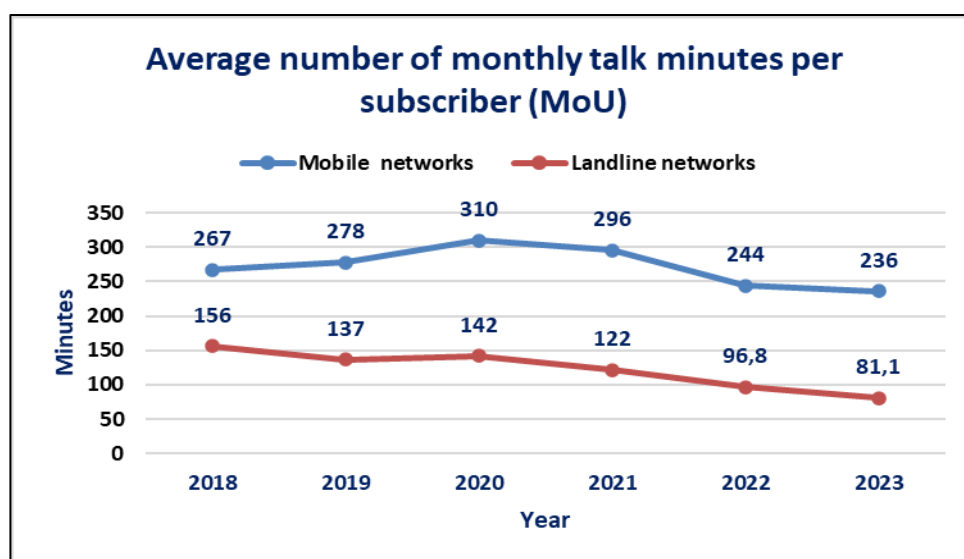


Figure 4. Evolution of MoU index

Source: Based on the official statistical data (ANRCETI 2018, 2019, 2020, 2021, 2022, 2023)

The analysis of the evolution of the average revenue per user (ARPU) of landline companies during the years 2018 - 2023 (Figure 5) shows a constant decrease, shrinking by 2.64 times (-62%). The increase in the tariff for the fixed telephony subscription by JSC "Moldtelecom" at the beginning of 2024 allowed this trend to be stopped in the first quarter of 2024, the ARPU value increasing by 52.5% and reaching 23.8 MDL (ANRCETI, 2024).

A similar trend in the evolution of the ARPU value is also observed in the field of mobile telephony services. However, after a constant decrease in the years 2020-2022, the ARPU value increased in 2023 by 5.5% and constituted 63.1 MDL (Figure 5). It should be noted that this year ARPU in mobile networks has become 4 times higher than ARPU in landline networks.

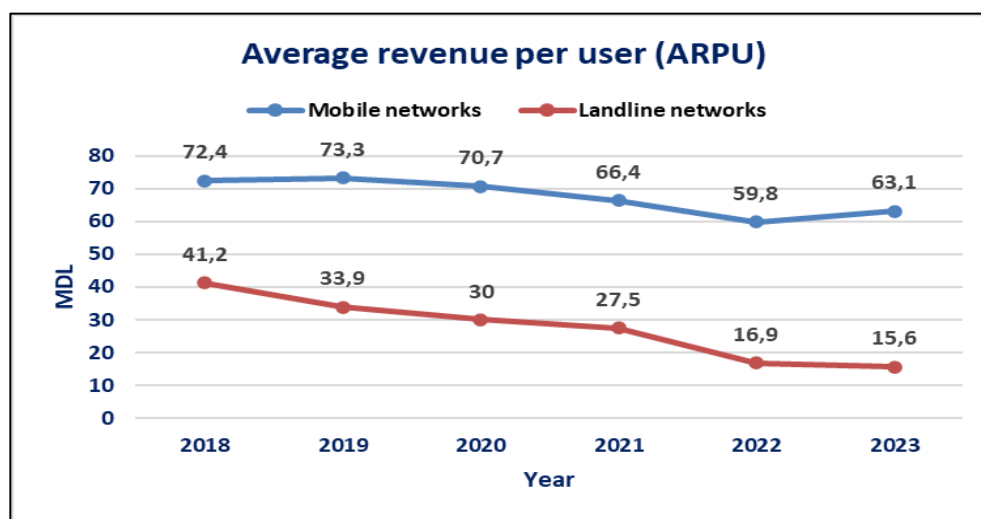


Figure 5. Evolution of ARPU index

Source: Based on the official statistical data (ANRCETI 2018, 2019, 2020, 2021, 2022, 2023)

The emergence and maintenance of a constant downward trend in the annual volume of SMS messages should be mentioned separately. In the last 6 years, the number of SMS messages has decreased by 31.6% (Figure 6). The evolution of this indicator demonstrates the fact that consumers have reduced the use of GSM mobile networks in daily communication through messages, focusing more on Internet messaging.

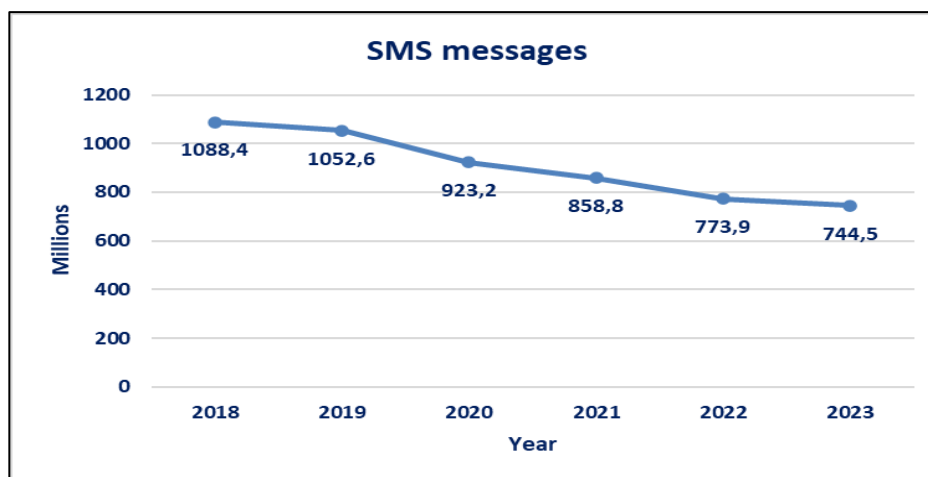


Figure 6. Evolution of annual volume of SMS messages

Source: Based on the official statistical data (ANRCETI 2018, 2019, 2020, 2021, 2022, 2023)

4 Conclusion

The results presented and analyzed in this paper allow the formulation of some conclusions regarding the changes that have taken place in recent years on the market of fixed and mobile telephony services. First of all, we can mention the essential changes in the behavior of the users of these services, who prefer mobile telephone services to the detriment of cable telephony, which is becoming less and less attractive to consumers. Statistically speaking, practically all the inhabitants of the Republic of Moldova have a mobile phone, starting from school age.

Secondly, customers of mobile phone companies are less and less using the mobile phone for network calls and more and more using mobile Internet communication for this purpose. This fact is confirmed by the evolution of the MoU index, which has been decreasing in recent years in both mobile and fixed telephony networks, indicating the orientation of consumers towards communication via voice and video messaging over the Internet. The orientation towards Internet messaging services is also confirmed by the observed reduction in the annual number of SMS messages on the increasing trend of the number of users of mobile telephony services.

Thirdly, mobile phone companies generate a higher net profit than landline companies. Thus, in 2024 ARPU from mobile telephony services became 4 times higher than ARPU for cable telephony services, and revenues were 14 times higher.

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THE LEVEL OF SIMILARITY AS A FUNCTIONS CLASSIFICATION MEASURE

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Abstract. Data processing in the essence of the notion of "Data Mining" may require procedures - algorithms for assessing the similarity between the resulting functions of the studied phenomena. A model for evaluating the level of similarity between two functions is proposed. According to the way of approaching the essence of the study regarding the differences between two functions, in this paper an algorithm is to be presented and discussed, based on which certain numerical values could be obtained. The respective values, following a synthesis, are to constitute a set of parameters included in a mathematical expression that numerically expresses the "distance" between two functions. The level of similarity of two functions will be considered to be a positive numerical value, and for the functions that coincide, according to the model, the respective value of the level will be "zero". The basic properties of functions will be considered through the lens of the fundamental notions involved in the procedures for researching functions in the field of mathematics. Certain numerical values (parameters) characteristics of the essence of some notions will be highlighted and used, such as: monotonicity intervals, critical points, inflection points, convexity, concavity, extreme values, values of first-order derivatives and second-order derivatives. The values obtained for each of the previously listed properties are supposed to be calculated for each function included in the similarity evaluation process. Depending on the set of values among those listed, various algorithms can be defined. For example, considering only the monotonic intervals, one algorithm could be created, and if the inflection points are also included, another algorithm will be obtained, with a different result.

Keywords: similarity, evaluation, algorithm, functions, distance, measure

JEL Classification: C63, I21, I23, I25, I29

1. Introduction

The process of analyzing a set of functions that reflects the essence of the behaviors of some phenomena in human social activity involves passing through several stages, among which we mention the following: data collection, initial pre-processing; choice – creation of field-specific analysis and synthesis models; development of an appropriate algorithm(s); development of a (some) soft application for organizing case studies; formulating conclusions. Regarding data collection, the material is dedicated (COANDĂ, Ilie, 2022), in which, as the main conclusion, the need to involve certain effective models in order to obtain; to an appropriate level of accuracy, continuous approximating functions based on the respective discrete functions. In (COANDĂ, Ilie, 2023) certain results are presented regarding the importance of the impact of the involvement of the preliminary processing process, in which an approach to the essence of "smoothing" out of the ordinary values of the studied phenomenon is proposed, a methodology specific to the phenomenon in the field

respectively. This paper discusses the extension or concretization of the essence of the evaluation of the level of similarity of two functions, about which, in (COANDĂ, Ilie, 2022), only tangentially, a certain approach was presented.

The impact of the evaluation efficiency on the level of similarity of two functions, in some cases, can be particularly significant. Along with the effects conditioned by the intervals of monotonicity and convexity, respectively concavity, other values - parameters, conditioned by other effects, could be included in the evaluation algorithms, such as, for example: a) a function has a number of extreme points different from the other function, b) the ordinates of the extreme points and of the inflection points, respectively, differ substantially; c) the value of the largest difference over the entire definition interval of the function, between the maximum and minimum value, difference related to the distance between two neighboring extremes, for one function is significantly different from the respective value of the other function; d) the effect of concavity or convexity, as an impact of second-order derivative values, is significantly different; e) the values of the ordinates of the absolute maximum, respectively, of the absolute minimum are significantly different, etc.

Considering the above, the peculiarity of the complexity in defining an adequate model for the effects of all parameters, a model that would reasonably contain the essence of the impact of each property, becomes apparent.

2. A set of parameters included the model for quantitative evaluation (an example)

Based on the process of numerical evaluation of the level of similarity, some of the properties listed in the previous paragraph (Introduction) were included in the concrete model defined, as follows:

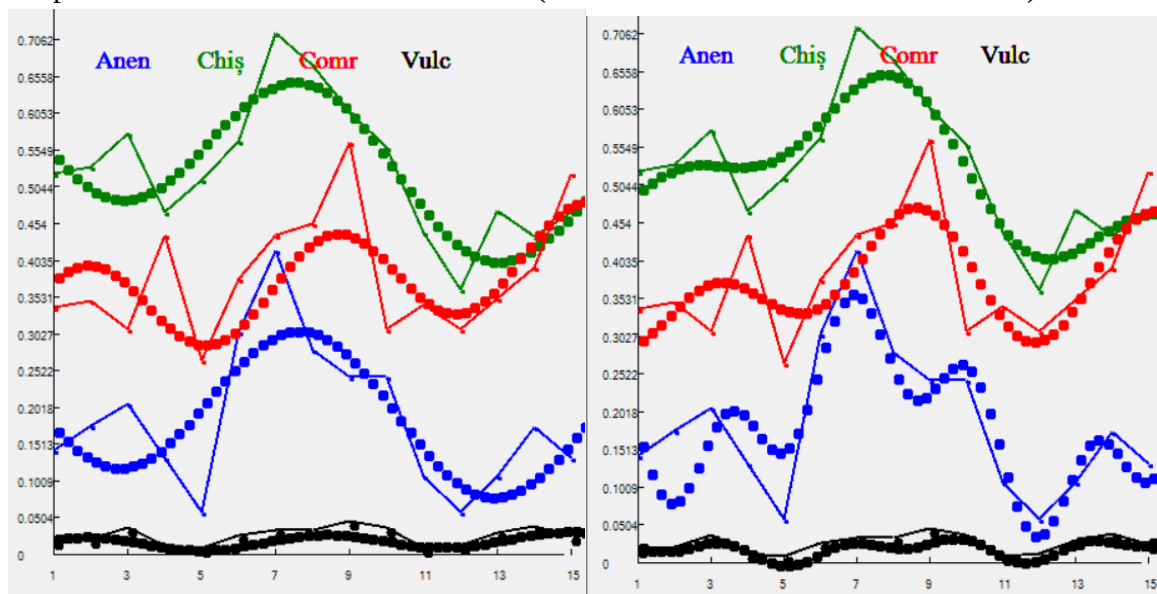
1. The intervals of monotonicity (the effect of the derivative of the first order);
2. The intervals of concavity/convexity (the effect of the second order derivative);
3. Positioning of the abscissas of the extreme points (the effect of the derivative of the first order equal to zero);
4. The positioning of the abscissas of the inflection points (the effect of the second-order derivative equal to zero);
5. The number of local minimum extreme points;
6. The number of local maximum extreme points;
7. Positioning on the abscissas of the absolute minimum and maximum values

In the given example, a set of properties consisting of 7 (seven) entities is proposed (see above). Each subset of elements (of which 7(seven) entities) could be considered as a base set for defining the quantitative value for evaluation. Therefore, the researcher is suggested the possibility of defining a general model based on all the items in the set. Thus there will be the possibility to organize the processes of obtaining the aggregate value based on the selected options. Certainly the results will be more or less different. Depending on the researched problem, as well as the need to ensure a certain level of accuracy of the assessment, the appropriate options can be chosen. For example, if, for a given problem, only the intervals of monotonicity and concavity/convexity are considered significant, then only the first two items are to be selected from the list. In this situation, the aggregated quantitative value includes the impact of only the intervals of monotonicity and concavity/convexity. Given the fact that the approximating functions are supposed to be obtained in analytical form, the respective parameters corresponding to any item in the set could be obtained analytically. It will just be necessary to derive the respective formulas for each subset of options. In addition, in the case of

including a new item, a good part of the deduced formulas must be modified. For these reasons, the value for each selected property, are recommended to be obtained by numerical methods.

Figure 1 shows the results obtained for the approximating functions, in analytical form, with linear terms and trigonometric functions. A simple visual analysis explains quite clearly the effectiveness of the involvement of such expressions - functions in the information analysis process. The broken line represents the primary data, and the "continuous" ones - indicate the image of the obtained functions. In order to obtain a more appropriate broken line, we are suggested to involve several terms - trigonometric functions.

Remark. Primary data are collected by the author from public sources, from the Internet, during the COVID pandemic - 30.09.2020 - 15.10.2020. (number of infected / 1000 inhabitants)



a) $Y(x)=a+bx+csin(kx)$

b) $Y(x)=a+bx+csin(kx)+dcos(tx)$

Figure 2 Impact of approximation's approach:

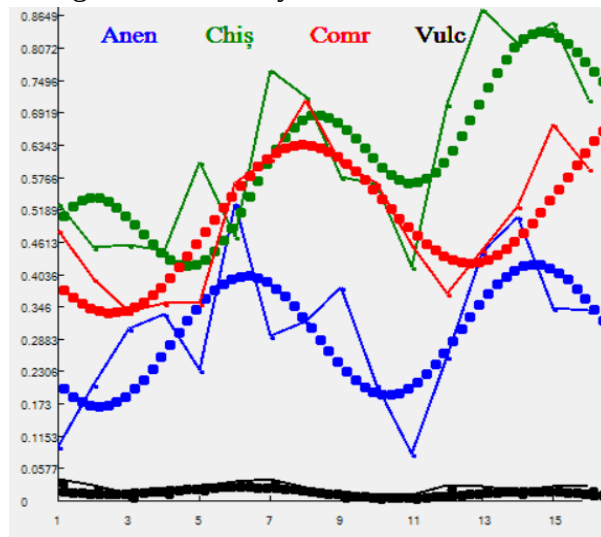
author's own study

In Figure 2, the images of the respective functions corresponds to the data collected in another time period, 06.10.2022 – 21.11.2020, which corresponds, as in Figure 1, to the involvement of two approximating function forms. And in this case, the efficiency of the involvement of several trigonometric terms is highlighted. For each of the displayed functions, the image on the right expresses the result of the approximation with a function of the form $Y(x)=a+bx+csin(kx)+dcos(tx)$. (a, b, c, d, k, t – parameters).

The 7 (seven) criteria for comparing two functions listed in paragraph 2 express the essence of the differences, characteristics more pronounced in the image in Figure 2b). Thus the similarity between the second and third functions (green and red) is evident. Some level of similarity exists between the third and fourth functions (red and black).

However, the image in Figure 2a), left, the approximation results at a lower level, demonstrate a higher level of similarity, especially the first and third functions (green and blue), which, from a qualitative point of view, are almost identical. Thus, a dilemma arises: to accept the results according to the image Figure 2a) or those from Figure 2b). The solution rests on the researcher, who should also have additional information about the phenomenon, essence and the circumstances of data

collection. Analyzing the data in Figure 2b) reveals a rather pronounced qualitative similarity between the second and fourth functions (respectively green, black). The values of the fourth function (black) are almost a constant, and the values of the second function (green) vary quite significantly relative to each other. If we were interested in both qualitative and quantitative behavior, then the second and third functions (green, respectively, red) could be considered the closest. Almost the same conclusions emerge from the analysis of the relative behavior of the functions presented in Figure 2a).



a) $Y(x)=a+bx+c\sin(kx)$

b) $Y(x)=a+bx+c\sin(kx)+d\cos(tx)$

Figure 2 Visual analyzing similarity between function:

author's own study

3 Conclusions

- The comments regarding the information in Figures 2a) and 2b) reveal the complexity of developing a model, within which the appropriate algorithms for moving from qualitative to quantitative analysis could be developed. Certain parametric and modeling techniques are to be defined according to the 7(seven) properties listed in chapter 2.
- If the researcher has the additional information that the localities "Anen" and "Comr" are high-level administrative centers, and in addition, that the respective data were collected during the second (final) round of the elections, he would formulate the conclusion that the intensity of communication between individuals was numerically comparable (the number of infected people depended on physical contact). So, in these localities the electoral agitation was just as intensive.

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SESSION VII.

FINANCIAL DIMENSIONS OF

THE KNOWLEDGE ECONOMY

ASSESSING THE IMPACT OF THE EXOGENOUS DRIVERS ON THE RESILIENCE OF THE MOLDOVAN BANKING SYSTEM

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Abstract: The resilience of banking systems in the face of imminent external vulnerabilities and shocks is becoming vital in the modern world. The instability of national economies and the uneven economic development of individual states, fuelled by banking speculation, cause national banking crises. The latter become part of the global financial turmoil. In this sense, forming a resilient banking system, an essential constituent of a general economic model determining the country's future, becomes relevant. For the Republic of Moldova, creating a resilient banking system becomes a priority in joining the EU. For this, at the initial stage, it is necessary to elucidate the exogenous drivers influencing the resilience of the Moldovan banking system. In order to structure the exogenous factors after the impact level, ANOVA is applied. ANOVA allows a more profound and more accurate examination of the relationships between variables, the identification of hidden factors, and the creation of more accurate models for predicting the future values of these variables. Through ANOVA, we identified the dependencies between exogenous factors and determined which are more significant and which do not affect the resilience of the Moldovan banking system. Applying ANOVA, we determined how each of the exogenous drivers affects the resilience of banking systems, and based on the results obtained, ways to strengthen the resilience of the banking system will be further developed. These findings have practical implications for the future of the Moldovan banking system, providing a roadmap for strengthening its resilience and stability.

Keywords: resilient banking system, exogenous drivers, exogenous drivers, NPL, ANOVA.

JEL Classification: E3, F3, G21

1 Introduction

In the context of the vulnerability of financial markets and the intensification of the cross-border process of forming the global financial system, the banking sector should be developed while considering the influence of external factors on the functioning of financial institutions. Ensuring financial stability is of decisive importance for commercial banks both in the stages of the crisis and

recovery from it, as well as in the stage of post-crisis economic recovery. After the global economic crisis and the pandemic crisis, which was a catalyst for the development of FinTech, the competition in the financial services market intensified. Under these conditions, the tasks of managing liquidity and financial stability were updated for the domestic banking system, the effectiveness of which was the well-being of the banks themselves, the formation of reserves and funds, and functionally oriented towards promoting their development. In the context of the current financial environment and national macroeconomic instability, solving the problems of ensuring the financial stability and reliability of commercial banks and other economic agents becomes more difficult. Risks arising in the financial system are not "automatically" eliminated by the market mechanism. Therefore, the modern financial sector needs new tools to ensure financial stability. Market instability has a negative impact not only on financial stability but also on the sustainable development of the national economy. In these, it is necessary to develop a strategy for developing the banking system from the perspective of resilience. The objectives of the financial stability management strategy, considering the global experience and the characteristics of the Moldovan financial system, update the importance of generalizing and understanding the progressive internal and external achievements in this direction. The evolution of the forms and methods of regulating financial stability in market conditions and economic uncertainty has many facets and contradictory elements. For the financial system's stability of the Republic of Moldova financial system to impact sustainable economic growth, it needs resilient development, especially of the banking system, which is its essential component.

2 Literature review

The Cambridge English dictionary defines resilience as "the quality of being able to return quickly to a previous good condition after problems: The resilience of the economy has come as a surprise to some" (Cambridge Dictionary).

The term "resilience" transcends disciplinary boundaries, finding application in numerical methods, mechanics, economics, sociology, and psychology. In all these sciences, resilience is understood as the ability of a dynamic system to return to its initial state (equilibrium position) after the stabilization of external factors. Some authors define resilience as the ability of a subject to fulfill, at a level established by society, its inherent functions and role in society, regardless of the influence of external and internal factors that prevent their implementation (Xiaoyu and Gang, 2024). In the same context, Fleming J and Ledogar RJ note that resilience is a process that expresses the strength of elements, despite external influences.

The notion of "resilience" was first adopted in systems ecology in the 1970s, when a new approach based on second-order cybernetic models that do not assume equilibrium was accepted (Walker & Cooper, 2011).

The concept of resilience in the context of systems was first used in ecology in the last century. The pioneer in this field was Holling, who, in his article Resilience and Stability of Ecological Systems, defined resilience as the ability of the system to master shocks in the state of variables and, therefore, to return to the initial state of equilibrium until the emergence of vulnerabilities (Holling, 1973). This historical context provides a rich foundation for our understanding of resilience.

In the meantime, this concept has been adopted by other fields of science. Resilience has been adopted in areas where crises persist and system management adapted to exogenous crises is needed (Ruza et al., 2019). These areas are the urban system, transport, and, finally, the financial system.

For the research of complex systems, it is necessary to emphasize the system's ability to respond to external vulnerabilities, overcome shocks, and evolve, which constitutes resilience. The banking system, which by all its characteristics is a complex adaptive system, must have its resilience placed at the center of financial stability (Cecchetti and Tucker, 2016).

In the context of economic globalization, when currency, banking, and financial crises periodically break out in one or another part of the world, the problem of ensuring stable economic development in each country becomes more acute, which largely depends on the resilience of the banking sector. The determining factors in the formation of trust from depositors, partners, and investors in banks are their financial stability and stable development (Ocampo et al., 2000). There is no doubt that both financial stability and stable development should not be short-term achievements of banks, but their strategic objectives, which in turn will determine the dynamism of market transformations and the improvement of social standards.

The resilience of the banking system does not imply a state of stagnation but a state of sustainable development, not only the effective overcoming of all external and internal influences but also a flexible response aimed not so much at prevention but at the use of new circumstances and properties and relationships for self -development. Even in countries with developed economies, in crisis conditions and the absence of internal compensators, the market system demonstrates a state of extreme instability. An unbalanced commodity system cannot stabilize independently and requires instruments of monetary leverage from the issuing center. J. Tobin (1965) and M. Sidrauski (1967) proposed such models of monetary policy at the macroeconomic level.

F. S. Mishkin, in his publication: "Global financial instability," offers the following definition of financial stability: This is the balance of financial flows, the availability of own funds that allow the organization to function for a certain period. Financial independence is highly dependent on financial stability (Mishkin, 1999).

Some authors distinguish between static and dynamic financial system resilience. By static financial resilience of the banking system, we mean compliance with the parameters of the banking system's activity (capital, liquidity, solvency, profitability, level of problematic assets, etc.) within acceptable limits. Dynamic financial resilience means a constant and balanced growth of positive factors, simultaneously with the reduction of the negative parameters of the banking system's activity within the limits of acceptable risk by a particular system of strategic objectives and current agreed for its operation in the process of progressive development (Ponomareva & Malakova, 2016).

In his work "Safeguarding Financial Stability: Theory and Practice," G. Schinasi formulated the following definition of financial resilience: "This is a state in which the financial system can withstand shocks and eliminate imbalances, thus reducing the likelihood of serious disruptions" (Schinasi, 2006).

Financial resilience is a dynamic integral characteristic of the ability of the banking system as a resource and risk transformation system to fully perform (with maximum efficiency and minimum losses) its functions, resisting the influence of external and internal environmental factors (BIS, 2018).

3 The impact of exogenous factors on the resilience of the banking system

Generalizing the offered resilience concepts gives reasons to state that the banking system's resilience has a complex characteristic. From a methodological point of view in specialized literature, resilience is based on five pillars (Constas et al., 2020). Critical outcomes are the first pillar of resilience and constitute the characteristic of the development of the banking system. The second pillar, disturbance

events, represents the vulnerabilities and shocks that could impact the integrity of the banking system. Threatening conditions are the conditions that could threaten the development of the banking system and jeopardize its operation. Disturbance modifiers are rendered through favorable arrangements and properties of the banking system, which provide support and guarantees to withstand external turbulences and maintain and/or improve them. Systemic contexts represent the properties of the banking system, which have the power to improve it or set limits to possible reactions in case of exogenous factors that could deregulate the banking system. As a complex concept, the banking system's resilience is complicated to assess. The study will present resilience through the NPL (Non-Performing Loans) indicator. In the banking sector, bad debts are understood as non-performing loans, which record the presence of obligations for which interest payments have stopped (non-accrual loans) and overdue loans. The standard period for recording violations of agreements according to international standards is a delay in paying debts and interest by 90 days or more. Outstanding loans also include restructured debt (lousy debt restructurings). Loans on which interest payments have ceased represent the most significant portion of outstanding loans and are considered indicators of the probability of default (Wahlen, 1994). Thus, we can consider the NPL indicator of the banking system a simplified representation of its resilience. Figure 1 shows Moldova's Non-Performing Loans Ratio for the last five years. We can see that during the last five years, the NPL ratio has continuously decreased, which indicates a positive evolution of the resilience of the Moldovan banking system.

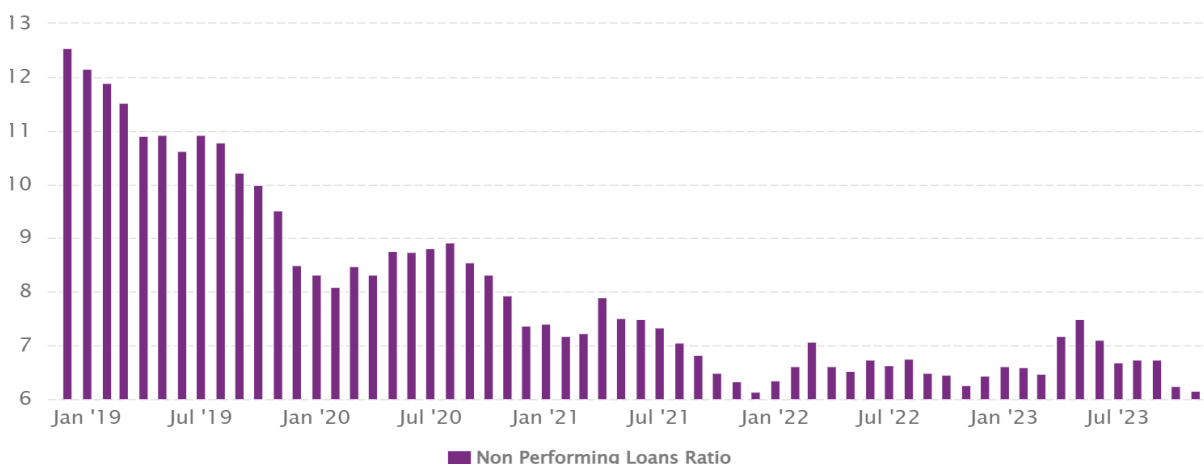


Figure 1. Moldova's Non-Performing Loans Ratio, Jan 2019-Jul 2024

Source: Ceicdata (2024).

Next, we will determine the exogenous factors that influence the banking system's resilience, in our case on NPL. In the specialized literature, the impact factors on NPLs are mostly grouped into two categories: internal factors (specific to the banking system/banks) and external (macroeconomic) factors (Mahyoub and Mohd Said, 2021). In the present study, we will analyze how exogenous factors influence NPL. In this regard, the following exogenous impact factors on non-performing loans were selected: real GDP growth, unemployment rate, public debt, and internal loans granted to the private sector by banks as a percentage of GDP. To determine the impact of exogenous factors on NPL, we will use the ANOVA method, a statistical method used to test for significant differences between the means of data groups (). The first results obtained are the goodness of fit coefficients, including R^2 (the coefficient of determination) and adjusted R^2 .

Table 1 Goodness of fit statistics (NPL)

Observations	40
Sum of weights	40
DF	36
R ²	0.873
Adjusted R ²	0.863
MSE	24.501
RMSE	4.950
MAPE	82.501
DW	1.437
Cp	4.000
AIC	131.733
SBC	138.489
PC	0.155
Press	1088.916
Q ²	0.844

From the tables, we can see that R² (the coefficient of determination) has a value of 0.873 and indicates how much of the variability of the modeled variable (NPL) is explained by the explanatory variables (exogenous factors); thus, 87% of the variability is explained. The remaining 13% is explained by other variables, which are not included in the model.

Table 2 Analysis of variance (NPL)

Source	DF	Sum of squares	Mean squares	F	Pr > F	p-values significati on codes
Model	3.000	6077.127	2025.709	82.680	<0.0001	***
Error	36.000	882.022	24.501			
Corrected Total	39.000	6959.149				

From the analysis of variance, we can determine whether the information provided by the exogenous factors has value or not. The test used here is Fisher's F test. Given that the probability corresponding to the F-value in this case is 0.001, this means that we would be taking a risk of 0.1%. Therefore, we can find that exogenous factors affect NPL, considering that R² is very good (0.87).

Table 3 Model parameters (NPL)

Source	Value	Standard error	t	Pr > t	Lower bound (95%)	Upper bound (95%)	p-values significati on codes
Intercept	2.253	1.565	1.440	0.159	-0.921	5.428	°
NPL-Domestic credit to private sector (% of GDP)	20.546	2.214	9.281	<0.0001	16.056	25.035	***
NPL-GDP growth	0.000	2.214	0.000	1.000	-4.489	4.489	°
NPL-Public debt (% of GDP)	27.707	2.214	12.516	<0.0001	23.217	32.196	***
NPL-Unemployment, total (% of total labor force)	0.000	0.000					

Analyzing the table, where the parameter model is presented, and the figure below, we can see that the analyzed exogenous factors have significantly different effects on NPL. The public debt (% of GDP) and domestic credit to the private sector (% of GDP) factors have a significant impact on NPL.

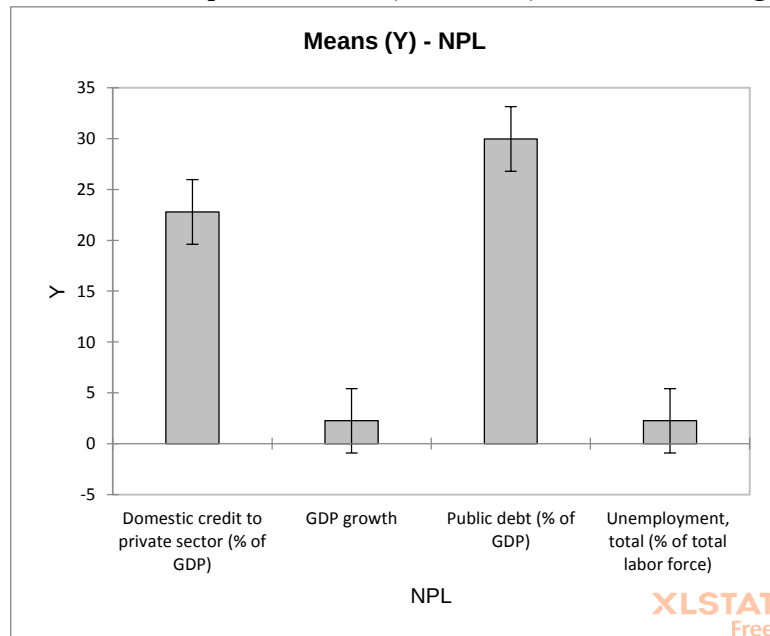


Figure 2. LS Means for factor NPL

In conclusion, the model's results show that the explanatory variable explains 87% of the variability of the dependent variable Y. Given the p-value of the F statistic computed in the ANOVA table and the significance level of 5%, the information provided by the explanatory variables is significantly better than what an essential mean would provide.

4 Conclusion

Thus, we can conclude that the banking system's resilience should be understood as the ability of the system to return to a balanced (stable) state and perform its primary functions after causing any destabilizing impact. Moreover, monitoring the banking system's resilience must be carried out for a certain period of time, sufficient to determine whether the system has reached a state of equilibrium (at least one year). Only after this can we talk about the banking system's stability and readiness to adequately respond to external or internal threats. Based on historical experience, we can confidently say that the resilience of the banking system of the Republic of Moldova or another country directly correlates with the state's economic development level. If the resilience of the banking sector is disturbed, this situation can seriously threaten the financial security of the state, which will negatively affect the socio-economic condition of the population and the real sector of the economy. As a result, modern banking practice requires assessing the banking system's resilience and determining the impact of both endogenous and exogenous factors.

Modern banking practice requires the assessment of financial stability in the following areas: assessment of the macroeconomic situation and development trends of the banking system, assessment of the sufficiency of the number of banks and the size of their branch network in terms of the need for banking services from the population and businesses; monitoring the activity of banks;

analysis of bank statements by the implementation of certain norms and rules established by the Central Bank.

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TRANSFORMATIONS IN BANK GOVERNANCE AND AUDITING: STRATEGIC RESPONSES TO THE CHALLENGES OF THE COVID-19 PANDEMIC

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Abstract: Currently, at a global level, corporate governance has become an increasingly prevalent concept in economics. It represents a valuable system for investors, as it supports them by providing more advantageous assurance. This assurance entails greater confidence that the funds invested in organizations are being utilized efficiently. Additionally, corporate governance aids companies in implementing mechanisms to easily achieve their objectives.

In Romania, within the banking system, bank auditing and governance are fundamental elements. The crisis triggered by the COVID-19 pandemic is a recent one, and its effects have not been fully quantified. During the period 2020–2022, the crisis significantly impacted various aspects of modern economic and social life. For a thorough analysis, we will evaluate the effects the crisis has had on governance and auditing processes within the five main banks operating in the Romanian market: Banca Transilvania, BCR, BRD, ING Bank, and Raiffeisen Bank.

The primary objective of this research is a comparative analysis of the economic and financial situation and the governance and auditing practices within the financial systems of Romania and the United States of America. The analysis of banking institutions revealed significant financial difficulties. The level of banking profit, both in Romania and the USA, decreased significantly in 2020 compared to 2019. To address the challenges and emerging risks in the market, banks implemented governance and auditing systems, which they strengthened during the COVID-19 pandemic.

Keywords: audit, governance, COVID-19, crisis, financial, digitalization and risk management

JEL Classification: B26, G15

1 Introduction

The COVID-19 pandemic triggered one of the most severe economic crises in recent history. The banking sector was not spared from its devastating effects. As a result, corporate governance and bank auditing became the main pillars of stability. These mechanisms were implemented to maintain the stability of financial institutions and ensure transparency for investors and regulatory authorities. The global health crisis underscored the importance of robust auditing mechanisms and highlighted the vulnerabilities of governance systems. In this way, banking institutions were able to manage

unforeseen risks and provide effective responses during periods of economic turbulence.

The period from 2019 to 2022 was marked by unprecedented uncertainties. The primary challenge faced by banks was the need to quickly reassess risk management strategies and corporate governance structures. Government measures, such as payment deferrals and the relaxation of capital requirements, necessitated significant adjustments to governance policies and directly impacted the profitability of financial institutions. Consequently, digitalization accelerated banking processes, leading to increased adoption of fintech and regtech technologies. This fundamentally transformed bank auditing, which progressed rapidly to address new economic challenges and stricter international regulations. The Romanian banking system is vastly different from its American counterpart, yet the impact of the COVID-19 pandemic on banking governance and auditing was drastic on a global scale, with similar consequences. This study focuses on a five-year period (2018–2022), emphasizing how the crisis influenced banks' ability to adapt their governance and auditing mechanisms to cope with the heightened risks brought about by the pandemic.

Through comparative analysis, we highlight the similarities and differences between the governance practices of Romanian and American banks, evaluating how these institutions managed the pandemic's impact on their profitability and financial sustainability. Furthermore, we investigate how digital technologies, such as artificial intelligence, blockchain, and regtech solutions, have been adopted by banks to enhance auditing processes and mitigate risks associated with non-compliance and fraud.

The pandemic forced banks to swiftly rethink their strategies, and some financial institutions demonstrated a high capacity for adaptation by implementing robust governance and auditing mechanisms capable of absorbing external shocks and managing risks in real-time. In contrast, other banks faced severe financial difficulties, requiring a complete revaluation of internal processes to respond to new economic realities.

2 Literature review

In the academic literature, corporate governance and bank auditing are recognized as fundamental elements for the functioning and stability of the financial sector, especially during periods of economic crisis and digital transformations. Since the 2008 global financial crisis, interest in improving governance and audit practices has grown exponentially. A series of recent works, published after 2020, explore the impact of the COVID-19 pandemic on these areas, as well as the role of digital technologies in transforming how banks manage risks and ensure compliance.

Corporate governance is considered a central pillar for ensuring transparency and protecting investors' interests. According to the studies of Francesco Fiordelisi and David Marques-Ibanez in their book *Banking Governance, Performance, and Risk-Taking* (2021), corporate governance in banks directly influences financial performance and risk-taking behaviour. They show that financial institutions with strong governance structures are more resilient in the face of crises and better manage systemic risks. The academic literature emphasizes that effective governance is essential for ensuring the continuity of banking operations in the face of global economic uncertainties, a relevant aspect in the context of the pandemic. Similarly, bank auditing plays a crucial role in monitoring risks and ensuring compliance with international regulations. Margherita Pagani (2020) explores how digitalization is fundamentally changing bank auditing. As banks digitize their operations, internal and external audit processes are becoming increasingly automated, thereby improving efficiency and accuracy in risk

management. The use of emerging technologies such as artificial intelligence and blockchain enables banks to track transactions more efficiently and quickly identify irregularities, thus reducing exposure to fraud. The COVID-19 pandemic has been a turning point for banking governance and auditing, accelerating the adoption of digital technologies. John Zysman (2021) emphasizes that the global health crisis forced banks to rethink their governance models. Additionally, there has been a surge in the use of fintech and retech solutions, which have enabled banks to automate their audit processes and enhance their governance systems, particularly regarding compliance with international requirements. Reteach technologies represent another key aspect of the digitalization of auditing and financial compliance. Michele Finck and João Pedro Quintais (2022) examine international banks and highlight the impact of blockchain and automated regulatory solutions. The authors note in the specialized literature that these technologies enhance transparency and reduce risks associated with non-compliance, thereby streamlining both external and internal auditing processes. Additionally, these technologies enable banks to integrate more rapidly with international regulations, such as IFRS and Basel III, which impose stringent requirements for governance and financial reporting. Chris A. Mallin (2021) emphasizes that corporate governance plays a crucial role in adapting to the demands of the global financial market. He demonstrates how banks investing in digital auditing processes and improving governance can successfully address global economic challenges, such as those triggered by the COVID-19 crisis.

3 Bank Profitability During the Period 2018-2022

In the dynamic context of the financial sector, bank profitability is a key indicator for assessing their economic performance. Figure 1 illustrates the evolution of net profit recorded by a sample of major banks in Romania and the United States during the period 2018-2022. This period was marked by significant economic events, such as the crisis caused by the COVID-19 pandemic, which directly impacted banking activity and the ability of financial institutions to generate profits. The chart highlights significant variations between banks in terms of annual net profit, indicating both the resilience of certain financial institutions and the vulnerability of others in the face of economic challenges. These differences can be attributed to various risk management strategies, loan portfolio compositions, and the degree of adaptation to market transformations.

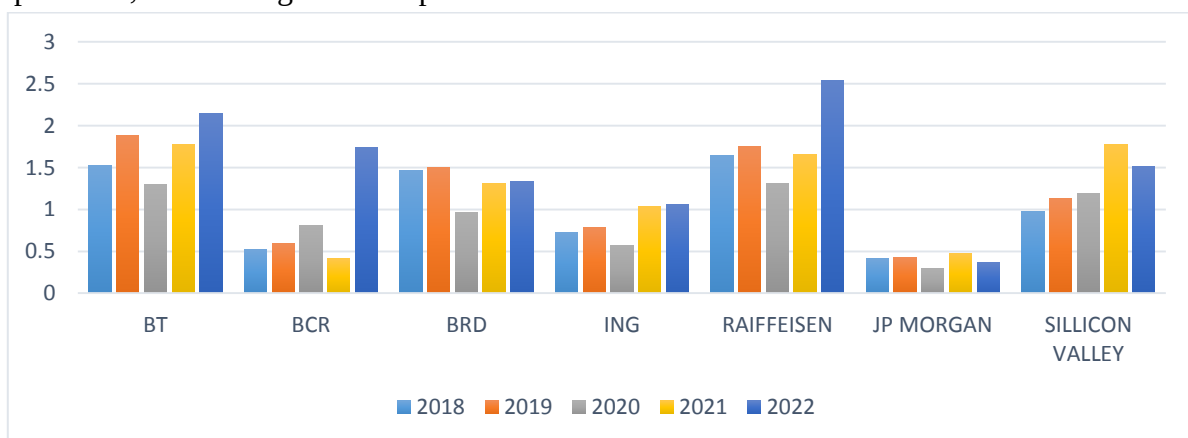


Figure 1. Net Profit in the Period 2018-2022

Source: Created by the author based on information published in the annual reports of the analysed banks

The COVID-19 outbreak greatly influenced the world banking field, as shown in Figure 1. This shows shifts in profit for big banks in Romania and the United States from 2018 to 2022. Changes in earnings

during this time show how good banks were at changing to the strange problems caused by health and money issues. Rules that govern companies and bank checks had a key part in these changes. The big sickness put a lot of pressure on bank rules systems. Control groups took fast steps, like delaying payments, loosening cash needs, and changing risk rules; these all had a direct impact on banks' rule plans. A close look at net gain trends shows that many banks saw big drops in 2020, showing the hard times in putting good steps to fix the problem. These declines were driven by rising financial risks and the necessity to redirect resources to assist clients facing economic hardship. As a result, banks had to quickly reassess their internal governance strategies, adjusting risk management policies and introducing financial protection measures.

Auditing—both internal and external—played a critical role in ensuring compliance with these new regulations and in addressing heightened risks. The pandemic underscored the importance of audits in assessing banks' financial stability, particularly amid volatile markets and an increase in non-performing loans. Institutions like Raiffeisen and JP Morgan demonstrated resilience, maintaining relatively strong profitability even during the pandemic. This performance can be attributed to robust governance frameworks and effective auditing systems, which allowed these banks to identify and address risks proactively.

On the other hand, banks such as BCR and Silicon Valley Bank, which experienced sharper profit declines, faced governance and auditing challenges that left them more vulnerable. Their slower response to the rapidly shifting economic landscape led to considerable losses, exacerbated by risky exposures and limited risk mitigation capabilities. These cases highlight the critical need for enhanced audit oversight and more agile risk management strategies.

By 2021 and 2022, most banks began recovering their profitability, signalling their adaptation to new economic realities. This recovery was supported by improved governance practices, stricter audits, and the adoption of more cautious risk management approaches. Transparency in financial reporting, strengthened internal controls, and closer collaboration between bank management and auditing teams were essential in restoring financial performance.

The pandemic underscored the critical role of governance and auditing in helping banks navigate economic crises. Banks with well-established governance structures and efficient auditing processes were better equipped to mitigate the pandemic's economic impact and recover more quickly. Conversely, those with weaker systems faced greater difficulties, marked by sharper profit declines and slower recoveries. These challenges emphasized the need for adaptable governance processes and proactive auditing practices capable of responding swiftly to unforeseen economic disruptions.

Table 1: Indicators of Globalization and Banking Auditing at the International Level (2018 - 2022)

Indicator	2018	2019	2020	2021	2022	Observations
Number of international banks	320	330	315	318	325	Temporary decline in 2020 due to the COVID-19 pandemic
Global bank assets value (tril. USD)	120	125	118	128	133	Post-pandemic growth, reflecting global financial integration
Foreign direct investment in the banking sector (bil. USD)	520	545	450	505	520	Decline in 2020, followed by gradual recovery

Indicator	2018	2019	2020	2021	2022	Observations
Implementation of international auditing standards	85%	88%	90%	92%	95%	Increase in compliance with international auditing standards
Cross-border mergers and acquisitions in the banking sector	85	90	70	95	100	Post-pandemic growth, consolidation of the banking sector
Use of fintech and regtech technologies (bil. USD)	150	165	180	195	210	Increase in banking digitalization and the use of technologies for auditing and regulation

Source: Data collected from reports by the International Monetary Fund (IMF), World Bank, and KPMG Global Financial Services

Table 1 presents the evolution of key indicators regarding globalization and banking auditing from 2018 to 2022. The number of international banks increased steadily, indicating the continuous expansion of banks operating across multiple markets. However, there was a temporary decline in 2020 due to the COVID-19 pandemic, which affected capital flows and cross-border mobility. This decrease was short-lived, as banks returned to an upward trend in the following years, with the reopening of economies and the recovery of financial markets.

The value of global bank assets followed a similar trajectory. After a decline in 2020, when economic uncertainties led to a reduction in global financial activities, the value of assets grew rapidly in 2021 and 2022. This reflects the resilience and ability of global financial institutions to absorb external shocks and quickly adapt to new economic conditions. Foreign direct investment in the banking sector experienced a significant drop in 2020 due to economic uncertainties and the global health crisis. However, as economic recovery became apparent in 2021, these investments returned to near pre-pandemic levels, reflecting investor interest in expanding capital in the global banking sector. Another relevant indicator is the increase in the implementation of international auditing standards. In a globalized world, compliance with international financial reporting and auditing standards, such as IFRS and Basel III, has become crucial for maintaining the integrity and transparency of global banking institutions. Between 2018 and 2022, a steady increase in the implementation of these standards was observed, reaching 95% in 2022, signalling a clear effort by banks to comply with global auditing requirements. Cross-border mergers and acquisitions in the banking sector also reflected the impact of globalization and the pandemic crisis. After a decline in 2020, caused by economic uncertainties and mobility restrictions, they recovered in 2021 and 2022, reaching a peak of 100 operations as banks began consolidating and optimizing their portfolios. This consolidation process was essential for strengthening the global banking system and more effectively managing cross-border economic risks.

Finally, the use of fintech and regtech technologies saw continuous growth, becoming a crucial element for auditing and regulation in the banking sector. During the pandemic, these technologies became indispensable for the digitalization of banking operations and for monitoring compliance with international regulations, supporting internal audit and control processes in the face of global economic challenges. The growth of this sector to USD 210 billion in 2022 clearly reflects the importance of technology in transforming the global banking industry.

Table 2: The Impact of Digitalization on Globalization and Banking Auditing (2018-2022)

Indicator	2018	2019	2020	2021	2022	Observations
Value of fintech investments (bil. USD)	55	65	75	90	110	Significant growth due to the pandemic and demand for digital solutions
Banks using digital auditing (%)	35%	40%	60%	75%	85%	Accelerated adoption of digital auditing due to globalization and digitalization
Adoption of regtech solutions (bil. USD)	15	18	25	35	45	Regtech solutions have become more popular for compliance management
Banks using blockchain technologies (%)	10%	12%	25%	35%	40%	Blockchain provides new solutions for audit and transparency in the banking system
Banks adopting AI for fraud detection (%)	25%	30%	50%	65%	80%	Significant increase in the use of AI to combat financial fraud
Growth in demand for digitalized external audits (%)	20%	25%	40%	55%	65%	External audits have adapted to the digital needs of global banks

Source: Data collected from reports by the International Monetary Fund (IMF), World Bank, and KPMG Global Financial Services.

In recent years, digitalization has had a significant impact on globalization and bank audits, and the data in the table reflects this shift. Between 2018 and 2022, the value of fintech investments grew rapidly due to the need for digital banking solutions to meet the needs of a globalized economy. In 2020, the pandemic accelerated the adoption of fintech, a trend that persisted and reached \$110 billion in 2022. This surge has prompted banks to adopt digital technologies to streamline their global operations.

Another important indicator is the increasing use of digital checks by banks. In 2020, against the backdrop of accelerated globalization and digitalization, banks accelerated their transition to digital audit solutions. By 2022, there was a significant shift in digital audit solutions, with 85% of banks adopting these tools. This shift highlights the growing importance of creating efficient, transparent processes to meet global regulatory requirements and manage the risks associated with cross-border business. At the same time, investment in RegTech solutions (technologies designed specifically to comply with evolving regulations) has skyrocketed, from \$15 billion in 2018 to \$45 billion in 2022. These advances are critical to helping banks meet increasingly stringent international standards for compliance and auditing. The increase in adoption reflects a clear need for greater automation and operational efficiency in global banking operations. Another important trend during this period was the rapid rise of blockchain technology in the banking industry. In 2018, only 10% of banks reported using blockchain in their operations, but by 2022, that number had increased to 40%. The appeal of blockchain lies in its ability to increase transparency and security of banking transactions while providing innovative risk management solutions. In addition, the use of artificial intelligence (AI) in fraud detection has also grown significantly: by 2022, 80% of banks will use AI tools. AI has proven to be invaluable in monitoring financial activities, strengthening supervision, and reducing the risks associated with fraud and financial crime.

The demand for external audits using digital solutions is also growing steadily to meet the changing needs of international financial markets. By 2022, nearly two-thirds (65%) of banks are actively pursuing digital external audits, highlighting the industry's rapid transformation in the face of

globalization and technological advances. These changes highlight how banking institutions are using digital tools to not only improve compliance, but also adapt to an increasingly interconnected and rapidly evolving global economy. Overall, these trends demonstrate the transformative role that digitalization is playing in reshaping the global banking and audit landscape. The widespread adoption of technologies such as Reteach, blockchain, and artificial intelligence has significantly improved compliance, transparency, and efficiency, enabling financial institutions to navigate the complexities of a rapidly evolving global economy.

4 Conclusions

The study that was performed on the issues of banking governance and auditing as influenced by the COVID-19 pandemic shows how serious that crisis was on the whole financial system in both Romania and the United States. Pandemic has triggered the weaknesses of the set global banking systems but at the same time fast tracked the processes of digitalization and enhanced the mechanisms of governance and audit. With the effect of the global financial crisis overarching during the period under study, the graph detailing the trends in profitability of the banks analyzed depicts a strong slump in 2020 for most of the financial institutions. It is evident that the pandemic period was tough for the majority of banks, with the profitability low as a result of structural challenges faced globally including payment deferral measures, increased provisions for non-performing loans, and the slowdown of global economic activity. However, it is notable that by 2021, many members had started demonstrating their appetite to harness pandemics lessons, confirming their readiness to adjust to changing economic environments. It recovery obviously step up the need for effective risk management and sound governance mechanisms. For instance, Banca Transylvania and Raiffeisen Bank managed to increase their profitability, which was a clear indication of the capacity of their internal governance and auditing structures.

The pandemic has been another driver of the processes of the banking sector's digitalization. The tables presented on the analysis on the cost and impact of such digitalization, such as the adoption of fintech and reteach, have already become a normal part of the effort to cope with the compliance and auditing expectations in a more digitized world. The greater use of blockchain, digital tools for auditing, artificial intelligence in the Management of Fraud detection system set the foundation for greater openness as well as stability in operation. These developments helped the banks to manage their business exposure in a better way and also achieve the required international norms in operational standards despite the increased demand.

During this period, corporate governance, and the practice of auditing also experienced several changes. Table 1 depicts how during the crisis, banks developed more stringent internal control mechanisms and governance arrangements. The original aim of fortifying these mechanisms was not only to assist banks to emerge out of the difficult conditions during the pandemic, but to strengthen their ability to cope with and prepare for new crises in the future. In 2022, 5% of banks did not apply international auditing standards around the world showing their determination azimuth to enhance integrity and win trust among investors and consumers in their operations.

In conclusion, while the COVID-19 pandemic brought significant challenges for banks in Romania and the United States, it also served as a catalyst for innovation and improvement. Financial institutions succeeded in strengthening their corporate governance and audit processes, accelerating digitalization, and better managing financial risks, thus ensuring post-crisis stability and growth. The

lessons learned and measures adopted during the pandemic will play a crucial role in preparing the banking system for future economic and financial crises.

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REGIONAL FINANCIAL INTEGRATION - A SOLUTION TO STREAMLINE THE FINANCIAL SYSTEM OF THE REPUBLIC OF MOLDOVA

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Abstract: The financial system in the Republic of Moldova does not have the potential to generate economies of scale. Consequently, the financial products and services provided are characterized by limited diversification, insufficient volume and high costs. Under these circumstances, one of the solutions that can help to overcome this impediment is Moldova's financial integration at regional level. In the context of this research the authors have set the following objectives: to define the concept of regional financial integration; to identify and argue the benefits and negative effects of the process of international financial integration; to develop the methodological framework for measuring financial integration; to assess the level of financial integration of the Republic of Moldova; to develop the mechanism of transmission of the potential effects of financial integration on the performance indicators of the financial system of the Republic of Moldova; to formulate solutions for the extension of financial integration of the Republic of Moldova at the regional level in terms of financial system efficiency. The authors of this paper used the following research techniques and methods: economic analysis, synthesis, analogy, modeling, induction, deduction, mathematization and formalization in the field of international finance knowledge and others. The originality and value of the research lies in developing the conceptual and methodological framework associated with regional financial integration in order to increase the efficiency of the financial system of the Republic of Moldova.

Keywords: financial integration, financial liberalization, international finance, sustainability.

JEL Classification: F36, F38, F55, G2, Q01.

Introduction

Regional integration can bring substantial economic benefits. In particular, emerging countries are potential winners from regional integration (Viner, 1950). In this context, according to the IMF

classification, the Republic of Moldova is an emerging economy (IMF, 2022; World Economic Outlook Database, 2022). At the same time, according to the World Bank, the Republic of Moldova is a small upper-middle-income country (World Bank Country and Lending Groups). Therefore, the Republic of Moldova, through regional integration, can:

- improve the efficiency of its markets;
- conduct a joint policy process and have an anchor in the process of promoting reforms;
- share the costs of public goods or large infrastructure projects;
- have a basis for global integration;
- to obtain other non-economic benefits (security, peace, etc.).

At the same time, the emerging character of the country suggests that regional integration entails certain risks, the most pronounced of which concern (Te Velde, n.d.):

- the sustainability of a country's development may be affected by the fact that, especially domestically, regional integration creates winners and losers. There is therefore a need for policies and institutions at national level to ensure that social, environmental and governance risks are properly managed and that regional integration is inclusive;
- the preferences that countries may have when identifying and selecting priorities to be achieved in the process of regional integration. To a large extent, these preferences are conditioned by economic geography, connectivity gaps; preferences for preserving sovereignty in certain areas;
- shortcomings in assessing the impact of regional integration on growth processes, trade and investment flows, income distribution.

Over the last three decades, several regional blocs representing economic associations have been set up in Europe, Asia, Africa and Latin America. We mention in this context the Southern African Development Community (1992), the West African and West African Economic and Monetary Union (1994), Association of South East Asian Nations (1997), Central African Economic and Monetary Community (1998), Euro Area (1999), East African Community (2000), Union of South American Nations (2008), Pacific Alliance (2011) (World Bank Country and Lending Groups, n.d.)

Considering the benefits of regional economic integration, the Republic of Moldova signed the EU-Moldova Association Agreement in 2014, which provides for a deep and comprehensive free trade area, among other things. This agreement lays the foundations for deeper economic integration between the EU and Moldova.

Developing the concept of regional financial integration

In the authors' view, regional economic integration is a complex, multi-sided process whereby two or more states in a given geographical area raise a number of trade barriers in order to achieve certain economic objectives that otherwise either could not be achieved or could be achieved only to a lesser extent.

Financial integration is a component part of economic integration. In fact, financial integration follows the other components of economic integration.

By regional financial integration the authors mean the process of establishing interdependencies and aligning financial systems, including their components (markets, institutions and regulations) with the aim of facilitating the flow of capital, investment and financial services across national borders and within national economies that have decided to cooperate at the regional level.

Regional financial integration expresses the extent or level to which financial markets, institutions and services operate and/or are available according to the same rules and under the same conditions

in the countries of the region concerned. In a well-integrated financial system within a region, assets with the same risk and return characteristics have the same cost, irrespective of the country (which is part of the region) in which they are traded.

Assessment of Moldova's financial integration

In order to measure the level of international financial integration of the Republic of Moldova (IFint), the authors determined the ratio of the sum of the stock of foreign assets and liabilities to gross domestic product (GDP). This indicator is recommended for application in order to calculate international financial integration by Lane and Milesi-Ferretti researchers (Bénétrix, 2008; Hoffmann et al., 2019; Lane and Milesi-Ferretti, 2007).

$$\text{IFint} = \frac{(\text{Stock of foreign assets} + \text{Stock of foreign liabilities}) \times 100\%}{\text{Gross domestic product}} \quad (1)$$

For the purpose of determining this indicator, the *International Investment Position of the Republic of Moldova* is explored as a source of information, in particular the financial account.

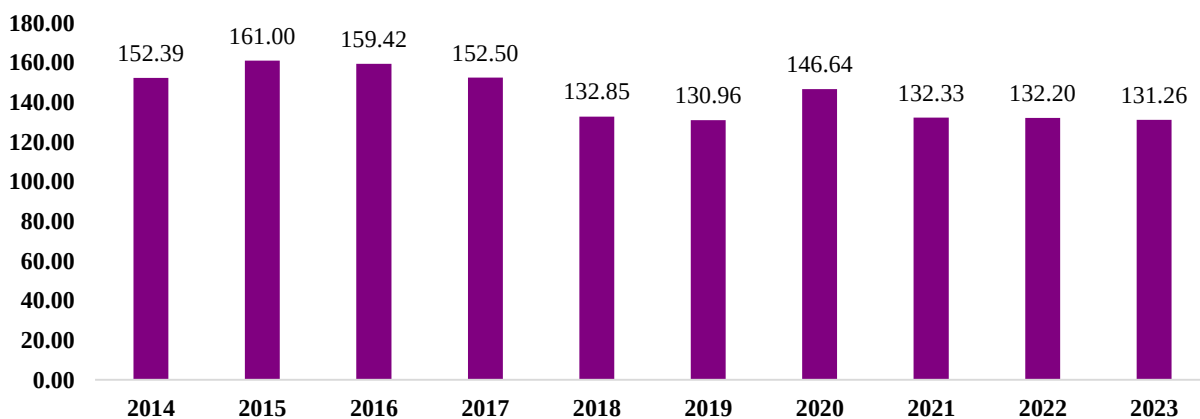


Figure 1. Evolution of the level of international integration of the Republic of Moldova, annually, as of December 31, in %.

Source: developed by the authors on the basis of NBM information on International Accounts of the Republic of Moldova. Available on (NBM,2022).

As shown in Figure 1, the level of international financial integration of the Republic of Moldova between 2014 and 2023 shows a fluctuating evolution: a continuous decrease between 2015 and 2019 and a relative stabilization between 2021 and 2023 after the increase in 2020. These developments are largely determined by fluctuations in the exchange rates of the original currencies against the US dollar, changes in the prices of financial instruments and other changes.

Figure 2 explains, from a structural point of view, the evolution of Moldova's level of international integration.

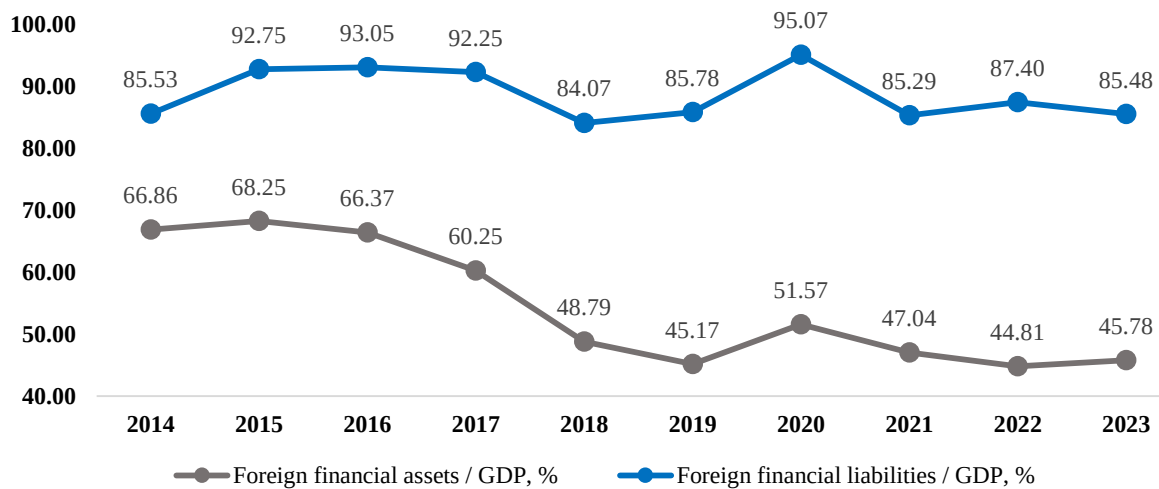


Figure 2. Evolution of the ratio of financial assets to GDP and of the ratio of financial liabilities to GDP, in %.

Source: developed by the authors on the basis of NBM information on International Accounts of the Republic of Moldova. Available on (NBM, 2022).

To a large extent, the reduction in the level of international financial integration of the Republic of Moldova is determined by the reduction in the ratio of external financial assets to GDP in the context of a relatively constant evolution of the ratio of external financial liabilities to GDP. Thus, the graph shows that the dynamics of the ratio of external financial assets to gross domestic product (GDP) follows a gradually declining trend: from 68.3% - the level recorded in 2015 to 44.8% - the level recorded in 2022. The ratio of external financial liabilities to GDP has followed a relatively constant downward trend, with a peak of 95.1% in 2000.

Developed countries are characterized by a higher level of financial integration. To illustrate this, Figure 3 shows the evolution of Israel's level of financial integration. Israel is considered the most advanced country in West Asia and the Middle East in terms of economic and industrial development. In April 2024, the IMF estimated Israel's GDP at 530.7 billion dollars and Israel's GDP per capita at 53.4 thousand (13th place in the world) (Lane și Milesi-Ferretti, 2007). At the same time, Israel ranks 15th for foreign direct investment from 2022 onwards (UNCTD, 2024).

As Figure 3 suggests, overall, Israel's level of financial integration has fluctuated. Thus, in the time segment between 2018-2021, the level of financial integration experienced a period of growth. In 2021 this indicator decreased and resumed its growth in 2022.

Comparative analysis of Figures 2 and 3 helps to draw a conclusion about the level of financial integration registered by the Republic of Moldova far below that registered by Israel.

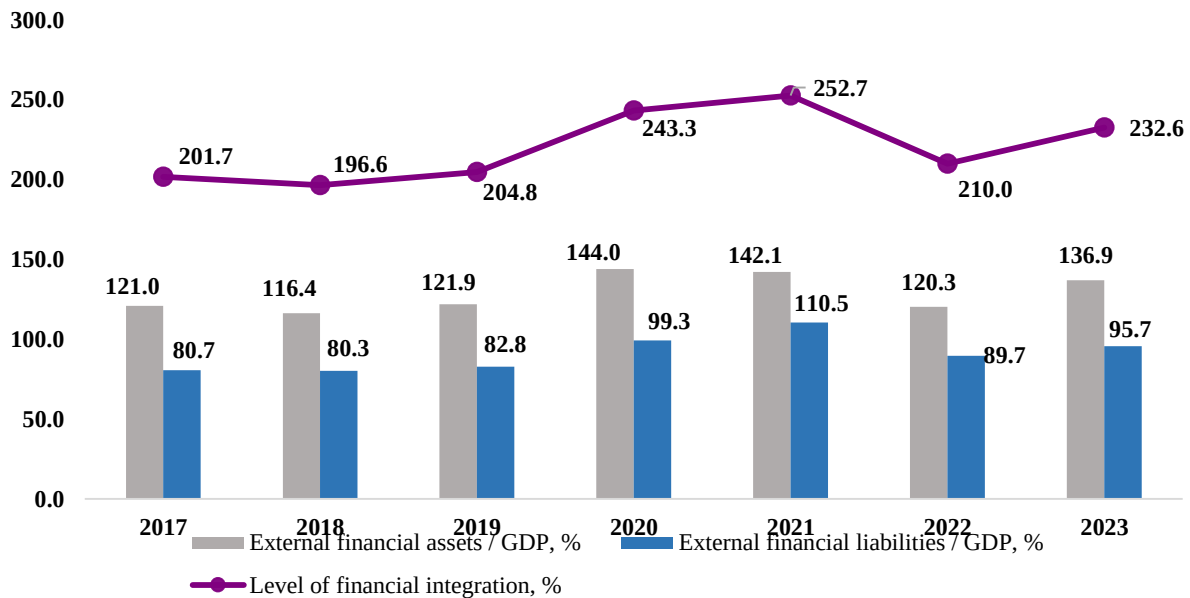


Figure 3. Evolution of the level of financial integration, the ratio of financial assets to GDP and the ratio of financial liabilities to GDP recorded by the State of Israel, in %.

Source: developed by the authors on the basis of information from the Bank of Israel on Israel's International Investment Position (IIP). Available on Bank of Israel.

In the case of Israel, the level of financial integration on the assets side exceeds the level of financial integration on the liabilities side. This development suggests that Israel's balance of payments current account is in surplus. Thus, in April 2024, the IMF estimated Israel's current account balance to be equal to 29.7 billion US dollars, and the current account share in GDP - equal to 5.6% (World Bank, 2023; Te Velde, n.d.)

In order to deepen the assessment of the degree of international integration of the financial sector of the Republic of Moldova, the authors have resorted to the processing of the information reflected in the International Investment Position of the Republic of Moldova. The results of this analysis are presented in Figure 4 and Figure 5.

Figure 4 represents the institutional structure of Moldova's international financial assets. Thus, the largest share of international financial assets are held by the National Bank of Moldova. Moreover, while in 2014 the NBM held 34.3% of the total international financial assets, in 2023 this share reached 72%. In the structure of international financial assets held by the NBM, reserve assets hold 100%.

The continuous upward trend in the share of international financial assets held by the NBM is accompanied by the decreasing position of non-financial corporations, households and non-profit institutions in the service of households (from 56% in 2014 to 18% in 2023). In the structure of international financial assets held by these economic agents, the main asset categories are direct and other investments (cash and deposits, loans, trade credits). Portfolio investments are negligible.



Figure 4. Structure of external financial assets, by sector, in %.

Source: developed by the authors on the basis of the NBM information on the International Investment Position (BPM6) according to the analytical presentation. Available on NBM.

The relatively modest role played by Moldovan commercial banks and other deposit-taking financial institutions in holding international financial assets should be noted. In this context, these institutions show a general downward trend: from 14% recorded in 2019 and 2021 to 6.3% in 2022 and 9.8% in 2023). The main categories of assets held by this category of economic agents are other investments (cash and deposits, loans), with portfolio investments modest by volume.

Figure 5 represents the institutional structure of Moldova's international financial liabilities. Thus, the largest share of international financial liabilities (about 70%) is held by non-financial corporations, households and non-profit institutions serving households. In the structure of international financial liabilities, the following categories of liabilities have larger shares: direct investment and other investment (loans, trade credits and advances). Portfolio investment plays a minor role for this category of economic agents.

The next largest international financial liabilities are held by general government. General government predominantly holds liabilities in the "other investment" category (borrowing, including loans and loans with the IMF).

Commercial banks and other deposit-taking financial institutions have a decreasing share over the time segment examined (2014-2023). The main categories of liabilities held by these institutions are other investment (cash and deposits, loans) and portfolio investment.

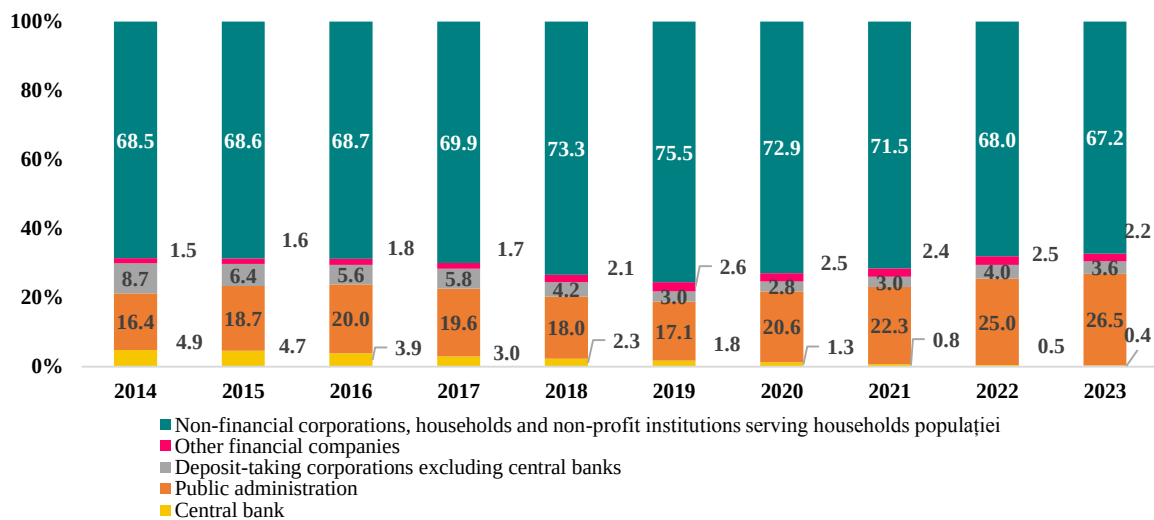


Figure 5. Structure of external financial liabilities, by sector, in %.

Source: developed by the authors on the basis of the NBM information on the International Investment Position (BPM6) according to the analytical presentation. Available on NBM.

Rationalizing Moldova's regional financial integration

According to the authors, the financial system is a complex concept that has several dimensions: the institutional dimension, the instrumental dimension and the regulatory dimension.

The institutional dimension consists of all the institutions that make up the financial system: banks, insurance companies, stock exchanges, etc.

The instrumental dimension is represented by all financial instruments, which are assets that can be traded or exchanged (shares, bonds, certificates of deposit, exchange-traded funds, loans, mutual funds, derivative contracts).

The regulatory dimension is the set of regulations, rules and practices that borrowers and lenders use to decide which projects are financed, who finances the projects and the terms of financial transactions. As a consequence of the interaction of these dimensions, various financial flows are generated: flows of financial assets and flows of financial liabilities.

Financial integration of the Republic of Moldova refers to the process of connecting and harmonizing the financial systems on each of these dimensions.

Depending on the dimension considered (institutional, instrumental and regulatory), the financial system of the Republic of Moldova will derive the following benefits from increased financial integration:

- improved access to capital: individuals and legal entities will be able to access more diversified sources of funding;
- risk diversification: investors will be able to diversify their portfolios across asset classes and countries;
- more efficient allocation of resources;
- financial systems and markets will be more efficient, competitive and transparent;
- expanding cross-border transfer of knowledge, technology and experience. Exchange of knowledge and experience will develop the financial sector, regulatory framework and risk management methodology.

Conclusions

International financial integration has a crucial role to play in facilitating Moldova's economic growth and development by promoting the cross-border flow of capital, investment and financial services. At the same time, the authors' analysis shows that the Republic of Moldova has a low level of international financial integration. Moreover, the level of international financial integration is tending to decrease over time.

At the same time, foreign experience in the field of international financial integration shows that emerging countries which open their financial accounts directly without taking preparatory measures to this end risk facing deep financial crises. To avoid such unfavorable developments and jeopardize the potential benefits of international financial integration, countries need to liberalize in a step-by-step manner, strengthening their efforts to promote and consistently implement domestic economic and financial reforms.

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CONSUMER PROTECTION OF PAYMENT SERVICES IN THE REPUBLIC OF MOLDOVA - BETWEEN REALITY AND PERCEPTION

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Abstract: Payment services are an essential component of the modern economy, facilitating commercial transactions and allowing consumers to make fast and secure payments through bank accounts or mobile devices. The considerable growth in payment service users, especially digital ones, implies a need for deep knowledge of specific processes. The large volume of information can lead to user confusion and create conditions for the violation of consumer rights, stemming from ignorance of certain aspects of payments. Ensuring transparency and user education is crucial for building trust in these systems. As technology continues to evolve, ongoing adaptation and regulation will be necessary to protect consumers and enhance their experience. This article will present the results of a survey reflecting the perceptions of payment service consumers regarding their perceived protection. These data will be compared with reality, particularly through the lens of legal norms. The conclusions of the article show that consumer protection in the Republic of Moldova is regulated well enough, and the situations of abuse perceived by users are mostly due to a lack of financial knowledge. Thus, the direct relationship between financial literacy and the protection of consumer rights in payment services is highlighted.

Keywords: payment services, consumer rights protection, financial risks, financial literalism, financial inclusion

JEL Classification: G21, G20, K29

1. Introduction

Payment services have evolved rapidly in recent years, driven by technological advances and the digitization of the financial sector. At the same time, the types of services, payment methods and platforms accessed have diversified. Thus, the volume of electronic payment transactions during 2023 in the European Union increased by 6.6%, and in the Republic of Moldova - in number by 3.5%, and in value by 40.1%. As consumers adopt new payment technologies, it becomes imperative to ensure effective protection of their rights. Especially, because consumer protection in the financial sector is

essential for maintaining confidence in the banking system and payment services (Ramsay, 2012) At the same time, the complexity of the payment services offered and the evolution of their digitization level generate a number of risks and challenges, such as the protection of personal data, information asymmetry and difficulty in claiming rights. Information asymmetry is generated, to a large extent, not only by the specifics of the payment service, but also by the lack of knowledge needed to understand or learn about these specifics. At the same time, in the digital economy, consumers have limited access to information about how their data is used, which puts them at a disadvantage. This is accentuated in the case of digital payment services, where payments are often made through third-party platforms that are not always transparent. Consumers thus face significant difficulties in asserting their rights, especially in cases where the amounts involved are small but numerous. The process of gathering the evidence and access to the data needed to prove a breach can be costly, and this reduces consumers' motivation to take legal action, and consequently to accept that their rights are being violated.

The issue of payment consumers' perception of how their rights are protected is a very important one, with a crucial impact on the evolution of the financial market. Thus, according to Soderstrom and Björklund (2017), lack of trust in the financial market can lead to consumer reluctance to use new payment services. At the same time, previous studies on consumers' perceptions of payment services have mainly focused on issues related to transaction security and provider transparency. Ramsay (2012) argues that consumer protection in a digital environment is directly related to two dimensions: perceived security and trust in service providers. These two elements significantly influence consumers' decision whether or not to adopt a particular payment service. In this context, Anderson and Murdoch (2014) identified that cyber-attacks on payment systems pose a major challenge to consumer security, especially in the context of the growth of online transactions. These fears can be overcome by promoting financial education in shaping consumer perceptions. Thus, Lusardi and Mitchell (2014) assert that the level of financial literacy plays an important role in how consumers perceive the protection of their financial rights. More financially literate consumers are more aware of their rights and the protection mechanisms available to them, which increases their confidence in using payment services.

2. Legal framework regulating the protection of banking consumer rights

The European Union (EU) has developed a robust framework to protect consumers of payment services through the Payment Services Directive (EU) 2015/2366 (PSD2), which promotes strengthening consumer rights by regulating payment services, boosting competition and reducing the risks associated with electronic transactions. The main focus is on mitigating the risk of fraud on consumer accounts through the Strict User Authentication Authorization (SCA) procedure, on keeping consumers informed about the level and conditions of use of different payment methods at all times through Enhanced Dispute Resolution Procedures. As a result, in the case of unauthorized or fraudulent transactions, consumers have the right to a prompt refund and the responsibility lies largely with the service providers. The study by Soderstrom and colleagues (2017) emphasizes the importance of PSD2 in creating a more secure and competitive ecosystem for payment services, but also mentions the need for further adjustments to keep pace with rapid technological innovations such as cryptocurrency payments.

In the Republic of Moldova, the legislative framework on the protection of payment services consumers' rights is regulated by a series of normative acts that aim to align with European and international standards in the field. With the accelerated digitization of the financial sector and the widespread adoption of electronic payment services, the protection of consumer rights has become a priority for the authorities, and specific measures have been implemented to ensure safety and transparency in the use of these services. One of the main pieces of legislation regulating the protection of the rights of consumers of payment services in the Republic of Moldova is Law No. 114/2012 on payment services and electronic money. This is an essential framework for regulating activities related to electronic payments and e-money, establishing the rights and obligations of both payment service providers and users, such as: access to clear and transparent information, which is essential to ensure transparency and avoid abuse, protection against unauthorized transactions, strict authorization and authentication of transactions, similar to the European PSD2 Directive, and involving the use of multiple security methods to authorize payments.

The Consumer Protection Act (Act No. 105/2003) is a regulatory act that sets out general consumer rights that also apply to payment services. The Act defines the consumer's right to clear information and fair conditions, as well as protection against unfair commercial practices and abuse by service providers. In the case of abuses by payment service providers, the Act provides mechanisms for resolving disputes between consumers and payment service providers, either through the courts or through alternative dispute resolution, including through the State Inspectorate for Supervision of Non-Food Products and Consumer Protection (ISSPNPC).

Another relevant act for the protection of the rights of consumers of payment services is Law No 133/2011 on the protection of personal data, which regulates the collection, processing and storage of consumers' personal data. In the context of payment services, data protection is essential to prevent abuses and risks associated with online financial transactions.

The protection of payment consumers' rights is a complex and dynamic area, influenced by technological innovations and emerging risks. Regulations at international and national level provide a solid framework for consumer protection, but there are still major challenges, such as cyber fraud or lack of financial education, which distort the perception of payment consumers about the efforts of supervisors to protect their rights.

However, there is another side to the problem. Even if there is a robust legal framework in place to protect consumer rights, the perception of consumer rights may differ between payment service providers and their beneficiaries. The dissonance between the reality and the perception of the reality of payment service consumer rights in the Republic of Moldova will be presented in the rest of this article as a result of a consumer survey.

3. Theoretical Approach

Designing a survey to research consumer preferences for payment services requires a structured approach based on scientific methods that allow the collection of reliable and relevant data. In this context, the accuracy of the survey data, the credibility of the results obtained is in a direct relationship between a robust theoretical approach and the correct application of consumer preference research methods. According to the authors Churchill and Iacobucci (2018), it is essential for any survey to start from the clear identification of the research problem, i.e., consumer preferences in financial services. This involves establishing the variables of interest, such as: preferred types of financial

services (credit, savings, insurance), preferred channels of access (online, branches), or selection criteria (price, transparency, reputation). At the same time, to understand consumer preferences, a theoretical framework must be developed that integrates the relevant concepts. Malhotra (2010) suggests the use of a conceptual framework that incorporates factors such as risk perception, trust in financial institutions, and past consumption behaviours. Parasuraman, Zeithaml, and Berry (1988) developed the SERVQUAL model, which measures perceived service quality and can be integrated into surveys of consumer preferences for financial services, analysing dimensions such as reliability, responsiveness.

Another component of the consumer behaviour research process is the correct approach to the concept of preference, or, a quality survey is the one that seeks to understand the consumer's psychology in relation to certain services. In the research of consumer preferences, sociology brings a number of theoretical models and methodologies that help to understand their behaviour.

One of the best known models of consumer preference research is the behavioural model, originally developed within the behaviourist paradigm by authors such as B.F. Skinner (1938). This model suggests that consumer preferences and decisions are the result of a stimulus-response learning process. In this context, consumer behaviour is seen as determined by rewards and punishments received from the environment. It is an applicable model for researching consumer behaviour of payment services, as it allows understanding how certain stimuli such as commission, advertising or characteristics of the payment instrument influence decisions to apply it. Herbert Simon (1955) introduced the concept of bounded rationality in the analysis of consumer behaviour, suggesting that individuals do not make perfectly rational decisions, but are limited by the information they have, their cognitive capacity and the time available. Instead of searching for the optimal solution, consumers often settle for a "satisfying" solution. This theory is particularly useful in the analysis of consumer preferences for payment services, as it recognizes the complexity of purchasing decisions and the contextual influences on their behaviour in relation to their understanding of the service itself. In modern approaches, Edward Deci and Richard Ryan (1985) proposed self-determination theory, which explores intrinsic and extrinsic motivations in human behaviour, including consumer preferences. According to this theory, consumer behaviour is influenced by fundamental needs for autonomy, competence and relatedness. Consumers may develop preferences based on the desire to satisfy these needs, and research has shown that electronic payment products and services that fulfil these needs are more likely to be preferred.

The contributions of researchers Skinner, Simon, Fishbein and Ajzen, Deci and Ryan, as well as lifestyle and psychographic approaches, provide a comprehensive framework for understanding the complexities of consumer preferences and formed the basis for the survey questions. An essential part of survey design is question design. Fowler (1995) recommends that the questions should be clearly and simply worded, avoiding academic or technical wording specific to the financial industry that may not be understood by all respondents.

In this survey the proposed questions were structured according to the variables previously defined in the demographic questions, such as age, gender, education, income, questions about consumer behaviour, such as types of payment services used in the past, frequency of use, questions about attitudes and perceptions, such as level of trust in different financial institutions, preferences for digital or traditional services, questions about consumer motivations and values, for example, what

factors determine the choice of a particular payment instrument (commission, speed of transfer, reputation of the institution).

A crucial aspect of surveys is sample selection. Bryman and Bell (2015) emphasize the importance of using a representative sampling method to ensure that the data collected accurately reflect the target population. In the context of researching payment service preferences the sample can be considered representative if it includes different categories of consumers: from young people who prefer online services to senior citizens who rely on traditional branch-based services. These criteria were also the basis for the selection of the sample in the research on consumers' preferences for payment services in the financial system of the Republic of Moldova.

Ethical aspects were taken into account in the development of the survey by protecting the confidentiality of respondents and obtaining their informed consent prior to data collection, taking into account the legal rules in force, such as the General Data Protection Regulation (GDPR) in the European Union.

4. Research results

In order to investigate the perception of consumers of payment services as to how their rights are respected, a questionnaire was developed, addressed to all people using payment services and financial products related to the use of cashless payment instruments. This questionnaire was distributed on various platforms, including media resources, with the aim of collecting data and information on the behaviour and perception of the financial consumer when making payments. After collecting and processing the responses from the questionnaire, the following results were obtained: When asked whether they use non-cash payment instruments (payment card, payment orders (credit transfer), electronic money, etc.), the results still show a higher prevalence of cards within the circle of respondents, 86%, compared to 14% who do not use non-cash payment instruments.

At the same time, it should also be taken into account that the questionnaire was published on portals that select the audience that is familiar with the use of the online environment, thus not covering people who do not have access to this environment.

We observe that of the non-cash payment instruments, payment cards and credit transfers are predominantly used. After analysing the purpose of use of Cashless Payment Instruments, we observe that the first place goes to online payments for goods and services, the second place goes to payments in shops and restaurants and the second place with a significant share of 60.9% goes to cash withdrawals. So, cash withdrawals are still one of the most common card transactions. There is a lack of conditions or insufficient information held by payment service users on their motivation to use the card for making payments and not for cash withdrawals.

About 40% of respondents said they use cashless payment instruments daily, while 23% prefer to use them weekly. Only 14% use these methods once a month or other frequency. Although a significant percentage use cashless payments daily, we note that over 60% of cash withdrawals suggest a strong link between these behaviours. Given that the promotion of cashless payments is a priority, it is essential to identify and analyse the practical, technical or legal impediments that may affect their uptake.

In an effort to understand the reasons why part of the population avoids the use of cashless payment instruments, the data collected indicates that 29.5% of respondents do not use these methods. Of these, 10.1% cited fear of fraud, a concern which, according to the Payment System Infrastructure Report for 2021 published by the NBM, is not supported by the actual incidence of fraud in Moldova. This unjustified fear is often linked to cases of disclosure of personal data by users, which reflects a lack of information and education on the security of the use of payment instruments and the protection of related data. In addition, 18.4% of respondents indicated that they do not know how to use cashless payment instruments or do not have sufficient knowledge about the rights, benefits and legal framework associated with them. These findings suggest that the main barriers to the take-up of cashless payments are of an informational nature, reflecting an increased need to educate the public on this issue.

Although 46.4 percent report the lack of difficulties in using cashless payment instruments, 14.5 percent object to the lack of an authority responsible for the control of the resolution of petitions/complaints of users, another 14 percent report the insufficient legal protection framework and the following 25.6 percent emphasize the lack of mechanisms for amicable resolution of petitions and the unwillingness of the authorities to resolve petitions.

We note that the options of informing the payment service user consumer through the payment service provider's website, or the total lack of communication between the payment service provider and the payment service user also weakens the protection of the rights of the financial consumer - payment service user. These options do not represent transparent, accessible information for the purposes of claiming rights and detailed and may have significant implications on the protection of their rights, such as:

- Incomplete and ambiguous presentation of information- may lead to misunderstanding of the terms of the services offered, including fees, terms of use or associated risks. This can impair the user's ability to make informed decisions and expose consumers to unexpected financial risks;
- Confusion about claiming rights - the burden of proof is the payment service provider's legal obligation;
- Infringement of consumer protection legislation - payment service providers have a legal obligation to provide clear and complete information in accordance with consumer protection legislation. Poor information may attract legal sanctions and damage the reputation of the provider.

In cases where a user of flat-rate services is confronted with a situation of fraud or other circumstance of improper execution of a payment, it is observed that only 25 percent of them address a complaint or complaint to the issuing provider or the supervisory body.

In the context of the use of cashless payment instruments, the study highlights a major concern related to the management of fraud and scams by financial consumers. According to the collected data, 74.4% of respondents did not file a complaint with the supervisory body in case of fraud. About 20% of them consider that the settlement process is purely formal and does not provide concrete results. In addition, 12.6% do not trust that the bank or payment service provider will solve the problem, while another 10% expressed distrust in the supervisory body's ability to intervene effectively.

These data suggest the need to strengthen institutional surveillance capacities, as well as to strengthen efforts to inform and educate consumers about the available protection mechanisms. The low level of consumer satisfaction following referrals, which is only 16%, clearly underlines the need to improve dispute resolution processes and restore trust in financial and supervisory institutions. These conclusions suggest that further education and institutional reform measures are essential to ensure better consumer protection in the use of cashless payment instruments.

Strengthening institutional capacities in the field of cashless payments is a multidimensional process that involves improvements in regulation, supervision, security, public education and international collaboration. Only through an integrated and coordinated approach will financial institutions and supervisors be able to respond effectively to today's challenges, thereby protecting consumer rights and encouraging wider uptake of digital payments.

In the research on the use of cashless payment instruments, it was observed that the frequency of addresses to consumers who feel legally unprotected is only 13%. This relatively low percentage suggests a low perception of the effectiveness of legal protection mechanisms or a lack of confidence in their ability to solve the problems encountered by users. This finding underlines the need to improve both public information and available protection mechanisms to ensure an increased level of perceived security in the use of digital payments.

Of the 207 respondents, 39 of them consider that there is no single authority, which demonstrates the lack of information on the possibilities of claiming the rights of the financial consumer-user of payment services.

In the study on the use of cashless payment instruments, 43% of respondents said they were not familiar with the rules, regulations and measures aimed at consumer protection. This again reflects a significant lack of information among users, underlining the need for increased education and communication efforts on the rights and safeguards available in the context of the use of digital payments.

In the study, participants were asked what are the most effective information measures. Respondents indicated that these include public information campaigns, controls carried out by supervisory authorities and consumer education through educational institutions. These results underline the importance of a multidimensional approach in educating and protecting users, with a particular focus on collaboration between authorities and the education system.

The lack of clarity on financial education responsibilities, followed by the lack of allocation of financial resources in the field of financial education are the main limitations in the field of financial education. 94% of respondents stressed the need to adopt a national financial education strategy. This high percentage highlights the widespread public perception of the importance of a nationally coordinated initiative to increase financial literacy in order to support a more secure and informed use of digital payments.

Following the analysis of the results of the questionnaire of the study on the use of cashless payment instruments, it was highlighted the need for joint actions between the actors in the payment services market (banks and non-bank payment service providers) to inform consumers about the advantages of these instruments, how they can be used, their rights, as well as the mechanisms for resolving complaints and complaints. The analysis highlighted problems related to financial education and misinformation or misperceptions of users, as well as deficiencies in the clarity of the supervisory and consumer protection authorities' tasks. The results also suggest a limited awareness of the

advantages of cashless payments and a weak financial culture among the population. These findings underline the need for further efforts in educating and informing the public to facilitate wider and more secure adoption of digital payments.

5. Conclusion

The analysis of the perceptions of consumers of payment services in the Republic of Moldova highlighted several major challenges in terms of protecting their rights. Although there is a relatively high level of trust in the security of these services, transparency and financial education remain problematic issues that affect the general perception of consumers.

In order to improve the protection of consumer rights, the following is recommended:

- Improving financial education: Financial authorities and institutions need to develop accessible educational programs to increase consumers' awareness of their rights and obligations in payment services. This can also be done by early education of financial skills by introducing separate topics in school, high school, university curricula and strengthening cooperation with university institutions, but also by structurally promoting financial skills in university environments, among employees.
- Increasing transparency for service providers: Payment service operators need to adopt a clearer and more accessible policy on contract costs and conditions to make it easier for consumers to understand.
- Strengthening dispute resolution mechanisms: It is essential to promote and facilitate access to efficient and swift dispute resolution procedures for consumers. The results of the survey show that consumers do not turn to protection institutions either because they consider that the effort to defend their rights is great, or because they are not well-informed about their existence and activity.

The image obtained from the survey clearly shows that there is a major problem of informing the consumer-payment user. Without information-education of the consumer, there can be no protection of the consumer. The first effort to defend the rights in the use of payment services is made by the consumer, first addressing the bank that serves him, then to the supervisory body in case of improper settlement of the complaint.

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FORCED COERCION MEASURES OF NON-COMPLIANT TAXPAYERS FROM THE REPUBLIC OF MOLDOVA

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Abstract: In accordance with the provisions of the Fiscal Code, *the basic task of the State Tax Service* is to ensure an efficient process of tax administration and service by creating conditions for taxpayers to comply with the legislation, the uniform application of policy and regulations in the tax field, thus guaranteeing the level of resources needed by the state to finance social projects and the good development of society as a whole (State Tax Service, 2024). In order to carry out the main duties and objectives, voluntary compliance measures are applied. Compliance represents the process of matching, adapting and submitting to certain regulations, and the final goal of the voluntary compliance of taxpayers can and will be felt by increasing the standard of living of the citizens of the Republic of Moldova (Tax Monitor, 2024). At the same time, the State Tax Service *ensures the permanent examination and identification* of the segments of the national economy *with increased risk of fiscal non-compliance*.

The State Tax Service systematically analyzes the available information with reference to the activity of economic agents and individuals and evaluates their risk level. After the identification of the risks, the evaluation stage follows, the final aim of which is to establish the hierarchy of risks, their prioritization according to the risk tolerance and, respectively, the identification of compliance measures by applying the treatments according to the Compliance Program for the current year (Fiscal Code of the Republic of Moldova, 1997).

Keywords: forced compliance, non-compliant taxpayers, compliance treatments, enforcement, unpaid tax obligations

JEL Classification: H27, H71, H72

1 Introduction

The basic priority of the State Tax Service (STS) is that the voluntary compliance actions undertaken contribute to increasing the level of compliance with the legislation by the taxpayer, so that forced intervention, control actions are reduced to a minimum. The State Tax Service aims to create a climate based on trust and mutual respect in the relationship with taxpayers. Maintaining trust in the STS requires permanent information of taxpayers regarding its development policy and strategy.

The compliance program provides assistance and support policies for taxpayers who fulfill tax obligations on time and in full, as well as policies to identify and discourage taxpayers who consciously avoid paying taxes, fees and other mandatory payments. Also, the Program establishes the procedure for monitoring taxpayers with the application of compliance treatments (State Tax Service, 2024d).

Each country's tax authorities are looking for the right methods and actions to increase compliance as much as possible. In other words, to get taxpayers to voluntarily register to pay taxes by correctly

declaring all their sources of income. Some states have opted for preventive actions, while others have sought solutions to intervene post-factum in the event of detection of incorrect taxpayers.

In Belgium, the tax administration has opted to send reminder letters, through which taxpayers are informed about the objectives for which the Belgian state will use the public money collected through the payment of fees and taxes. The approach of the authorities resulted in the increase of advance payments of taxes, and the action itself had a profit of more than 50 times the cost of the approach itself. An experiment from a behavioral perspective took place in Poland and targeted a number of approximately 150,000 individual taxpayers, both from urban and rural areas. They received, at random, either an informative letter, reminding them of payment debts, or one of the nine letter models created with the role of changing citizens' behavior in a positive way. Soft-toned messages were used, focusing on social responsibility and what concrete problems could be solved by the Polish state from the collected taxes and fees. But somewhat harsher messages were also sent outlining the penalties for non-payment.

Obviously, taxpayers responded differently to the same approach. For example, to the message about what the Polish state can do with the public money collected from taxes and fees, the positive reaction came mainly from young people, among whom the compliance rate increased, while among the elderly between 50 and 64 years, the effect was below expectations.

In the year of the outbreak of the pandemic, 2020, Estonia introduced an electronic service that gives taxpayers the opportunity to find out in which risk category they are placed by the tax authority. The tax office has introduced three risk levels here: green (in order from the point of view of the tax administration), yellow (there are some deficiencies), red (with serious deficiencies). Assessments are made based on the analysis of previous tax returns and the findings of control bodies, as well as on data received from third parties. This way of assigning taxpayers to a certain level of risk gives taxpayers the opportunity to correct their tax deficiencies voluntarily.

And other states, more proactive in measures and actions, have had important tax education initiatives. A good example is Italy, where the Treasury met with over 1,500 students annually, also Spain, with programs attended by over 45,000 students.

Last year, the National Tax Administration Agency (NTAA) initiated an extensive information campaign aimed at sending a simple message, in a very clear direction: we want to increase the degree of voluntary tax compliance among individuals. NTAA relies on the spirit of civic responsibility of taxpayers, but also on information campaigns regarding the procedures for declaring incomes and paying taxes. All these actions are aimed at helping taxpayers and aim to create a partnership relationship between the Tax Authority - Taxpayer, exactly as it happens in advanced economies.

What is wanted to remain in the minds of taxpayers, from large corporations to small entrepreneurs to individual taxpayers, is that a higher level of collection will translate into a healthy national budget, social responsibility meaning, among other things, and tax compliance by taxpayers. On the other hand, this act of every Romanian citizen could reduce the risk of a potential increase in taxes, a measure that the authorities sometimes resort to to fill budget revenue gaps (EY Romania, 2024).

The European Commission helps EU Member States to reform *their fiscal-budgetary policies and tax administrations* in order to collect taxes in a fair, sustainable and efficient way. It also supports EU Member States in the process of reforming *their public finance management and expenditure policies* in order to achieve an efficient allocation of public funds.

The Commission also helps public authorities in EU Member States to design and implement *institutional tax reforms*. Public authorities include ministries of finance, tax authorities, tax and customs administrations, budget councils, supreme audit institutions and other delegated and independent bodies. Technical support is tailored to your requirements and covers a wide range of topics.

Strengthening tax compliance is an essential component of effective resource mobilization. Tax authorities are developing new approaches to increase voluntary compliance, manage cases of non-compliance, minimize compliance costs and increase overall confidence in the tax regime. The Commission provides technical support for the design and implementation of the compliance management system.

Examples of support:

- Improving compliance risk management and strategies.
- Establish compliance programs based on cooperation.
- Facilitating the implementation of behavioral approaches.
- Carrying out communication and awareness campaigns (European Commission, 2024).

2. Tax compliance in the Republic of Moldova

It can be said with certainty that, in addition to macroeconomic developments and the fiscal policy applied in the Republic of Moldova, the increase in receipts at the National Public Budget (NPB) is also due to taxpayers' awareness of voluntary compliance, which contributed to compliance with fiscal obligations and improved quality STS communication with taxpayers.

In the Taxpayer Compliance Plan we distinguish 2 notions: Voluntary Tax Compliance and Forced Tax Compliance. **Voluntary tax compliance** is correct calculation, reporting and full payment, within the budget period, of the tax obligation by the taxpayer voluntarily. **Forced tax compliance** is the taxpayer's tax compliance as a result of the application by the competent authorities of legal coercive measures (State Tax Service, 2024d).

The objective of the Taxpayer Compliance Program is to achieve a high level of voluntary compliance with tax legislation, by applying the treatments established by the program, informing society and the taxpayer regarding the provisions of the legislation in force, the way to exercise the obligations established by law and the consequences of admitting violations of fiscal order.

The main purpose of the Compliance Program is to identify and respond to the risks of tax non-compliance in the tax system through a series of measures targeting the main causes of behavioral inconsistency.

Non-compliance risk management is a continuous process aimed at identifying risks from taxpayers' activity and applying the simplest and most effective treatments to mitigate non-compliance risks and increase the level of voluntary tax compliance.

The State Tax Service operates with eight categories of tax non-compliance risks, which have been registered in the Register of tax non-compliance risks, namely (State Tax Service, 2024d):

1. General risks	- the risks identified in the activity of all categories of taxpayers carrying out the activity of an entrepreneur in the part that concerns the general aspects of the organization of the activity of an entrepreneur, the periodicity of the control activity of the STS towards the taxpayer, the general aspects that characterize the activity of a taxpayer.

2. Specific risks	- the risks related to the actual entrepreneurial activity of the taxpayer and aimed at identifying the probability of avoiding the payment of all taxes, fees and other mandatory payments to the NPB.
3. Risks related to VAT	- risks related to the activity carried out by VAT subjects and/or taxpayers who meet the necessary criteria for registration as a VAT subject, as well as taxpayers who register economic transactions with VAT subjects.
4. Risks related to individual taxpayers citizens	- the risks related to the activity carried out by individual taxpayers, citizens.
5. Tax compliance risks related to large taxpayer economic agents	- the risks related to the administration of economic agents that meet the criteria necessary to obtain the status of large taxpayers and are served by the Directorate for servicing large taxpayers.
6. Risks related to individuals with high incomes	- the risks identified according to the information presented by the information sources provided for in art. 226 ¹¹ of the Tax Code.
7. Risks related to individual taxpayers – large taxpayers	- the risks related to the administration of individual taxpayers – large taxpayers.
8. Risks related to economic agents beneficiaries of the VAT refund	– determine the risks related to the taxpayers who are beneficiaries of the VAT refund.

Risk management is a systemic process where the tax administration makes deliberate choices about compliance treatments based on knowledge of individual taxpayer behavior that could be used to effectively encourage voluntary compliance and prevent tax evasion , taxes and other mandatory payments.

The information on the risks of fiscal non-compliance, held by the STS, is examined and contrasted for the purpose of assessing the risks of non-compliance, the risk criteria met by each taxpayer being assessed and compliance treatments established according to the assessed level of risks.

Depending on this will be established:

- The list of taxpayers (taxpayers who carry out entrepreneurial activity for more than 2 fiscal periods) from the sectors of the national economy, which are established as a priority for the year 2024, which will be subject to continuous monitoring during at least 12 months, through the application of voluntary compliance measures;
- List of taxpayers to be included in the control plan;
- The list of taxpayers liable to be monitored through the fiscal posts;
- The list of taxpayers against whom operative control measures are to be applied;
- List of taxpayers to be subject to fiscal controls focused on specific objectives (detection and sanctioning of the use of undeclared work, VAT fraud, illegal transport, other specific objectives).

From the analysis of taxpayers' behavior, **the reasons for non-compliance** are identified, some of which may be the following:

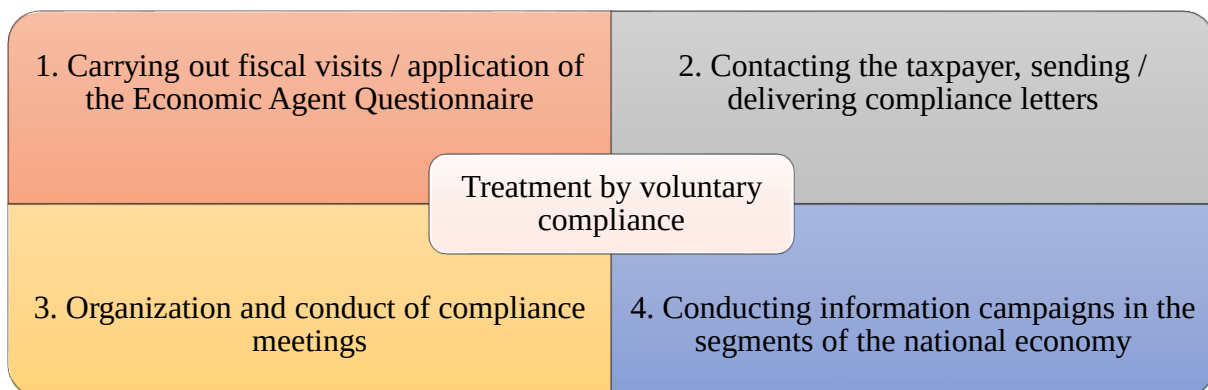
- Unfamiliarization with the legislation in force;
- The low level of tax education;

- Lack of fair competition;
- The social environment;
- Tax evasion for the purpose of personal enrichment.

3. Analysis of results through the lens of tax compliance treatments

Within the Compliance Program, depending on the established risks, the application of 2 possible types of treatment is opted for:

1. Treatment by voluntary compliance;
2. Treatment by forced compliance. (State Tax Service, 2024d)



In 2023, tax visits were made to 10,709 economic agents and 151 seminars were held for employees and employers in sectors with a high risk of non-compliance regarding the application of legislation in the field of labor relations. As a result of the compliance measures taken, there was an increase in the part related to the calculated fiscal obligations related to salary payments in the total amount of 341.17 thousand lei or 28.49% more compared to 2022.

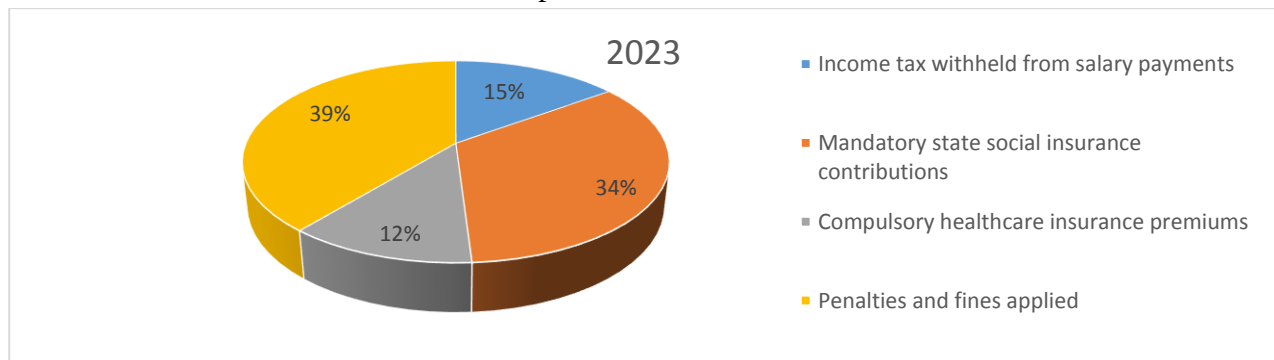
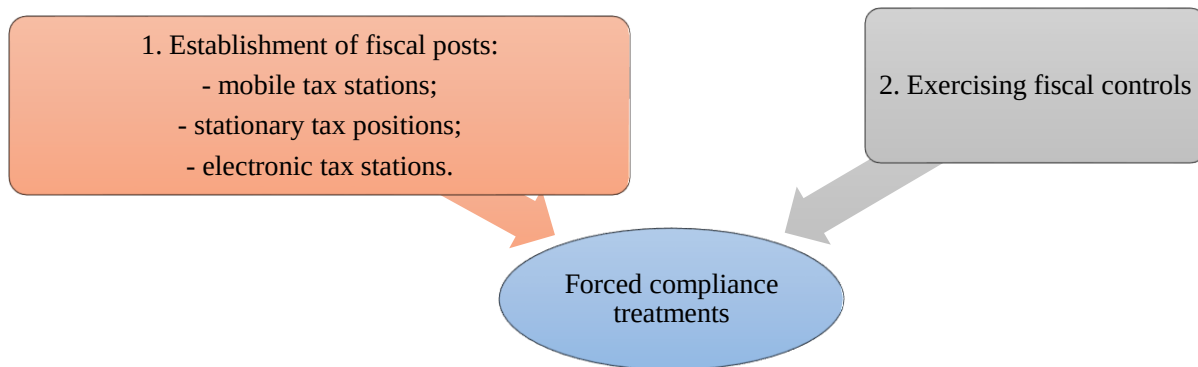


Figure 1. Obligations related to salary payments calculated additionally for payment to the budget

Source: adapted by the author after (State Tax Service, 2024a)

Also, 285 decisions were adopted on cases of violations of the legislation in the field of labor relations (reduction of the payroll, income tax, social insurance contributions and mandatory medical assistance insurance premiums), including regarding the violations aimed at the correctness of the calculation and the payment of salary payments, taxes and breakdowns related to them. At the same time, obligations related to salary payments were additionally calculated for payment to the budget in the total amount of 27.79 million lei, of which 22.41 million lei were paid (State Tax Service, 2024a).

If the taxpayer does not comply voluntarily, the measures of forced compliance will be applied in order to collect the obligations due.



During the year 2023, **29,789 fiscal controls** were carried out, with *4,824 audits less* than in 2022, or *13.94% less*.

At the same time, the number of fiscal controls in which violations of the fiscal legislation were established decreased by 425, or by 1.98%, less than the previous year (21,504 controls).

The effectiveness of fiscal controls is 71%, compared to 2022 - 62%.

The amount of fiscal obligations calculated additionally to the budget as a result of fiscal controls decreased by 207.42 million lei (822.26 million lei) or by 20% compared to the previous year, including total amounts calculated:

- the amount of taxes, fees, late payment and other payments amounts to 635.03 million lei;
- fiscal sanctions applied – 187.23 million lei.

From the total calculated amounts:

- 311.47 million lei were calculated related to control cases in connection with the initiation of insolvency proceedings, or 38% (of which 208.54 million lei calculated by methods and from indirect sources);
- 128.81 million lei were calculated by methods and from indirect sources, or 16%.

The amount of tax liabilities collected increased by 27.69 million lei, or by 11.41% compared to the previous year.

As a result of the controls carried out and the decisions adopted, the amount of fiscal losses was reduced by 513.3 million lei and the amount of VAT to be deducted by 94.01 million lei.

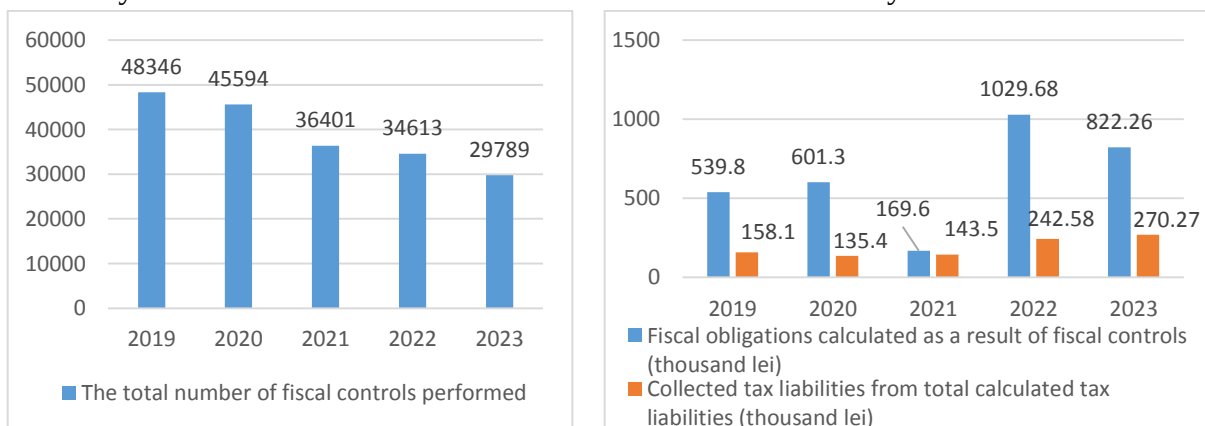


Figure 2. Dynamics of the number of fiscal controls performed, as well as the amount of fiscal obligations calculated and paid in the period 2019-2023

Source: adapted by the author after (State Tax Service, 2024a)

As of 31.12.2023, both the annual and monthly control plans have been achieved at 100% level.

As a result, there is a considerable decrease in the number of controls planned to be carried out in 2023 compared to those planned in 2022, as follows:

- **The annual control plan – the decrease in the number of controls is 9%;**

- **The monthly control plan – the decrease in the number of controls is 72%.** (State Tax Service, 2024a)

Through the tax audit, it can be determined whether some tax obligations have been reduced intentionally or unintentionally by the taxpayer. Thus, depending on the type of outstanding fiscal obligation, the assets owned by the taxpayer, the type of activity, etc., *the enforcement measures* that will be taken against the arrearage taxpayer will be identified. The size of the registered arrears will also be taken into account. If the size of the tax liability not paid on time is considerable, the tax official through the prism of article 196 para. (5) of the Fiscal Code, is entitled to simultaneously apply several enforcement actions (State Tax Service, 2024d).

According to art. 177 of the Fiscal Code, Extinction of the fiscal obligation through enforced execution takes place through the actions taken, within the limits of competence, by the State Tax Service for the forced collection of arrears in accordance with fiscal legislation.

The forced execution of the fiscal obligation is carried out by:

- a) collection of funds, including in foreign currency, from the bank accounts and/or payment accounts of the taxpayer, with the exception of those from credit and provisional accounts (for the accumulation of financial means for the formation or increase of the social capital);
- b) collection of cash from the taxpayer, including foreign currency;
- c) tracking of the taxpayer's assets, except for those recorded in letters a) and b);
- d) follow-up of taxpayers' debts through the methods provided for in letters a), b) and c).

The tracking of goods is done by seizing, trading and lifting (Fiscal Code of the Republic of Moldova, 1997)

In order to ensure good tax administration and better collection, the tax administration must not only be limited to the dynamic collection of budget revenues, but also the full and short-term recovery of budget arrears.

In this sense, it is necessary to undertake prompt, diversified and reasonable insurance and enforcement methods and measures, as well as the consecutiveness of actions in order to ensure an efficient collection of arrears with minimal risks and expenses.

The priority strategic objective remains to ensure the recovery of arrears, as well as the reduction of their amount through the consistency of the measures taken based on the existing legislative framework (State Tax Service, 2024d)

As of 31.12.2023, according to data from the Information System (IS) of the STS, there is arrears in basic payments in the total amount of 1,440.8 million lei. Compared to the situation on 31.12.2022, the arrears decreased by 55.6 million lei, or by 3.7%.

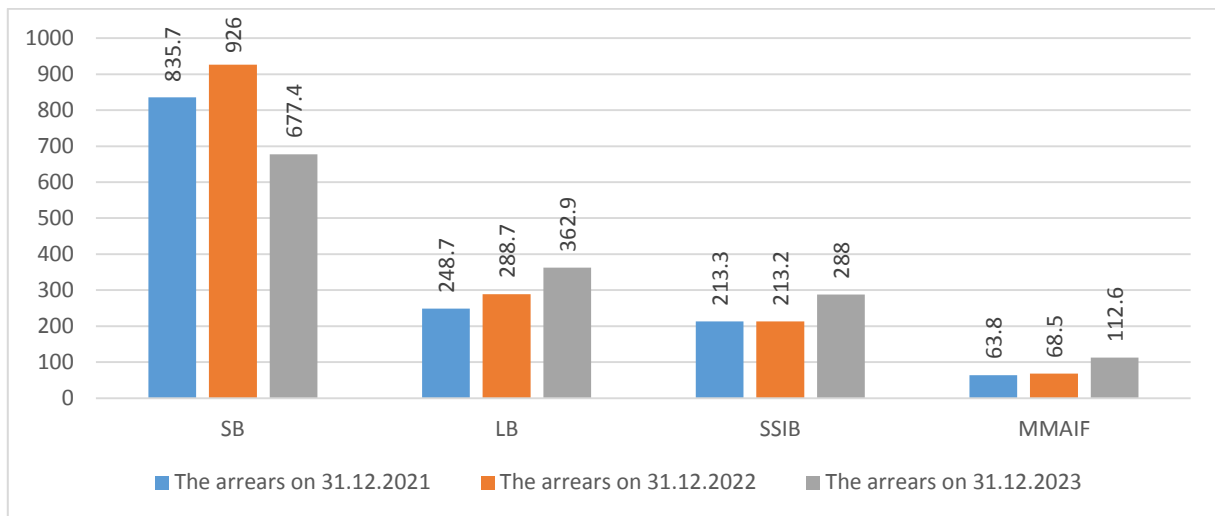


Figure 3. Dynamics of the recorded arrears, by budget types, in the period 2021-2023, million lei
 Source: adapted by the author after (State Tax Service, 2024a)

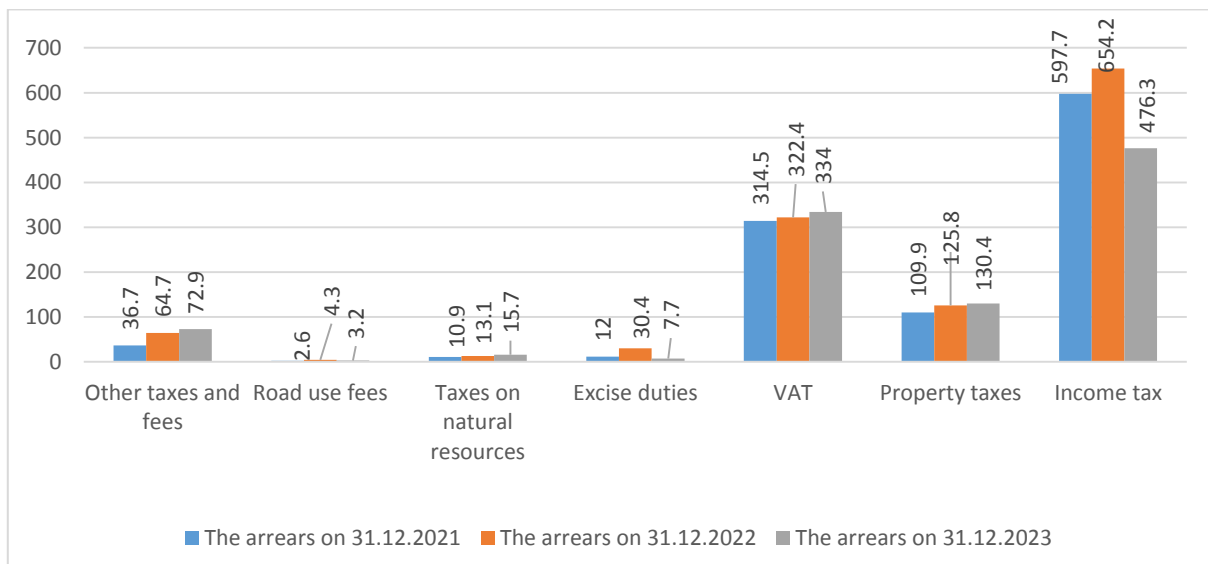


Figure 4. Dynamics of the recorded arrears, by budget types, in the period 2021-2023, million lei
 Source: adapted by the author after (State Tax Service, 2024a)

In order to settle the tax obligations of the taxpayers with arrears, during 2023, the STS applied *the methods of forced execution* provided by the Fiscal Code (FC), through which *1.93 billion lei were collected, or 272.48 million lei more than before from the previous year, inclusive:*

1882.2 million lei

- collected from the bank accounts of taxpayers with arrears and their debtors, or 260.95 million lei more than in 2022

43.0 million lei

- arrears were collected from the cashiers of economic agents, or 5.62 million lei more than in 2022

126.67 million lei

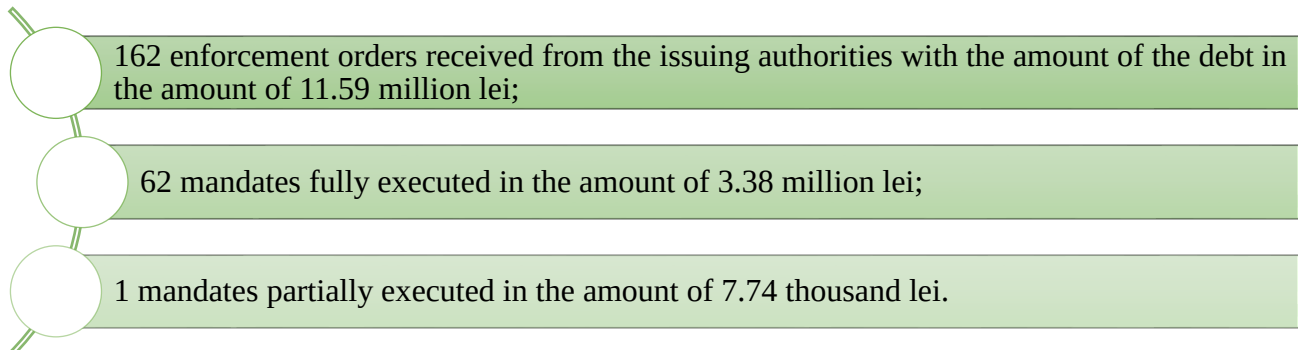
- the value of the assets seized as an enforcement measure, to be sold, and the collected amounts - transferred to the budget

5 concluded contracts for modification of the term of extinguishment of the fiscal obligation by installments

7.95 million lei, the amount of the staggered tax liability

21 pledges worth 24.44 million lei

Execution of monetary claims based on provisions of public law:



Cooperation with bailiffs: (State Tax Service, 2024a)

40 visits made to the bailiffs in order to verify the correctness of the request and the restitution of the amounts advanced in the execution procedures;

12.29 million lei in tax receivables collected as a result of working with bailiffs.

Statistical data on the tax obligations collected in the period 2017-2023 through enforcement measures are presented in progress below.

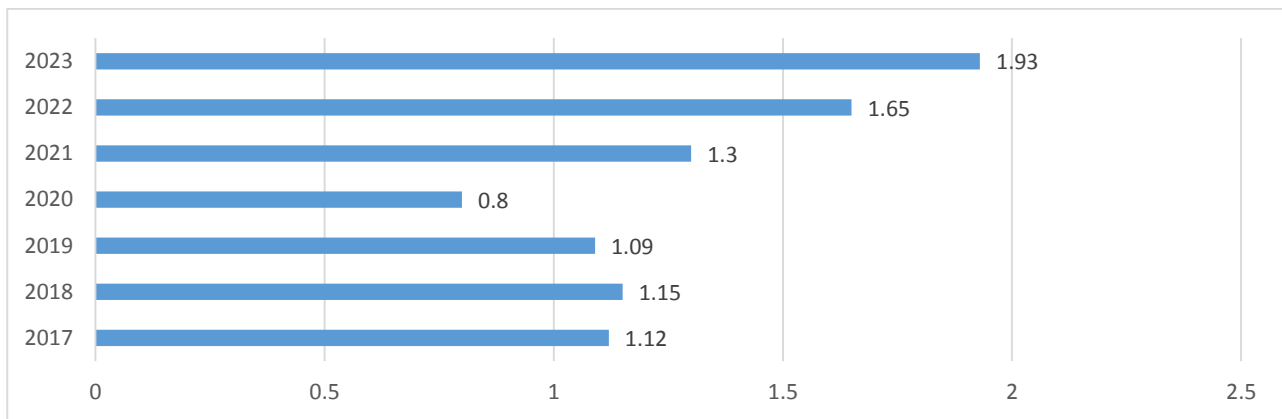


Figure 5. Fiscal obligations collected through enforcement measures, billion lei

Source: developed by the author based on the State Tax Service's open data (State Tax Service, 2024c)

Based on figure 5, we can observe an increasing trend of collection from tax obligations through enforcement measures, which can be appreciated as an indicator of the efficiency of the STS in terms of the measures to detect tax evasion/fraud schemes and, respectively, the efficiency of the measures of enforcement.

In its activity, the STS aims to ensure good fiscal administration, which represents the activity of state bodies empowered and responsible for ensuring the full and on-time collection of taxes and fees, penalties and fines in the budgets of all levels, as well as the performance of actions of criminal prosecution in the event of the existence of circumstances attesting to the commission of fiscal crimes. The collection and honoring of fiscal obligations in cases where they cannot be extinguished amicably, is carried out by forced execution. According to article 177 of the FC, the extinguishment of the fiscal obligation by forced execution takes place through the actions taken by the fiscal body for the forced collection of arrears in accordance with the fiscal legislation (Fiscal Code of the Republic of Moldova, 1997). There are various methods of forced execution of the fiscal obligation, and the tracking of goods is done *by seizing, selling and lifting goods*. The commercialization of confiscated goods takes place through the fiscal bodies, according to the provisions of GD no. 972 of 11.09.2001. Thus, the State Tax Service proposes to economic agents, which carry out their activity in the field of trade and production, various confiscated goods. The list of goods confiscated and put up for sale is accessible to all interested parties on the website of the STS (State Tax Service, 2024b). The funds obtained through the sale of goods are transferred to the budget account, where the amounts received from the sale of confiscated goods are recorded (Government Decision No. 972, 2001).

As of 01.01.2023, there were stocks of confiscated goods in the amount of 40.34 million lei in the STS records, and during 2023 confiscated goods in the amount of 35.86 million lei were taken into the records. At the same time, the amount transferred to the State Budget, resulting *from the proceeds from the sale of confiscated goods*, is 6.86 million lei, and *the amount of destroyed confiscated goods* is 0.03 million lei.

4. Conclusion

By fiscal obligation within the meaning of art. 129 para. 6 of the Fiscal Code (1997) is understood, - the taxpayer's obligation to pay a certain amount to the budget as tax, fee, late payment (penalty)

and/or fine. From the analysis of the notion of fiscal obligation, it follows the direct obligation of the taxpayer to honor his obligation towards the state.

The tax liability arises with:

- the obligation to declare taxable assets and income or, as the case may be, taxes, fees, contributions and other amounts owed to the general consolidated budget;
- the obligation to calculate and record in the accounting and fiscal records the taxes, fees, contributions and other amounts due to the general consolidated budget;
- the obligation to pay taxes, fees, contributions and other amounts due to the general consolidated budget at the legal deadlines;
- the obligation to pay interest, late penalties or late increases, as the case may be, related to taxes, fees, contributions and other amounts due to the general consolidated budget, called ancillary payment obligations;
- the obligation to calculate, retain and record in the accounting and payment records, at the legal deadlines, the taxes and contributions that are made through withholding at source;
- any other obligations that fall to taxpayers, individuals or legal entities, in the application of tax laws (Gulca, 2024).

It is extremely important for tax payers to understand the fiscal burdens they have, to be aware of the importance of correct declaration and full payment of taxes and fees owed to the NPB so that the state, in turn, can provide citizens with quality services. Encouraging voluntary compliance is one of the solutions to increase budget revenues with the involvement of minimal administrative costs and with a friendly intervention in the activity of the taxpayer.

Each year, the STS establishes certain priority segments of the national economy for monitoring through the Taxpayer Compliance Program. Respectively, taxpayers who operate in the respective segments are selected for camera and/or on-site monitoring in order to assess the risks of fiscal non-compliance, to provide advisory/informative support in order to exclude the established risks. The risk analysis carried out by STS is a permanent activity, through which data and information about taxpayers, owned or to which STS has access, are processed and analyzed, in order to identify, monitor and ensure fiscal compliance and carry out fiscal controls, especially for taxpayers with increased risk of non-compliance. The development of the risk system is the guarantee of ensuring that the level of compliance with the legislation is appropriate.

Voluntary/forced compliance actions are taken against taxpayers who carry out activity in areas with an increased risk of practicing illegal activity according to the objectives of the Action Plan regarding combating illegal activity. The priority in the activity of the State Tax Service is to establish a constructive dialogue with the business environment, so that through the services provided by the STS it is ensured that compliance with the obligations established by law is not a burden for the taxpayer, but can be carried out at least of effort and additional costs.

The State Tax Service continues to direct its efforts towards increasing the level of voluntary compliance, developing the risk analysis and assessment system, in order to support fair competition and prevent cases of defrauding the state budget, and control actions are taken to support voluntary compliance, to discourage the intention of some taxpayers to commit intentional violations of legislative norms (Nemerenco, 2024).

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CONTRIBUTION OF ECONOMIC ORGANISATIONS TO FACILITATING COOPERATION IN THE FIELD OF INTERNATIONAL TAXATION

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Abstract: International tax cooperation is an essential process in the context of the globalization of economic relations, focusing on how countries work together to address cross-border tax issues and promote effective tax governance globally. This cooperation involves the participation of international economic organisations in processes such as avoiding double taxation, combating tax evasion and aggressive tax planning, exchanging information between tax authorities, and developing international rules and standards to facilitate tax coordination and cooperation.

The role and importance of international organisations, such as the Organisation for Economic Co-operation and Development (OECD) and the International Monetary Fund (IMF), in promoting tax transparency and the exchange of information for tax purposes are essential. These organisations contribute by applying and exploring various mechanisms and tools, such as double taxation agreements and information exchange agreements, which facilitate international tax cooperation.

Through the initiatives and mechanisms, they promote, international economic organisations support the harmonisation of national tax laws with global standards, thus improving the coordination of tax policies between states. They also contribute to strengthening the administrative capacities of national tax authorities by providing technical assistance and expertise for the effective implementation of these standards.

The contribution of these organisations is not limited to the creation of regulatory frameworks; they also act as intermediaries in promoting dialogue and cooperation between states, thereby facilitating the adoption of common solutions to global fiscal challenges. Through these efforts, international economic organisations ensure the stability and equity of international tax systems, contributing to sustainable global economic development. These skills provide them with the tools to navigate and influence international tax policies, thereby contributing to the development of fair and efficient tax systems worldwide.

Keywords: international tax cooperation, international economic organisations, tax governance, tax information exchange, global tax rules, legislative harmonisation

JEL Classification: F38, H87, H26, K34, F53, F02

1. Introduction.

International taxation has acquired an essential importance in the context of globalization, being a central element of the global economic balance. Increased economic mobility, increased capital flows and the expansion of cross-border activities of multinational companies have amplified the complexity of tax regulations at global level. In a globalized economy, these regulations are becoming more complex and international collaboration is becoming crucial to maintaining a fair and efficient tax system.

2. The importance of international taxation in the context of globalization and the complexity of global tax regulation.

Globalization has facilitated the operations of multinational companies in multiple jurisdictions, bringing with it new challenges such as base Erosion and profit shifting, a phenomenon known as Base Erosion and Profit Shifting (BEPS). In this context, companies move profits to lower-tax jurisdictions, which diminishes the tax revenues of countries where those companies actually do business. Initiatives such as the Organisation for Economic Co-operation and Development (OECD) BEPS Project, supported by the G20 group, are fundamental in combating these harmful practices, ensuring that profits are taxed in the jurisdictions where they are generated (OCDE, 2014).

The prevention of double taxation is another essential pillar of international taxation. When the same income is subject to taxation in two or more jurisdictions, the effect on international trade and investment becomes disincentive. To avoid such situations, states have concluded bilateral tax treaties, which establish the rules for the allocation of tax entitlements and provide mechanisms for avoiding double taxation, including by granting tax credits for taxes paid in other jurisdictions. The challenges mentioned above underline the need for enhanced international collaboration, involving the adoption of common standards and the exchange of information between national tax authorities (OCDE, 2014).

Economic cooperation manifests itself as an essential element for solving the problems of humanity, including the management of food resources, natural resources, as well as addressing environmental challenges. This cooperation has extended beyond national borders, becoming a fundamental principle in key sectors of the global economy, such as the machine-building industry, the transport sector, as well as in the field of information technologies and trade. Thus, economic cooperation is an essential form of international collaboration, involving both states and economic agents, through contracts aimed at the joint use of financial, material and technological resources in order to obtain mutual benefits.

Similarly, international tax cooperation is of crucial importance in the era of economic globalization, as it helps to coordinate the efforts of states in addressing cross-border tax problems and to promote effective tax governance worldwide.

Therefore, international taxation plays a vital role in ensuring the fair collection of tax revenues in the globalized economy. At the same time, the complexity of global tax regulations requires careful coordination between states to prevent harmful practices and protect the integrity of national tax systems. The complexity of global tax regulations is further amplified by legislative differences between states, each with their own tax rules and systems. These differences make regulatory harmonisation difficult and create difficulties in determining which jurisdiction has the right to tax the income generated. A striking example is that of the digital economy, where companies can make significant profits without having a physical presence in the countries where they offer their products or services. This undermines traditional tax principles based on physical presence and raises key questions about the fair taxation of income generated by tech giants.

Academic theories and perspectives on the effectiveness of international cooperation in the field of Taxation have evolved in the context of globalization and increased capital mobility. Various researches have evaluated the effectiveness of international tax cooperation, focusing on mechanisms for automatic exchange of information, fair taxation and Prevention of tax evasion. These perspectives include economic, political and legal approaches, reflecting the need for interdisciplinary analysis to understand the challenges and opportunities associated with international taxation in the age of globalization.

A fundamental aspect of international taxation is the political economy theory of tax cooperation, which highlights that the success of international tax cooperation depends on the balance between national interests and common benefits obtained through coordination. According to this theory, states are more willing to work together when they perceive tangible advantages, such as reducing tax evasion and increasing public revenue. Yet they frequently face the prisoner dilemma, where each nation has an individual incentive to adopt competitive fiscal policies to attract foreign direct investment. This tax competition, however, can weaken international cooperation, putting pressure on the states involved to protect their own economic interests.

Another important theory in this area is that of tax harmonisation, which suggests that the uniformity of tax policies between countries can improve revenue collection and prevent a continuous race to reduce taxes to attract foreign investment. Initiatives such as the BEPS project and the global minimum tax are examples of tax harmonisation aimed at reducing tax competition and preventing base erosion. However, this approach raises questions about fiscal sovereignty, as full harmonisation could limit the ability of states to adapt their fiscal policies to their domestic economic needs.

The automatic exchange of information between tax authorities is considered one of the most effective measures of international cooperation in preventing tax evasion. The implementation of the Common Reporting Standard (CRS) has resulted in significantly increased tax transparency, limiting the ability of taxpayers to hide assets in jurisdictions with strict bank secrecy. However, the effectiveness of the automatic exchange of information depends on the degree of compliance of the participating countries and their ability to effectively use the data received to combat tax evasion.

The theory of tax governance networks underlines the crucial role that international cooperation networks such as the OECD, IMF and G20 play in facilitating tax cooperation between states. These organisations create norms and standards that are gradually adopted by member states, contributing to a convergence of tax policies. In addition, these international networks facilitate mutual evaluation between states, increasing accountability and compliance with established international rules (OCDE, 2014).

However, international tax cooperation is not without its critics. Some academics argue that this could exacerbate economic inequalities between developed and developing countries. Developed countries, which have superior administrative resources and capabilities, are better equipped to implement international tax initiatives such as BEPS. On the other hand, developing countries may find it difficult to comply with these rules, which may put them at an economic disadvantage. There are also concerns that adopting rigid international tax rules could limit states' fiscal sovereignty, potentially creating tensions between national interests and international obligations.

Thus, international tax cooperation plays a key role in tackling the challenges of globalization, but the balance between global coordination and the protection of national interests remains a complex challenge. Theories and perspectives on International fiscal cooperation underline the importance of an effective fiscal governance framework, but also the need to preserve the fiscal autonomy of states in order to respond to specific domestic economic issues.

3. The role of economic organisations in facilitating international tax cooperation to combat evasion and harmonise tax systems.

Economic organisations play a crucial role in facilitating international tax cooperation by providing resources, standards and platforms for dialogue. However, the success of these efforts depends on countries' ability to implement the proposed reforms and cooperation between member states.

Opportunities related to digitalization and sustainable tax policies offer positive prospects, but risks related to diverging interests between states and implementation challenges must be carefully managed in order to maximize the positive impact of international tax cooperation.

The involvement of international economic organisations is vital in this process, as they facilitate essential mechanisms such as preventing double taxation, combating tax evasion and aggressive tax planning, and promoting the exchange of information between tax authorities.

These organisations play a central role in harmonizing national tax laws with international standards, thereby strengthening tax cooperation between states. Mechanisms promoted by international organisations are essential tools for improving tax transparency and promoting fair global tax governance.

Thus, through their efforts, international economic organisations support the stability and equity of tax systems at the global level, promoting the sustainable development of the world economy. The ability of these organisations to influence international tax policies gives them an essential role in ensuring a fair and efficient global tax system that meets current and future economic needs.

One of the most important organisations involved in international tax cooperation is the Organisation for **Economic Cooperation and Development** (OECD). Through major initiatives such as *The Action Plan Against Tax Base Erosion and Profit Shifting* (BEPS), the OECD is making a significant contribution to creating rules that combat tax base erosion and profit shifting to low-tax jurisdictions. These measures include key mechanisms, such as country reporting, which play a central role in enhancing tax transparency and preventing tax evasion at international level (OCDE/G20, 2020).

The implementation of the BEPS plan in OECD member countries has had important effects on national and international economies, generating significant changes in the taxation of multinational companies and in combating the erosion of the global tax base. Within national economies, many member countries have reported an increase in tax revenues due to new rules that prevent profits from being transferred to low-tax jurisdictions. Measures such as country reporting have given tax administrations a better understanding of where corporations generate value and pay taxes, thus facilitating more efficient revenue collection. These measures also improved tax compliance, reducing aggressive tax avoidance practices, especially in developed economies where tax evasion was a major problem (OCDE/G20, 2020).

Internationally, BEPS has helped harmonise tax rules among states, preventing unfair tax competition, known as races to the bottom, in which countries cut their taxes to attract investment. This harmonisation has stabilized overall tax revenues and reduced inequities in cross-border tax policies. However, developing economies have raised concerns that BEPS favors developed countries, which have the necessary administrative infrastructure to implement these complex rules. States with limited fiscal capabilities experience difficulties in the full implementation of measures and in collecting revenue from multinationals.

The challenges of implementing BEPS are complex and costly, especially for states that need to update their tax laws and form specialized teams to ensure global compliance. Although the results of the implementation of BEPS were generally positive, the process generated administrative difficulties, especially in economies with limited capacities.

For multinational companies, the new rules imposed a greater degree of transparency and fiscal responsibility. They are now required to report in detail their overall activities, including where they

generate real economic value and where they are taxed. This has reduced the flexibility for companies to use complex tax structures to avoid taxation, which contributes to a fairer distribution of taxes.

The implementation of the BEPS plan has had an overall positive impact on national and international economies, contributing to the reduction of tax evasion and fairer taxation of multinationals. However, challenges related to the complexity of implementation and differences in administrative capacities of states remain an important obstacle, especially for emerging economies.

In addition to BEPS, the OECD has developed the *Common Reporting Standard* (CRS), a key mechanism for preventing tax evasion that facilitates the automatic exchange of financial information between states. This system allows tax authorities to obtain information about the bank accounts, assets and income of their citizens in other jurisdictions, thereby reducing the possibilities of tax evasion (OCDE, 2014).

The implementation of CRS has had a significant impact on reducing tax evasion globally. This mechanism increased tax transparency by allowing authorities to access detailed data on accounts and income held by taxpayers in other states, making it much more difficult to hide assets in low-tax jurisdictions. The information exchanged includes data on bank balances, interest, dividends and other financial income, giving tax authorities the wherewithal to curb evasion.

The CRS has had a direct effect on reducing the use of tax havens, with many of these jurisdictions, such as Switzerland and the Cayman Islands, now obliged to provide financial information to other member states. This global collaboration has diminished the attractiveness of these tax havens, forcing individuals and companies to declare their income and assets in their home countries.

By increasing tax transparency, CRS has also contributed to better taxpayer compliance. In many states, the introduction of CRS caused an increase in tax revenues, as taxpayers opted for voluntary disclosure of previously hidden assets. Faced with the risk of tax authorities obtaining information about their accounts through Automatic Exchange, many taxpayers have decided to regularize their tax statements.

However, the implementation of CRS was not without challenges. Some states lack the infrastructure to handle large amounts of financial information or use it effectively to combat evasion. Moreover, there are jurisdictions that have not yet joined the CRS, leaving gaps in the global information exchange system. Taxpayers also try to avoid reporting through more sophisticated methods, such as complex financial structures or the use of new types of assets, such as cryptocurrencies.

In conclusion, the CRS represented a major breakthrough in combating tax evasion globally. By increasing transparency and facilitating the automatic exchange of financial information, CRS has reduced the use of tax havens and improved the collection of tax revenues. However, the full success of this system depends on its effective implementation and expansion to more jurisdictions.

Another institution of great importance in the field of fiscal cooperation is the **International Monetary Fund** (IMF), which plays a crucial role in global fiscal coordination, providing technical assistance, advice and support for the development of fiscal capacities, especially in emerging economies. By promoting fiscal and financial stability, the IMF contributes to strengthening tax administrations and improving public revenue collection, thereby supporting long-term sustainable economic development (FMI, 2023).

One of the key aspects of IMF involvement is technical assistance and tax advice provided to member states. In emerging economies, where fiscal structures are often less developed, the IMF helps strengthen fiscal management capacities, providing support in creating and implementing fiscal

reforms that support economic growth and reduce public debt. For example, the IMF works with governments to develop effective debt management strategies, enabling these countries to improve their public debt management and diversify their sources of income. Through this collaboration, the aim is to modernize tax administrations and increase efficiency in revenue collection (FMI, 2021).

The IMF also plays an important role in global fiscal coordination through the regular publication of reports such as Fiscal Monitor. These reports analyze global tax trends and provide policy recommendations for optimizing tax administration. Fiscal Monitor serves as a platform for the exchange of best practices between states, helping emerging economies understand international challenges and implement fiscal policies that allow them to adapt to the global context. Thus, the report contributes to the establishment of common standards facilitating international coordination in the field of taxation (FMI, 2023).

The impact of IMF interventions on emerging economies is significant in several aspects. Strengthening tax administrations helps these countries collect public revenue more efficiently, allowing them to better finance their development programs and reduce dependence on foreign borrowing. In addition, the implementation of fiscal reforms supported by the IMF improves the credibility of these states on international markets, facilitating access to financing at lower costs (FMI, 2021).

Still, the impact of the IMF is not without criticism. Some observers argue that fiscal reforms imposed by the IMF, especially austerity measures, can have negative effects on emerging economies. Public spending cuts, for example, can hurt access to essential services such as health and education, disproportionately hitting the most vulnerable segments of the population. Thus, while these reforms can contribute to long-term fiscal stability, they can also generate social difficulties in the short term (FMI, 2021).

In conclusion, the IMF's role in global fiscal coordination is key to supporting financial stability and developing robust fiscal administrations in emerging economies. Through technical assistance and recommendations provided in reports such as Fiscal Monitor, the IMF helps countries improve their fiscal capacities and implement reforms that contribute to better public revenue collection and sustainable economic development. However, the impact of IMF-backed reforms varies, and austerity measures imposed in some cases can have negative consequences for vulnerable populations, highlighting the need for a balance between fiscal stability and social protection (OCDE, 2014).

Another key player is **The Group of 20** (G20), made up of the world's most powerful economies. The G20 supports global tax initiatives, including the BEPS project, and serves as the central forum for International Tax Policy Coordination. The G20 plays a critical role in facilitating discussions on global tax reforms with a focus on taxing the digital economy and preventing abusive tax practices, providing a key platform for international consensus on Taxation. One of the most important contributions of the G20 is support for the adoption of the global minimum tax, an initiative developed in collaboration with the OECD. This measure aims to ensure that large multinationals cannot improperly transfer profits to low-tax jurisdictions, thus eliminating unfair tax advantages and contributing to increased transparency in international taxation (OCDE, 2014).

At regional level, **The European Union** (EU) is actively contributing to the harmonisation of member states' tax systems. Through directives such as DAC6, the EU requires the reporting of cross-border transactions, with the aim of preventing tax evasion and promoting tax transparency. These measures support tax harmonisation within the Union, providing a uniform and transparent framework to combat harmful tax practices between member states. The EU plays a significant role in the

development of tax regulations, in particular by promoting green taxation. Through initiatives such as *The Fit for 55 Package*, the EU proposes taxing carbon-generating activities, a move that supports both the Union's climate agenda and the collection of revenue needed to finance the transition to a sustainable economy. Thus, taxation of polluting activities becomes an essential mechanism in achieving carbon reduction targets and encourages environmentally friendly economic development.

In addition to the OECD, the IMF, the G20 and the EU, a significant role in global fiscal cooperation is also played by **The United Nations** (UN). Through its Committee for experts in international cooperation on tax issues, the UN provides support to developing countries, helping them manage their tax systems more effectively and participate in global tax discussions. The UN committee also facilitates the creation of international tax rules, promoting tax fairness between developed and developing states (OCDE, 2014).

Another relevant Organisation is **The World Bank**, which, in addition to its main mission of poverty reduction, provides technical assistance to developing countries. The World Bank helps these states modernize their tax collection systems and improve administrative efficiency, thereby supporting tax reforms that promote transparency and efficiency in national tax systems.

At the same time, **The Global Forum for Transparency and Automatic Exchange of Information**, under the aegis of the OECD, has developed a mechanism for mutual evaluation between states, significantly contributing to increasing trust and efficiency in the exchange of tax information. This mechanism helps to reduce tax evasion by facilitating the automatic exchange of tax data between countries, ensuring better compliance and international collaboration, which helps to reduce tax evasion and increase international collaboration in this area (OCDE, 2014).

Last but not least, **The Financial Action Task Force** (FATF) is another crucial player in the tax field, focusing on preventing money laundering and combating tax evasion. By imposing strict regulations in the area of tax and financial compliance, FATF contributes to securing the global financial system, thereby strengthening fiscal integrity at the international level.

Indirectly, the **World Trade Organisation** (WTO) also contributes to international tax cooperation through its trade regulations, which influence the tax policies of member states. The WTO supports the harmonisation of tariffs and taxation of trade globally, thus facilitating more efficient fiscal cooperation between states.

Thus, these organisations, through their coordinated work, contribute to the creation of a fairer and transparent international tax framework. They not only help prevent tax evasion, but also promote the harmonisation of tax systems, ensuring a more stable and efficient tax environment globally.

In conclusion, international economic organisations play a key role in shaping global tax regulations by setting common standards, promoting transparency and supporting tax reforms globally. These initiatives contribute not only to combating tax evasion, but also to harmonizing global taxation, creating a fair taxation framework that responds to contemporary economic challenges and supports sustainable development.

It should be noted, however, that the full and effective implementation of these measures remains limited by a number of political, legal and technical challenges, which continue to affect global tax coordination and which limit better international tax coordination.

Political challenges are a major obstacle because many states are hesitant to give up fiscal sovereignty, fearing that global coordination could undermine their economic autonomy. Fiscal policies are often tailored to the domestic needs of each country, which may conflict with

international initiatives. Domestic political pressures, including opposition from some business groups or corporate lobbying, may also slow the adoption of tax reforms nationwide.

In addition to political challenges, legal obstacles complicate the overall fiscal coordination process. Each country has its own fiscal legislative framework, and the alignment of these rules between states requires complex and continuous reforms. Some jurisdictions, for example, have legal traditions that favor bank secrecy, making it difficult to fully implement the automatic exchange of information. In addition, bilateral tax treaties, which have been designed in a different fiscal context, need to be revised to meet new challenges, such as taxation of the digital economy and profit shifting.

Technical challenges are also an important factor limiting tax cooperation. States with emerging or developing economies do not always have the necessary technical and administrative infrastructure to manage the complex exchange of financial information. In these states, tax administrations face difficulties in collecting and analyzing data provided by other countries through cooperation mechanisms such as CRS. In addition, data security issues are critical, as the exchange of financial information requires robust security mechanisms to prevent unauthorized access and misuse of data. To overcome these challenges, it is essential that states invest in building administrative capacities and developing the technological infrastructure necessary to manage the exchange of financial information effectively. At the same time, legislative harmonisation at global level is crucial, by revising and updating bilateral tax treaties to reflect new fiscal realities, such as taxation of the digital economy. Political involvement is also needed to balance national fiscal sovereignty with the benefits of international fiscal cooperation. Organisations such as the OECD and the G20 can play a key role in facilitating dialogue between states and promoting solutions that ensure both fiscal flexibility and compliance with global standards (OCDE, 2014).

Finally, international tax cooperation has had a positive impact in reducing tax evasion and increasing transparency, but more effective coordination is still needed to overcome political, legal and technical challenges. A coordinated global effort is essential to build a fair and efficient tax system capable of meeting contemporary economic challenges.

4. Analysis of the process and activity of international cooperation in the tax field of the Republic of Moldova.

The Republic of Moldova (RM) has undertaken significant efforts in recent years to develop a framework for international cooperation in the tax field, with the aim of strengthening its economy and combating the phenomena of tax evasion and financial fraud. These initiatives are an integral part of a broader effort to align Tax Policy and tax administration practices with international standards. A first aspect of this cooperation is the accession to international conventions and the conclusion of bilateral agreements. Moldova has joined the Multilateral Convention on administrative assistance in tax matters, which facilitates the exchange of information between signatory countries, contributing to increased tax transparency and combating tax evasion. This agreement provides an effective platform for collaboration between the tax administrations of different states. In addition, Moldova has concluded bilateral double taxation avoidance agreements (DTTs) with several countries, reducing the risk of double taxation of income and promoting foreign trade and investment by eliminating tax overlaps.

Another important area is the automatic exchange of information and increased tax transparency. Moldova actively participates in global initiatives for the automatic exchange of tax information,

including the Common Reporting Standard (CRS) promoted by the OECD. Through this initiative, information on financial accounts is exchanged between participating countries, facilitating the detection of hidden assets and untaxed income of citizens holding accounts abroad (OCDE, 2014). Collaboration with international bodies is another essential pillar of Moldova's fiscal strategy. In this regard, the country benefits from the support of the International Monetary Fund (IMF) and the World Bank for the implementation of tax reforms aimed at improving the administration of public revenues and reducing tax evasion. These reforms are designed to streamline the public budget and increase Moldova's financial resilience. In addition, Moldova is a member of the Global Forum on transparency and Exchange of information for tax purposes, which monitors the implementation of international standards on tax transparency. (FMI, 2021)

Moldova is also actively engaged in combating tax evasion and money laundering. Through the Financial Action Task Force (FATF) and other international initiatives, the country is improving its legislative framework to prevent illicit financial flows and ensure strict enforcement of tax laws.

Another important aspect is the participation of Moldova in technical assistance and modernization projects. Moldova receives assistance from the European Union and other international organisations to modernize the tax system, including through the digitization of tax administration. These projects aim to develop administrative capacities and fight corruption in the tax sector.

In addition, Moldova participates in regional cooperation initiatives, especially in partnership with Eastern European countries and the Commonwealth of Independent States (CIS). These partnerships facilitate the exchange of best practices and the creation of a regional tax collaboration network with the aim of improving tax revenue management and tax policy.

In the Republic of Moldova, several institutions play a key role in facilitating international tax cooperation, contributing to the implementation of global tax policies and combating tax evasion. One of the most important institutions is the **State Tax Service** (SFS), which has the main responsibility in the administration of National Tax Policy. SFS actively participates in the automatic exchange of tax information within the framework of international conventions and double taxation agreements. It also works with international organisations such as the OECD to implement the Common Reporting Standard (CRS) and other international tax standards.

Another major player in this area is the **Ministry of Finance**, which coordinates negotiations and the signing of international tax agreements. The Ministry of Finance is responsible for national fiscal policy and represents Moldova in relations with international financial bodies such as the International Monetary Fund (IMF) and the World Bank. Through this involvement, the ministry plays a key role in aligning Moldovan tax policies with international standards.

The National Bank of Moldova (NBM) is involved in international financial cooperation and oversees the banking sector to prevent money laundering and terrorist financing, issues that are closely linked to tax cooperation. The NBM collaborates with international organisations such as the Financial Action Task Force (FATF), helping to improve tax transparency standards and compliance with international regulations.

In the fight against corruption and tax fraud, **The National Anticorruption Center** (NAC) has an important role, contributing to the application of tax legislation and the Prevention of money laundering. CNA works with international partners to ensure compliance with global tax standards and combat cross-border tax evasion.

Also, **The National Financial Market Commission** (CNPF) is involved in the regulation of the non-bank financial market, ensuring that it complies with international standards of transparency and tax compliance. CNPF works with international authorities to increase transparency and accountability of financial markets in Moldova.

These institutions, through their collaboration with international organisations and partners, contribute to the integration of the Republic of Moldova into the global tax transparency network and to the strengthening of the national tax system, while ensuring financial stability and reducing tax evasion.

Moldova has made significant progress in international tax cooperation, but this process is characterized by both advantages and challenges. The collaboration with international organisations such as the IMF, the World Bank and the European Union is another advantage, through which Moldova has implemented structural reforms, which have contributed to the improvement of tax administration and to the increase of the efficiency of revenue collection. In this context, fiscal modernization programs, including the digitization of processes, have enabled better tax management and increased transparency in the sector. (FMI, 2021)

However, RM also faces a number of weaknesses. Although they benefit from external technical and financial support, the institutional capacity of tax authorities remains limited, which affects the full implementation of international standards of tax cooperation. In addition, corruption is a major challenge, eroding confidence in the Moldovan tax system and affecting international cooperation. The success of tax reforms is also closely linked to external financial support, and a possible reduction could slow the progress of reforms needed to modernize the tax system.

On the other hand, Moldova has numerous development opportunities in the field of international tax cooperation. Strengthening relations with the European Union can bring considerable benefits, not only through the adoption of higher tax standards, but also through access to financing programmes and technical assistance. In addition, improving legislation to combat tax evasion and money laundering is another major opportunity, allowing Moldova to reduce revenue losses and improve its international reputation. The complete digitisation of the tax system would help to increase administrative efficiency, reduce corruption and facilitate the exchange of information with other countries. Expanding the network of bilateral double taxation agreements could attract new foreign direct investment and boost international trade.

However, there are also a number of threats that can affect Moldova's progress in international tax cooperation. Political and economic instability is a significant risk, as political fluctuations can influence the continuity of fiscal reforms and delay the country's international commitments. Cross-border tax evasion also remains a major challenge despite international efforts to combat it, especially in the absence of effective controls. Legislative gaps are another risk, as a delay in harmonizing national legislation with international standards could lead to the loss of opportunities for international collaboration and support. In addition, regional tax competition is a real threat, as other countries in the region may offer more attractive tax regimes, which could diminish Moldova's competitiveness on the international market.

5. Conclusions.

In conclusion, Moldova's international cooperation in the tax field contributes significantly to modernizing the country's tax system, increasing the efficiency of revenue collection and preventing tax losses caused by evasion and fraud. At the same time, these efforts support the attraction of foreign

investments and support long-term economic growth, integrating Moldova into international networks of tax transparency and efficient administration of public revenues.

Moldova has made important progress in international tax cooperation, but still faces significant internal challenges, such as corruption and limited administrative capacity. However, opportunities to expand international relations and modernise the tax system offer considerable potential for improving the situation in the long term, supporting economic development and increasing international competitiveness.

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EVALUATION OF COMPETITION IN THE BANKING SECTOR OF THE REPUBLIC OF MOLDOVA IN THE CONDITIONS OF DIGITALIZATION

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Abstract: Technological advancements have significantly transformed the banking landscape, influencing competition and consumer behavior. Researchers explore the impact of innovations such as digital banking, mobile payments, and fintech solutions on the competitive landscape. They assess how banks leverage technology to enhance operational efficiency, customer experience, and product offerings, and examine the implications for market competition. Additionally, the entry of non-traditional players, such as fintech firms and tech giants, into the banking sector is analyzed in terms of its impact on traditional banks' competitiveness.

Competition in the banking sector influences access to financial services, particularly for underserved populations or regions. Researchers examine how competition drives innovation and expands the availability of financial products and services. They assess the impact of competition on pricing, fees, and the overall affordability of financial services, as well as its implications for financial inclusion and economic development.

The purpose of the article is to analyze and understand the competitive dynamics within Moldova's banking industry. To achieve this goal, we underline the following objectives: to analyze the level of concentration and market structure within Moldova's banking sector to understand the competitive landscape; to investigate the factors influencing competition, such as regulatory frameworks, technological innovation, and market conduct, to identify key drivers of competitiveness; to investigate the impact of digitization on competition within the banking sector, analyzing how technological advancements influence competitive dynamics.

Competition in the banking sector directly affects consumers by influencing the availability, affordability, and quality of banking products and services. Researching competition can help evaluate the impact of competitive forces on consumer welfare, including access to financial services, pricing, and innovation, thereby informing policies aimed at protecting consumer interests. The article was developed within the framework of Subprogram 030101 „Strengthening the resilience, competitiveness, and sustainability of the economy of the Republic of Moldova in the context of the accession process to the European Union”, institutional funding.

Keywords: digitalization, banking sector, competition, banking market concentration, competitive landscape, innovations.

JEL Classification: G21, K42, O33.

Introduction

The actuality of the subject. Technological advancements have significantly transformed the banking landscape, influencing competition and consumer behavior. Researchers explore the impact of innovations such as digital banking, mobile payments, and fintech solutions on the competitive landscape. They assess how banks leverage technology to enhance operational efficiency, customer experience, and product offerings, and examine the implications for market competition. Additionally, the entry of non-traditional players, such as fintech firms and tech giants, into the banking sector is analyzed in terms of its impact on traditional banks' competitiveness.

Competition in the banking sector influences access to financial services, particularly for underserved populations or regions. Researchers examine how competition drives innovation and expands the availability of financial products and services. They assess the impact of competition on pricing, fees, and the overall affordability of financial services, as well as its implications for financial inclusion and economic development.

The purpose of the article is to analyze and understand the competitive dynamics within Moldova's banking industry.

To achieve this goal, the following **objectives** were set:

- to investigate the factors influencing competition, such as regulatory frameworks, technological innovation, and market conduct, to identify key drivers of competitiveness;
- to evaluate the degree of competition within the banking sector in the Republic of Moldova, focusing on regulatory frameworks, competition indicators, and the role of systemic banks.
- to investigate the impact of digitization on competition within the banking sector, analyzing how technological advancements influence competitive dynamics.
- to investigate the impact of banking sector consolidation on competition in Moldova and explore how digitization and innovation contribute to competitive advantages for banks.

The scientific-methodological basis for the study is based on various research methods and techniques, which are used in a complementary way to obtain a comprehensive understanding of the subject, the methods that were used in the research of the study are: statistical analysis, documentary research, policy analysis, benchmarking.

Determining the elements of competition in the banking sector

Competition in the banking sector is a multifaceted phenomenon influenced by various factors that shape the landscape of financial services. Understanding these elements is crucial for stakeholders, including banks, regulators, policymakers, and consumers, as it provides insights into market dynamics, competitive strategies, and the overall health of the banking industry.

Table 1. Elements of competition of banking sector

Market Structure	The market structure of the banking sector plays a significant role in determining the level of competition. In many countries, the banking industry exhibits characteristics of an oligopoly, with a few large banks dominating the market. However, the emergence of fintech startups and online banks has introduced disruptive forces, challenging traditional incumbents and fostering a more competitive environment
	Banks compete through the offering of diverse financial products and services, including savings accounts, loans, credit cards, mortgages,

Product Differentiation	investment products, and wealth management services. Product differentiation strategies aim to attract customers based on factors such as interest rates, fees, convenience, and customer service quality.
Technology and Innovation	Technological advancements have transformed the banking sector, enabling the development of innovative products, delivery channels, and customer experiences. Banks leverage technologies such as artificial intelligence, blockchain, mobile banking apps, and biometric authentication to enhance efficiency, security, and customer engagement. Innovation-driven competition fosters continuous improvement and differentiation among market players.
Price Competition	Price competition revolves around interest rates, fees, and charges associated with banking products and services. Banks may adjust pricing strategies to attract customers, gain market share, or maximize profitability. Price wars can occur in competitive markets, leading to margin compression and the erosion of profitability for some banks.
Customer Service and Experience	Exceptional customer service and personalized experiences are crucial competitive differentiators for banks. Positive interactions with customers, efficient problem resolution, and tailored financial advice contribute to customer satisfaction and loyalty. Banks invest in training, technology, and service initiatives to deliver superior customer experiences and gain a competitive edge.
Regulatory Environment	Regulatory policies and frameworks significantly influence competition in the banking sector. Regulatory requirements related to capital adequacy, risk management, consumer protection, and anti-money laundering impose compliance costs and shape the competitive landscape. Moreover, regulatory changes, such as the entry of new players or the relaxation of licensing requirements, can impact market dynamics and competition.
Brand Reputation and Trust	Banks build and maintain brand reputation and trust through ethical business practices, transparency, and reliability. Positive brand perception enhances customer loyalty and attracts new business, while reputational damage due to scandals, data breaches, or misconduct can erode trust and competitiveness.
Geographic Reach and Market Segmentation	The geographic reach of banks, including branch networks, online presence, and international operations, influences their competitive positioning. Banks may target specific market segments, such as retail, corporate, or small and medium enterprises (SMEs), based on demographic, geographic, or psychographic factors, tailoring products and services to meet the unique needs of each segment.

Source: elaborated by the authors on the basis of information presented in the: (ILCHENKO, K.O., Конкуренція в банківській системі: визначення та види, pag. 387. ISBN 52369556.

Overall, competition in the banking industry is multifaceted and influenced by a combination of market forces, regulatory frameworks, technological advancements, and consumer dynamics. Banks must continuously adapt and innovate to stay competitive in this dynamic environment.

Table 2. Measurable indicators of competition analysis in the banking sector

Indicators	Description
The volume of credits	Evaluating the total volume of loans granted can provide an understanding of the bank's participation in the credit market and its potential for growth.
The rate of non-performing loans	It measures the proportion of loans that are not repaid regularly or are considered non-performing in a bank's total loan portfolio. A lower NPL ratio may indicate higher asset quality and, by implication, healthier competition.
The volume of deposits	Comparing a bank's volume of deposits to the total volume of deposits in the market can provide an understanding of its market share and its competitive position relative to other players in the banking sector.
Number of ATMs, POS terminals and subsidiaries	Comparing the geographic distribution of ATM and branch networks can indicate a bank's accessibility and potential to attract customers.
Number of cards issued	This indicator can provide insight into the market size and penetration of various bank card products such as credit and debit cards.
Number of transactions for actual users of the web-banking application	This is an indicator that measures the count of individuals or accounts regularly accessing and utilizing a bank's online banking application to perform various banking operations.
Number of cash operations within banks in Republic of Moldova	It refers to the total count of financial transactions involving cash that are conducted within the banking sector of the Republic of Moldova within a specific period.
Number of customers	The more customers a bank has, the more competitive it can be considered. However, it is important to also assess customer satisfaction to get a complete picture of the competition.
The degree of innovation	Assessing a bank's level of innovation by measuring the number of new products and services introduced to the market or investments in technology and research and development can provide insight into its ability to remain competitive in a constantly changing environment.
Collaboration partners	These are entities or organizations that work together with banks to provide various products, services, or solutions to customers. These partnerships can take different forms and can be mutually beneficial for both parties involved.
The number of sanctions applied	These refers to the count of penalties, fines, or regulatory actions imposed on a bank by regulatory authorities or government agencies due to violations of laws, regulations, or industry standards. These sanctions can vary in severity and may include financial penalties, license revocation or suspension, consent orders, cease and desist orders, enforcement actions, or reputational damage.

Source: elaborated by the authors on the basis of information presented in the: Competitive Environment in the Banking Sector in the Republic of Moldova: Characteristics and Perspectives. [online]. Available: <https://ibn.idsi.md/sites/default/files/imag_file/S-27_S-36.pdf>.

In conclusion, competition in the banking sector is a multifaceted phenomenon influenced by various factors such as market structure, product differentiation, technological innovation, pricing strategies, customer service, regulatory environment, brand reputation, geographic reach, and market segmentation. Banks compete vigorously to attract and retain customers by offering competitive interest rates, minimizing fees, providing convenient digital banking solutions, delivering excellent customer service, and enhancing brand reputation and trust.

The impact of digitization on competition in the banking sector

The digital revolution is dramatically changing the business environment and the financial services industry is no exception. Although a basic assumption of technology improvement is the ability to make things simpler, from a strategic point of view, many financial institutions are facing digitalization as a conundrum. There is a wide array of alternatives that can be chosen as new services or information processing channels. This transformation has been around in some form for decades. Information processing systems and digital-related activities have been evolving intensively since the 1980s but they are now invading almost each and every single aspect of business and, in the next ten years we will be probably witness more innovations in financial services than in the previous fifty (Santiago).

Network economies and customer-company engagement become crucial. This is an essential component of the financial services sector since lending connections have long been a differentiator in the market. However, a lot of the new connections are (and will be) made through channels that are built on multi-sided networks and platforms. A shift in the total cost of production is shared by producers and consumers (price adjustment) in a traditional (one-sided) market, and/or it is accompanied by corresponding changes in demand (volume adjustment). Network economics causes an enormous decrease in marginal costs in multi-sided markets, such as the majority of digital channels for banks, and prices and quantities on one side of the platform affect prices and quantities on other sides of the platform.

Nowadays, it is easy to see that banks are managing these new information technologies while also dealing with risks and changes that are typical of many other businesses. The two most significant risks that banks deal with are possibly cyber-risks and the change of human capital. In recent years, banks are actively investing in cybersecurity.

Banks need to understand what Digital Reinvention means for them based on their specific strategy and readiness to compete in the digital arena. Their efforts will need to be strategic to reach desired business goals with available capital and within an acceptable time frame.

In the banking industry, technologies are tearing down barriers to entry and opening doors for new financial service providers. Competition from startups, internet giants and industries outside of banking, along with increased regulations, are forcing banks to accelerate their Digital Reinvention. Banks need to understand what Digital Reinvention means for them based on their specific strategy and readiness to compete in the digital arena. Their efforts will need to be strategic to reach desired business goals with available capital and within an acceptable time frame. All this brings us to digital banking frameworks (which we refer to here as “DBFs”).

Numerous banks introduce digital alterations as separate endeavors, lacking a comprehensive roadmap that incorporates all the necessary changes essential for competing effectively in the digital sphere. A key element is a reference model that defines the digital capabilities that banks must deploy to compete in the digital space.

Table 3. Areas of Digital capabilities

<i>Value chain digitization</i>	Digitize processes, and adapt products and services to take advantage of the digital context.
<i>Advanced customer experience</i>	Provide customers with advanced interaction mechanisms, such as personalization, chatbots and consistent omnichannel coverage
<i>Responsiveness</i>	Offer real-time interactions supported by streamlined operations and real-time automated decisions based on actionable insight
<i>Trust and transparency</i>	Banks should have an ethical mission and social commitments. Transparency has to be part of banks’ principles, vision, mission, culture and compliance
<i>Ecosystems enabled</i>	In the platform-oriented economy, banks can benefit from participating in open financial ecosystems
<i>Social media enabled</i>	Use social platforms to create specific communities that deliver value to digital customers
<i>Solid foundation</i>	Digital banks require an agile, flexible and scalable information system that can respond quickly to changing business needs
<i>Innovative digital culture</i>	Banks’ organizations and culture depends on a context of continuous and open innovation.

Source: elaborated by the authors on the basis of information presented in the: DIAMOND, S., LIPP, A., DRURY, N., MARSHALL, A., Realizing tomorrow today: Digital Reinvention in banking. IBM Institute for Business Value. [online]. Available <<https://www-935.ibm.com/services/us/gbs/thoughtleadership/drbanking/>>.

In an increasingly digitalized world, the banking sector stands at the forefront of technological innovation, providing convenient and efficient financial services to individuals and businesses. However, with the proliferation of online transactions and interconnected systems, banks face unprecedented cybersecurity risks that threaten the security and integrity of their operations. The importance of cybersecurity in banking cannot be overstated, as financial institutions are entrusted with safeguarding sensitive customer data, protecting against fraudulent activities, and ensuring the stability of the global financial system.

Cyber threats targeting banks come in various forms, ranging from sophisticated cybercrime syndicates to opportunistic hackers and insider threats. Data breaches, phishing attacks, malware and ransomware incidents, insider risks, and vulnerabilities stemming from third-party dependencies are among the most prevalent challenges faced by financial institutions. Moreover, the rapid expansion of mobile banking services introduces new security considerations, while supply chain attacks pose additional complexities for banks reliant on interconnected ecosystems of service providers and partners.

Addressing cybersecurity risks in banking requires a multifaceted approach that combines technological solutions, robust policies and procedures, ongoing employee training and awareness programs, and collaboration with cybersecurity experts and regulatory authorities. Moreover, compliance with industry regulations and standards, such as the Payment Card Industry Data Security Standard (PCI DSS) and the General Data Protection Regulation (GDPR), is paramount to maintaining trust and credibility in the eyes of customers and stakeholders.

By understanding the challenges posed by cyber threats and implementing effective mitigation measures, banks can fortify their defenses, mitigate potential losses, and uphold the confidentiality, integrity, and availability of financial services for customers worldwide.

As more and more digital banks enter the market, it is important to understand how modern digital banking solutions enable them to offer better and cheaper services than traditional competitors.

Over the long term, tech advances such as artificial intelligence (AI) and blockchain will clearly play a role in the evolution of banking. However, modernizing the infrastructure backbone—that is, the core banking systems which handle the backbone of a bank’s activities, such as deposits and credits—is arguably the most important step banks will need to take.

In order to remain competitive, banks will need to update technology on the back end in order to deliver a seamless experience on the front end since customers will have little tolerance for glitchy apps no matter how sleek the user interface.

Analysis of competition indicators in the banking sector

The banking sector in the Republic of Moldova is characterized by a mix of domestic and foreign-owned banks operating in a relatively small market. Despite facing significant challenges such as money laundering, corruption, and weak governance, the sector has undergone reforms aimed at enhancing stability, transparency, and efficiency. The 2014 banking crisis prompted regulatory interventions and stricter supervision by the National Bank of Moldova (NBM), leading to improvements in the sector's resilience. Foreign ownership plays a significant role, bringing expertise, capital, and access to international markets, although there have been instances of withdrawals due to economic and regulatory concerns. Digital transformation is underway, with banks investing in technology to improve customer experience and offer innovative products and services. Efforts to promote financial inclusion and support economic growth through increased access to finance, particularly for SMEs and individuals, are ongoing priorities. Collaboration with international organizations and partners is crucial for addressing remaining challenges and fostering sustainable development in Moldova's banking sector.

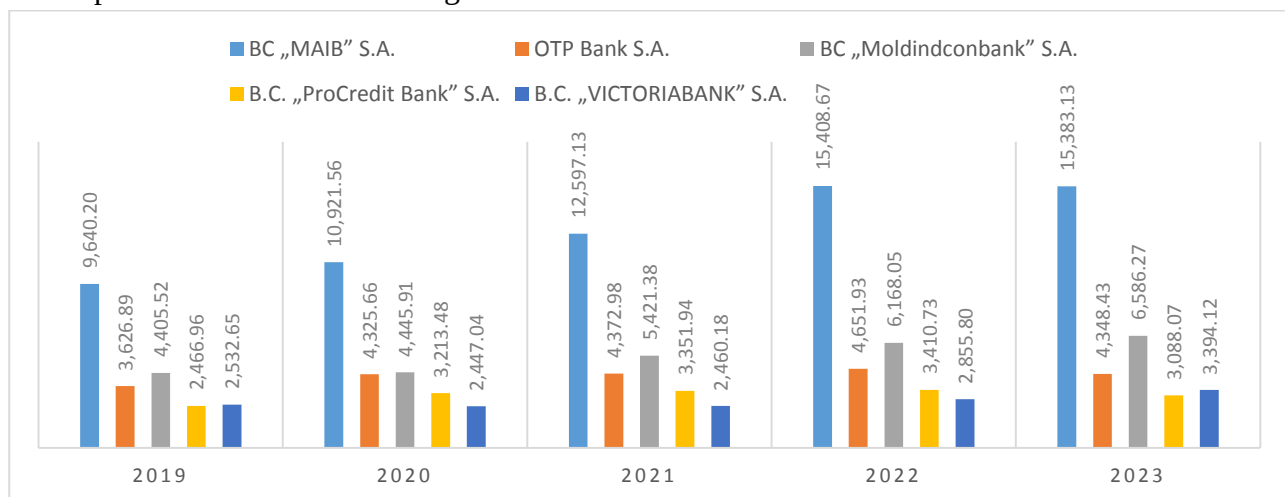


Figure 1. The share of loans granted to legal entities by banks in the RM.

Source: elaborated by the authors on the basis of information presented in the: National Bank of Moldova. [online].

Available: < <https://www.bnm.md/bdi/pages/reports/drsb/DRSB8.xhtml> >.

According to Figure 1, the biggest share was registered by the CB “Moldova-Agroindbank” JSC with 9 640.20 mil MDL in 2019, and with 15 383.13 mil MDL, that have increased by 5 742.93 mil MDL during 5 years. On the second place is CB “Moldindconbank” JSC with 4 405.52 mil MDL in 2019, and 6 586.27 mil MDL in 2023, that has increased by 2 180.75 mil MDL. On the third place is OTP Bank JSC with 3 626.86 mil MDL in 2019, and with 4 348.43 mil MDL, that has increased by 721.57mil MDL during 5 years. Also, one of the top banks in Republic of Moldova is CB “ProCredit Bank” with 2 466.96 mil MDL in 2019 and with 3 088.07 mil MDL in 2023, that has increased its portfolio with 621.11 mil MDL during 5 years.

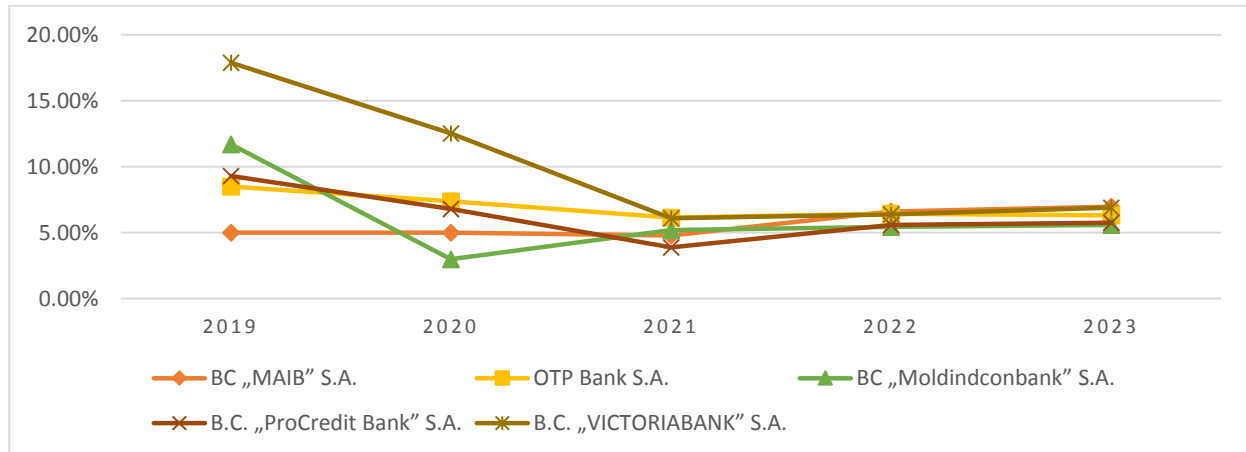


Figure 2. The share of non-performing loans in the banks of the RM.

Source: elaborated by the authors on the basis of information presented in the: National Bank of Moldova. [online]. Available: <<https://www.bnm.md/bdi/pages/reports/drsb/DRSB8.xhtml>>.

According to Figure 2, **maib** maintained a relatively stable share of non-performing loans throughout the period, ranging from 4.80% in 2021 to 6.98% in 2023. While there was a slight increase in 2022 and 2023. OTP Bank showed a declining trend in the share of non-performing loans over the five-year period, with the ratio decreasing from 8.49% in 2019 to 6.32% in 2023. This indicates improving loan quality and risk management practices within OTP Bank. Moldindconbank experienced fluctuations in its NPL ratio over the years, with a significant decrease from 11.70% in 2019 to 3.00% in 2020, followed by slight increases in subsequent years. Despite the fluctuations, Moldindconbank's NPL ratio remained relatively low compared to other banks. ProCredit Bank demonstrated a decreasing trend in its share of non-performing loans throughout the period, dropping from 9.31% in 2019 to 5.75% in 2023. This indicates effective risk management and credit assessment practices within ProCredit Bank. Victoriabank witnessed a significant reduction in its NPL ratio from 17.90% in 2019 to 6.89% in 2023. This substantial decrease suggests successful efforts in loan portfolio restructuring and improving asset quality within Victoriabank.

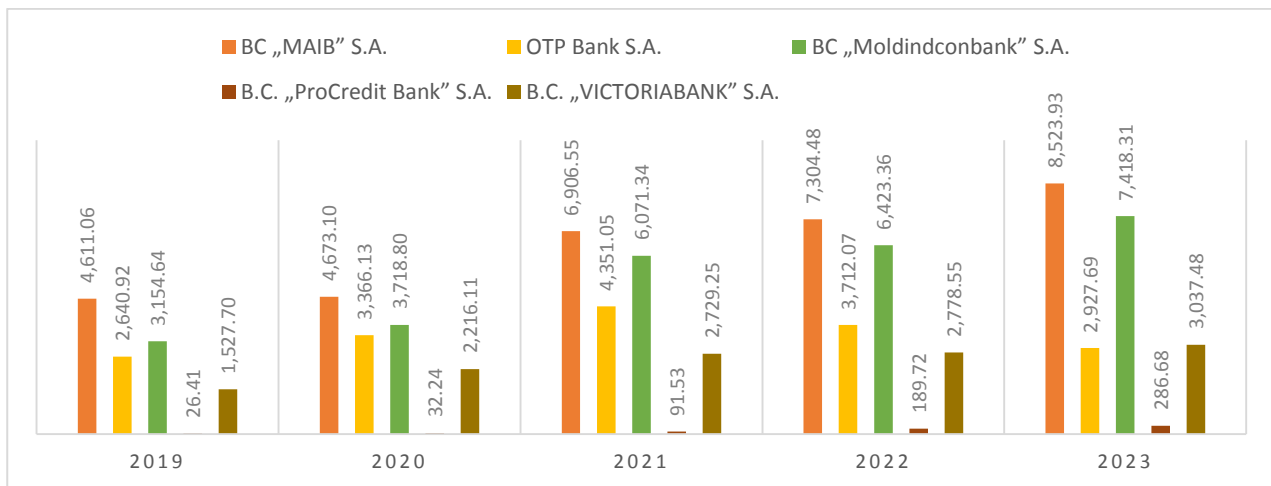


Figure 3. The share of loans granted to individuals by banks in the RM.

Source: elaborated by the authors on the basis of information presented in the: National Bank of Moldova. [online]. Available: <<https://www.bnm.md/bdi/pages/reports/drsb/DRSB8.xhtml>>.

According to Figure 3, there is an overall increasing trend in the total amount of loans granted to individuals by banks from 2019 to 2023, indicating a growing demand for personal financing products in the country. BC “**maib**” JSC consistently holds the largest share of loans granted to individuals among the listed banks throughout the years, showing its significant presence in the personal lending market. Other banks such as B.C. “Moldindconbank” S.A., OTP Bank S.A., and B.C. “Victoriabank” S.A. also demonstrate substantial shares of loans granted to individuals, reflecting their active involvement in providing personal loans to customers.

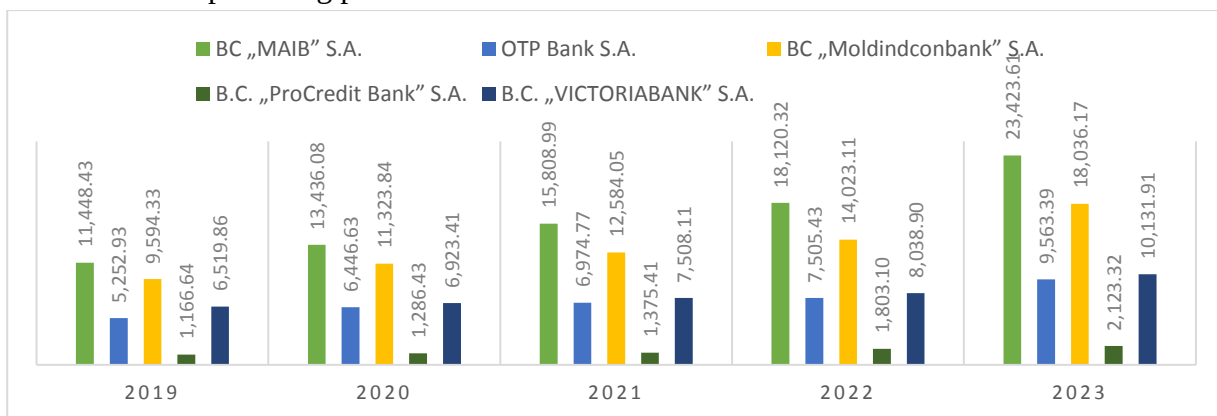


Figure 4. The share of deposits granted by banks in Republic of Moldova.

Source: elaborated by the authors on the basis of information presented in the: National Bank of Moldova. [online]. Available: <<https://www.bnm.md/bdi/pages/reports/drsb/DRSB10.xhtml>>.

According to Figure 4, we see that there is an overall increasing trend in the total amount of deposits granted by banks from 2019 to 2023, indicating a growing volume of funds being deposited in the banking sector. BC “**maib**” JSC consistently holds the largest share of deposits granted among the listed banks throughout the years, indicating its strong presence and popularity among depositors. Other banks such as B.C. “Moldindconbank” S.A., OTP Bank S.A., and B.C. “Victoriabank” S.A. also demonstrate substantial shares of deposits granted, reflecting their attractiveness to depositors. B.C. “ProCredit Bank” S.A., show noticeable increases in their share of deposits granted over the

years, indicating potential growth strategies or increased trust among depositors. While some banks exhibit fluctuations in their share of deposits granted from year to year, the overall trend suggests a steady increase in deposit activity across the banking sector in Moldova.

Through ATMs, customers benefit from flexibility and autonomy in managing their finances, avoiding the need to visit a bank branch and saving time. Additionally, ATMs are often equipped with additional features such as bill payments and international money transfers to cater to customers' diverse needs.

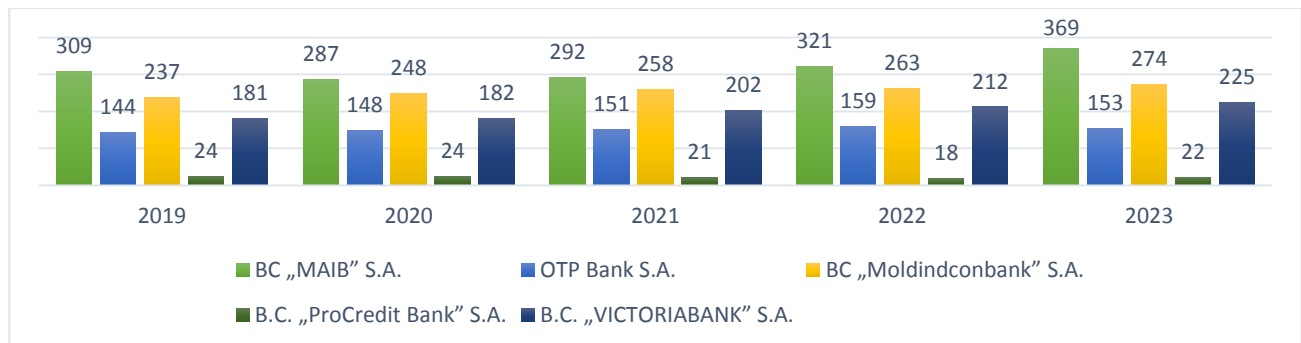


Figure 5. The number of ATMs of banks in the Republic of Moldova.

Source: elaborated by the authors on the basis of information presented in the: National Bank of Moldova. [online]. Available: <<https://www.bnm.md/bdi/pages/reports/dsp/DSP2.xhtml>>.

The total number of ATMs across all banks in Moldova has shown a general increasing trend over the years, indicating growth and expansion in banking services accessibility. Different banks have experienced varying trajectories in their ATM counts over the years. Some banks have consistently increased their number of ATMs, while others have seen fluctuations or slight decreases. According to Figure 5, **maib** is on the first place. By 2023, **maib** significantly expanded its ATM network to 369 units, indicating steady growth over the period. The number of ATMs of OTP Bank JSC increased gradually over the years, reaching 153 units by 2023. Although the growth was modest compared to other banks, OTP Bank JSC maintained a consistent presence in the market. The CB “Moldindconbank” JSC experienced steady growth in its ATM network each year, reaching 274 ATMs by 2023. CB “Victoriabank” JSC began with 181 ATMs in 2019. The bank consistently expanded its ATM network, reaching 225 ATMs by 2023. The growth was steady, with a notable increase from 2021 to 2023, indicating proactive efforts to improve accessibility for customers.

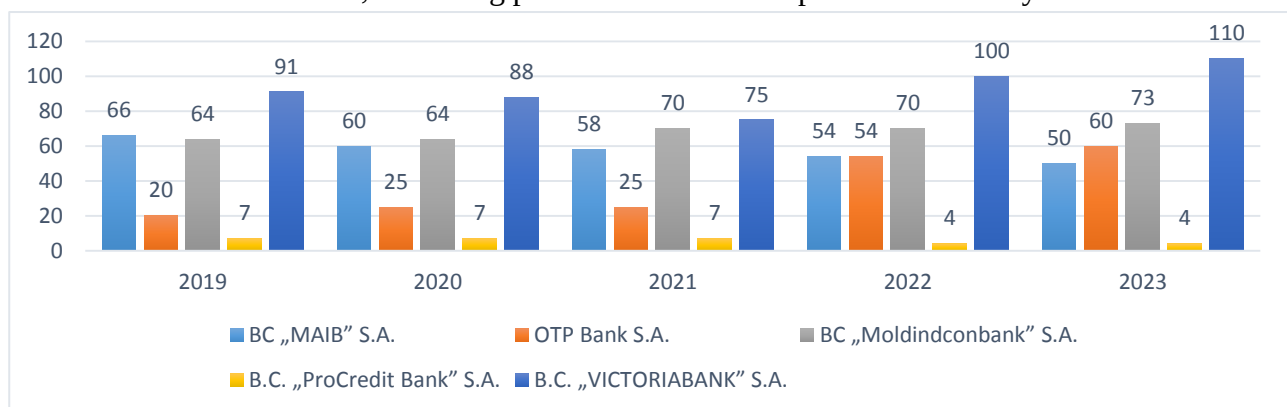


Figure 6. The number of subsidiaries of banks in the Republic of Moldova.

Source: elaborated by the authors on the basis of information presented in the: National Bank of Moldova. [online]. Available: <<https://www.bnm.md/bdi/pages/reports/dsp/DSP2.xhtml>>.

According to Figure 6, in 2019 **maib** had 66 subsidiaries. The number of subsidiaries decreased gradually over the years, reaching 50 by 2023. This decline suggests a strategic restructuring or consolidation of the bank's branch network. OTP Bank JSC started with 20 subsidiaries in 2019. The number of subsidiaries increased to 25 in 2020 and remained stable until 2021. There was a significant surge in subsidiaries in 2022, jumping to 54, and further increasing to 60 by 2023. This rapid expansion indicates a strategic push for market penetration and growth by OTP Bank JSC. CB "Moldindconbank" JSC had 64 subsidiaries in 2019. The bank continued to maintain 70 subsidiaries in 2022 and 2023, indicating a consistent presence in the market. CB "ProCredit Bank" JSC started with 7 subsidiaries in 2019. However, there was a notable decrease in subsidiaries to 4 in 2022, which remained the same in 2023. This reduction may reflect a strategic decision to streamline operations or focus on core markets. CB "Victoriabank" JSC began with 91 subsidiaries in 2019, growing to 110 by 2023. This fluctuation suggests a dynamic approach to branch network management and expansion by Victoriabank.

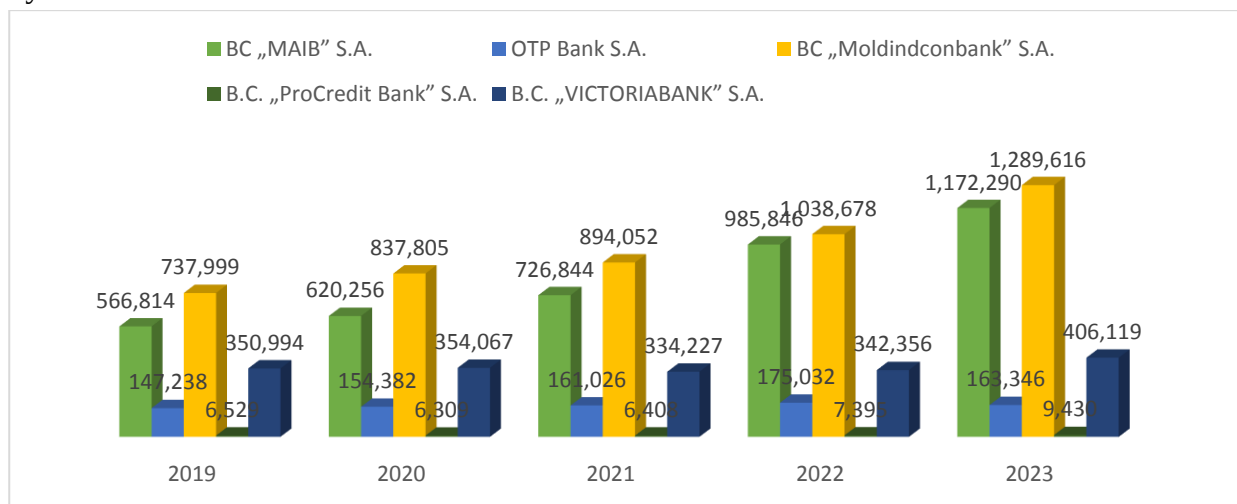


Figure 7. The number of cards issued of banks in the Republic of Moldova.

Source: elaborated by the authors on the basis of information presented in the: National Bank of Moldova. [online]. Available: <<https://www.bnm.md/bdi/pages/reports/dsp/DSP2.xhtml>>.

According to Figure 7, for **maib** the number of cards issued increased steadily over the years, reaching 1,172,290 by 2023. This significant growth indicates a proactive approach to expanding the bank's customer base and promoting card usage. CB "Moldindconbank" JSC issued 737,999 cards in 2019, increasing up to 1,289,616 by 2023. For CB "Victoriabank" JSC the number of cards issued remained relatively stable until 2021, with a slight decrease in 2020 and a slight increase in 2021. However, there was a significant rebound in card issuance in 2023, reaching 406,119 cards. This fluctuation suggests variations in the bank's card issuance strategy or marketing efforts over the years.

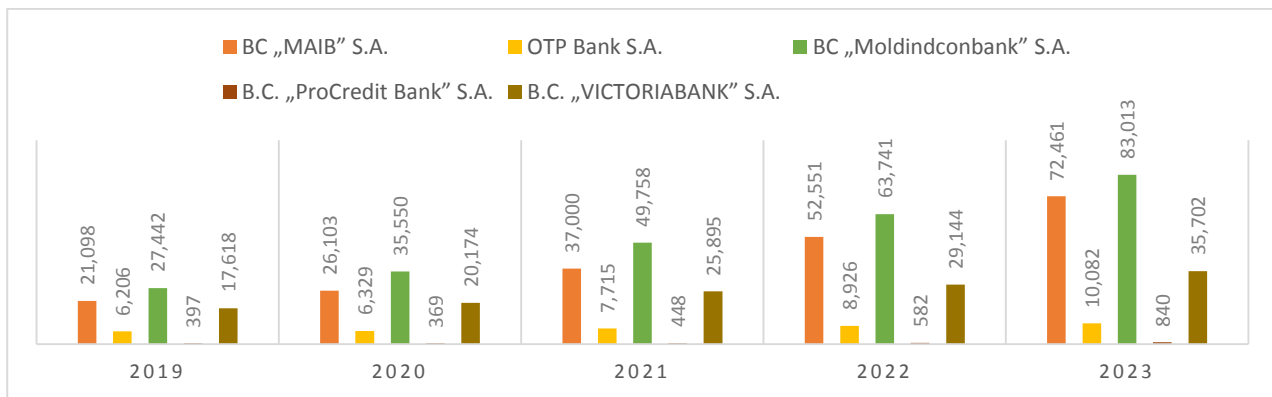


Figure 8. Number of transactions for actual users of the web-banking application.

Source: elaborated by the authors on the basis of information presented in the: National Bank of Moldova. [online]. Available: < <https://www.bnm.md/bdi/pages/reports/dsp/DSP2.xhtml> >.

According to Figure 8, **maib** experienced significant growth in the number of web-banking application users, with a steady increase from 21,098 in 2019 to 72,461 in 2023. This substantial growth indicates the bank's effective digital banking strategies and the increasing adoption of online banking services by its customers. Moldindconbank experienced significant growth in the number of web-banking application users, with a substantial increase from 27,442 in 2019 to 83,013 in 2023. This indicates a strong demand for digital banking services among Moldindconbank's customer base, possibly driven by the bank's digitalization efforts and enhanced online banking features. ProCredit Bank observed a steady increase in the number of web-banking application users throughout the years, though the numbers remained relatively low compared to other banks. Victoriabank experienced consistent growth in the number of web-banking application users, with an increase from 17,618 in 2019 to 35,702 in 2023. This demonstrates the bank's efforts in promoting online banking services and meeting the evolving preferences of its customer base.

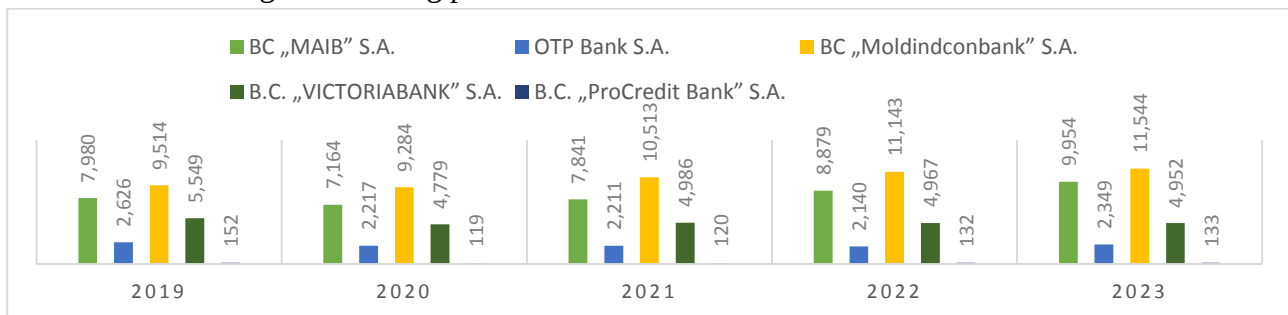


Figure 9. The number of cash operations within banks in the Republic of Moldova.

Source: elaborated by the authors on the basis of information presented in the: National Bank of Moldova. [online]. Available: < <https://www.bnm.md/bdi/pages/reports/dsp/DSP2.xhtml> >.

According to Figure 9 several trends can be observed. There is a general upward trend in the number of cash operations for most banks over the five-year period. CB "maib" JSC, CB "Moldindconbank" JSC, and CB "Victoriabank" JSC all experienced overall increases in the number of cash operations from 2019 to 2023. This indicates a potential growth in banking activity and demand for cash services during this period. This could suggest varying factors influencing the cash operations of these banks, such as changes in customer behavior, economic conditions, or banking strategies. CB "Moldindconbank" JSC consistently has the highest number of cash operations among the listed

banks throughout the five-year period. This indicates its significant role in handling cash transactions within the banking sector of the Republic of Moldova.

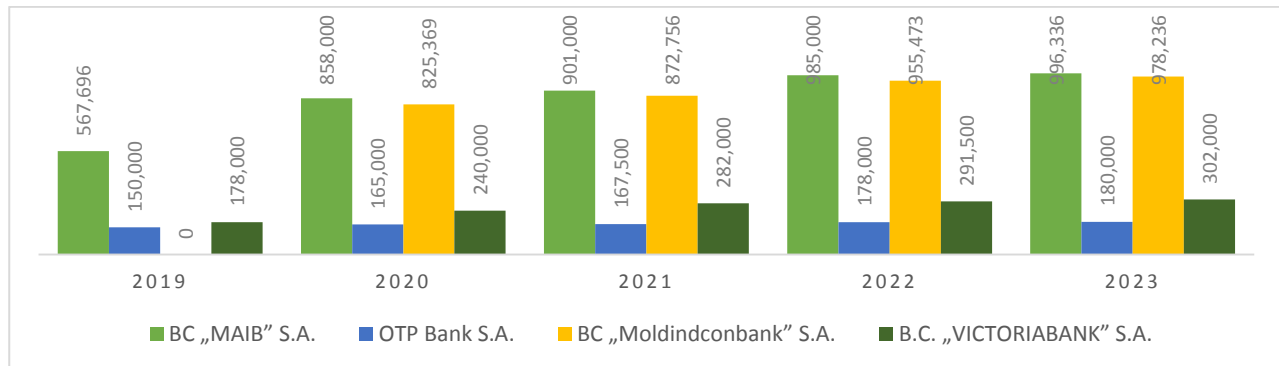


Figure 10. The number of customers in the top banks in Republic of Moldova.

Source: elaborated by the authors on the basis of information presented in the: National Bank of Moldova. [online]. Available:< <https://www.bnm.md/bdi/pages/reports/dsp/DSP2.xhtml>>.

According to Figure 10, **maib** experienced significant growth in its customer base over the five-year period, with the number of customers increasing from 567,696 in 2019 to 996,336 in 2023. This substantial growth indicates **maib** 's successful efforts in attracting and retaining customers, possibly through effective marketing strategies and a wide range of banking products and services. Moldindconbank saw moderate growth in its customer numbers throughout the period, with the number of customers rising from 800,000 in 2019 to 978,236 in 2023. This indicates a steady increase in customer trust and satisfaction with Moldindconbank's products and services. Victoriabank experienced consistent growth in its customer base over the five years, with the number of customers increasing from 178,000 in 2019 to 302,000 in 2023. This significant growth highlights Victoriabank's effective customer acquisition strategies and the bank's ability to meet the diverse needs of its customer segments.

In conclusion, the banking sector in the Republic of Moldova has undergone significant developments and reforms aimed at enhancing stability, transparency, and efficiency, despite facing challenges such as money laundering, corruption, and weak governance. The 2014 banking crisis prompted regulatory interventions and stricter supervision by the National Bank of Moldova (NBM), leading to improvements in the sector's resilience.

Foreign ownership has played a crucial role in bringing expertise, capital, and access to international markets, although there have been instances of withdrawals due to economic and regulatory concerns. Digital transformation is underway, with banks investing in technology to improve customer experience and offer innovative products and services.

Efforts to promote financial inclusion and support economic growth through increased access to finance, particularly for SMEs and individuals, are ongoing priorities. Collaboration with international organizations and partners is crucial for addressing remaining challenges and fostering sustainable development in Moldova's banking sector.

Analyzing specific indicators such as the share of loans and deposits, non-performing loans, ATM networks, number of subsidiaries, cards issued, web-banking application users, cash operations, and customer base across top banks in Moldova provides insights into the sector's performance and trends. For instance, there is a steady increase in loans and deposits, indicating growing demand and

confidence in the banking system. Additionally, the decline in non-performing loans and the expansion of digital banking services suggest improvements in risk management and customer engagement strategies. Partnerships with various companies and promotional campaigns offered by banks further enhance customer benefits and engagement, reflecting the sector's commitment to meeting evolving consumer needs and preferences.

Moreover, while challenges persist, Moldova's banking sector is making notable strides towards greater stability, transparency, and customer-centricity, supported by regulatory reforms, technological advancements, and strategic partnerships. Continued collaboration and proactive measures will be essential for sustaining momentum and driving further growth and development in the sector.

In recent times, the banking sector in Moldova has embarked on a comprehensive journey of automating its institutions. This initiative has enabled them to streamline operational processes, offer contemporary customer services, and expand their presence in the market. Throughout the digitalization of banking operations, the exploration and implementation of digital solutions have facilitated thorough research into customer preferences and requirements, as well as the efficient promotion of products and services. Consequently, financial institutions are showing growing interest in allocating resources towards technology and digitization.

In conclusion, the evolution of digitalization and innovation within the banking sector has become imperative in today's landscape, reshaping how financial services are delivered, consumed, and managed. As evidenced by various banks in Moldova, including MAIB, Victoriabank, and ProCredit Bank, embracing digital transformation is key to staying competitive and meeting evolving customer expectations.

Ensuring competition and transparency of the banking sector of Moldova

Ensuring competition and transparency in the banking sector in Moldova is crucial for fostering a healthy financial environment, promoting economic growth, and protecting the interests of consumers. To achieve this goal, it is essential for regulatory authorities to implement and enforce robust regulations and oversight mechanisms that promote fair competition, prevent anti-competitive behavior, and ensure transparency in banking operations. This includes measures such as enforcing strict licensing requirements, promoting open banking practices, and conducting regular audits and assessments of banks' financial health and compliance with regulatory standards.

Moreover, promoting competition and transparency requires fostering a culture of accountability and integrity within the banking sector, encouraging banks to adhere to high ethical standards and disclose relevant information to stakeholders. This can be achieved through initiatives such as promoting financial literacy among consumers, enhancing whistleblower protections, and providing channels for public feedback and complaints. By prioritizing competition and transparency, Moldova can build a banking sector that is more resilient, innovative, and responsive to the needs of its citizens, while also contributing to the overall stability and development of the economy.

The banking reforms carried out in recent years have contributed to the consolidation of the banking system in the Republic of Moldova. The current banking system is very different from what it was three years ago, being strong, robust, healthy and transparent. Thus, all banks operating on the banking market of the Republic of Moldova are well capitalized, viable and have sufficient liquidity to successfully withstand this period and continue to serve their customers.

The consolidation of the banking sector refers to the process by which banks merge with or acquire other banks, resulting in fewer and larger institutions in the market. This consolidation can occur through mergers, acquisitions, or other forms of corporate restructuring.

The consolidation of the banking sector in Moldova is a complex process with both potential benefits and challenges. On one hand, consolidation can lead to stronger, more efficient banks that are better positioned to compete in the market, improve financial stability, and attract investment. It can also promote economies of scale, diversification, and innovation within the sector.

However, consolidation may also raise concerns about reduced competition, potential job losses, and the risk of creating institutions that are "too big to fail." Additionally, there is a need to ensure that the process of consolidation is transparent, fair, and regulated effectively to protect the interests of consumers, maintain financial stability, and prevent anti-competitive behavior. Ultimately, the success of the consolidation process in Moldova will depend on careful planning, robust regulatory oversight, and proactive measures to mitigate potential risks while maximizing the benefits for the banking sector, the economy, and the population as a whole.

Conclusions

Based on the researched presented in the article, we would present for following conclusions and recommendations:

- Establish and enforce a regulatory framework that fosters competition within the banking sector by ensuring that banking regulations are transparent, consistent, and conducive to market diversity and innovation.
- Encourage the establishment of new banking institutions in Moldova to enhance market competition and provide consumers with a broader range of banking options and services.
- Reduce barriers to entry for new players in the banking sector by simplifying licensing procedures, lowering capital requirements, and providing support for startups and emerging financial institutions.
- Enhance regulatory oversight and enforcement mechanisms to detect and address anti-competitive behavior, such as price-fixing or market manipulation, and promote fair competition and market integrity.
- Improve transparency in banking operations by requiring banks to disclose information about their pricing, fees, and terms and conditions in a clear and accessible manner, thereby empowering consumers to make informed decisions and promoting competition based on price and quality.
- Invest in digital infrastructure and technology solutions to improve access to banking services, especially in underserved areas, and promote competition by reducing barriers to entry and increasing market penetration.
- Encourage banks to invest in customer-centric technologies and digital platforms to enhance the overall banking experience and attract new customers, thereby promoting competition based on innovation and customer satisfaction.
- Foster collaboration between banks and non-bank financial institutions to expand the range of financial products and services available to consumers, thereby increasing competition and choice in the market.
- Promote competition in payment systems by fostering interoperability between different payment providers and encouraging the adoption of innovative payment technologies, thereby increasing efficiency and reducing costs for consumers and businesses.

- Support the development of alternative financing channels, such as peer-to-peer lending platforms or crowdfunding, to provide additional options for businesses and consumers and promote competition in the financing market.
- Continuously evaluate and adjust competition policies and regulations to ensure a level playing field and promote a healthy and vibrant banking ecosystem that benefits consumers, businesses, and the overall economy of Moldova.

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SOCIAL IMPACT OF THE TAX SYSTEM

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Abstract: Taxation is a very important part of the financial system. It affects all aspects of our lives, including social and economic. The tax system and the social sphere are interconnected. Taxation influences social processes through taxation of income and real estate, as well as pricing. And the social sphere has an impact on the tax system in two directions: through the need to introduce tax benefits for certain social groups of citizens and through the fiscal orientation of the tax system. In developed countries, the tax system is quite organically connected with the ideas of social justice. But adherence to the principle of social justice through the provision of tax benefits conflicts with fiscal and incentive objectives. Tax benefits of a social nature reduce tax revenues to the budget, which ultimately leads to a general increase in the tax burden for other taxpayers. Thus, analyzing the effectiveness of the interaction between taxation and the social sphere is important both for improving the tax system and for leveling the negative impact of taxes on some social phenomena.

Key words: taxation, income level, social justice, income differentiation, tax benefits

JEL Classification: H24

Introduction

One of the main functions of the state is social. At the same time, one of the main meanings of this function, in our opinion, should be the leveling of existing social tensions in society, the equalization of the social status of the population, the development of the healthcare system, education and culture. Today, the successful fulfillment by our state of its social function is associated, first of all, with solving the most pressing social problems - the maximum possible elimination of sharp differentiation of incomes of different segments of the population, solving pension problems, supporting the most socially vulnerable segments of the population.

To solve these problems, the state uses various tools. To implement the principle of fairness in the distribution of income, weaken the existing severity of social stratification of the population and reduce the level of poverty in the country, it is necessary to change the entire system of income redistribution. In this regard, an important tool is the tax mechanism, primarily taxation of personal income. The influence of taxes on the income of the population occurs both directly and indirectly, is carried out in the course of tax regulation and represents a system of special measures in the field of taxation aimed at state intervention in the market economy in accordance with the concept of social development adopted by the government. At the same time, through taxation it is possible to smooth out some negative aspects of the distribution of income of the population.

Headings

An important aspect of the social crisis in the Republic of Moldova is the uneven distribution of income among the population. The continuing decline in the standard of living of the majority of the population is accompanied by the concentration of enormous wealth in the hands of a very narrow group of citizens.

Increasing inequality in income distribution, its low level among the majority of the population, and the concentration of funds by a relatively small group of people reduce aggregate consumer demand, making it one-sided, which does not contribute to the development of production and the real sector of the economy. And growing socio-economic stratification is becoming one of the most pressing problems of our time. Through tax regulation, the problem of income redistribution can be partially solved in order to reduce their differentiation among different segments of the population. Various coefficients are used around the world to determine the degree of inequality.

1) Quintile coefficient: the ratio of the average income of the richest 20% of the population to the average income of the poorest 20% of the population.

2) Palma Index: the share of the richest 10% of the population in gross national income (GNI) divided by the share of the poorest 40%. Based on the work of José Gabriel Palma (2011), who found that middle-class incomes almost always account for about half of GNI, with the other half split between the richest 10% and the poorest 40%, but the shares of these two groups vary widely across countries.

3) Gini coefficient: an indicator characterizing the deviation of the actual distribution of income of individuals or households in a particular country from absolute equality. An index value of 0 corresponds to absolute equality, 100 to absolute inequality.

Table 1. Income quintile ratio, Palma index, Gini index in selected countries

Selected countries	Income quintile ratio 2010–2015	Palma index 2010–2015	Gini index 2010–2015	Gini index (year)
Israel	10,3	2,2	42,8	39, 0 (2016)
Russia	8,2	2,0	41,6	37,5 (2018)
USA	9,1	2,0	41,1	41,1 (2016)
Türkiye	8,0	1,9	40,2	41,9 (2018)
Georgia	8,2	1,9	40,1	36,4 (2018)
Bulgaria	6,9	1,5	36,0	40,4 (2017)
Latvia	6,7	1,4	35,5	35,6 (2017)
Germany	4,6	1,1	30,1	31,9 (2016)
Romania	4,1	1,0	27,5	36,0 (2017)
Moldova	3,8	0,9	26,8	25,7 (2018)
Czech Republic	3,8	0,9	26,1	24,9 (2017)
Norway	3,8	0,9	25,9	27,0 (2017)

Source: Human Development Report 2016. Gini coefficient by country. List of countries by income inequality indicators.

An analysis of the data presented in the table shows that the situation with coefficients characterizing the level of income inequality in Moldova is not bad. On all three indicators we are in a fairly good position, characterizing the level of inequality as low and in a better situation than many more highly

developed countries. According to official data, the income ratio of households included in the extreme quintile groups is 3.8:1. In reality, this gap is much higher, since real incomes are often underestimated by respondents.

Let us note that this problem is typical not only for our country, but also for developed countries, where the incomes of the wealthiest citizens are 5-10 or more times higher than the incomes of the poorest segments of the population, as can be clearly seen from the data in the table.

However, for Moldova the consequences of social differentiation are much more serious. The main danger is that property polarization counteracts the formation of the middle class, which in developed countries makes up the bulk of the population (usually 50-70%). And the size and social position of the middle class, as world experience shows, to a large extent determines the depth and dynamics of socio-economic transformations. It is this part of the population that is interested in political stability, the formation of social institutions of modern civil society, and the creation of conditions for the development of entrepreneurial activity.

The large middle class is also a critical source of tax revenue. In addition, the imbalance in income distribution is a factor in the investment decline for the reason that the incomes of the bulk of consumers are too low to produce sufficient consumer demand, and the incomes of rich people are too high and cannot be used within the country, and therefore are exported abroad.

Polarization of the population by income gives rise to fragmentation of the unified social structure of society into many increasingly autonomous and isolated layers and groups, and also helps to undermine social solidarity and push certain categories of citizens out of the economic and social spheres. Therefore, the problem of property polarization requires, in our opinion, a more active position of the state in pursuing income policy. The experience of developed countries shows that economic efficiency is closely related to the level of government investment in the human factor, including leading to a reduction in inequality in income distribution and the achievement of greater social harmony in society.

At the same time, the state must balance between economic efficiency and social justice. Too large social payments increase the burden on the budget, lead to the development of a dependent lifestyle among low-income segments of the population, and reduce incentives for effective work. If an increase in the amount of budget funds allocated for social purposes occurs due to increased taxes, then the level of savings, investments, business activity and the level of labor productivity may fall. One of the most effective levers of state regulation of income differentiation in society is the personal income tax. There are two main methods of income taxation: proportional and progressive. The use of progressive taxation helps to reduce the differentiation in income of different segments of the population, which is why in most developed countries of the world this method of taxing citizens is used. However, the Republic of Moldova has taken the path of introducing a flat income tax rate of 12%. The adoption of such a decision was justified by the need to legalize shadow income of citizens and simplify the administration of income tax.

Today, personal income tax in Moldova is extremely ineffective both from a fiscal point of view and as an instrument of income redistribution. Thus, in 2023, this tax amounted to only 2.4% of GDP or 7.1% of the revenues of the national public budget of the Republic of Moldova [author's calculations based on: 4.5]. One of the reasons is that, despite the formal unitarity of the income tax (it is levied on a single scale on all types of income), in practice it turns out that the tax base is mainly wages.

That is, income tax is paid mainly by hired workers, and income from property does not actually fall into the tax base due to tax evasion.

Direct taxes are the most progressive and socially fair form of taxation, as they take into account the income of the payer and his marital status. This is especially true for personal income tax, which is traditionally calculated on a progressive scale and has a number of social benefits.

In developed countries, the tax system is quite organically connected with the ideas of social justice. For example, with regard to indirect taxes, there is an idea about their social injustice, since they are less related to the amount of income of various social groups than direct taxes. Also, indirect taxes, by raising prices, can stimulate inflation and reduce household incomes.

But adherence to the principle of social justice through the provision of tax benefits conflicts with fiscal and incentive objectives. Tax benefits of a social nature reduce tax revenues to the budget. Contradictions with the tasks of economic stimulation are manifested in the struggle over the degree of progressiveness of taxation of the population.

The social sphere of influence of income tax in developed countries is constantly expanding. Over the past decades, it has consistently included tax benefits for providing assistance to the poor, solving housing problems, compensating for financial expenses for providing medical care, obtaining education, improving qualifications, and financial support for the elderly and young family members. As an example of a tax incentive system, let's take Latvia, a small Baltic republic. The tax-free minimum in 2024 applies to income up to 1,800 euros per month. In order to reduce population inequality, from January 1, 2016, a differentiated non-taxable minimum was introduced in Latvia, which provides that a higher non-taxable minimum is applied to lower incomes, and a lower non-taxable minimum is applied to higher incomes.

In 2024, the following amounts are determined for calculating the differentiated non-taxable minimum:

- 1) the maximum tax-free minimum is 6,000 euros per year or 500 euros per month;
- 2) the amount of taxable income to which the maximum non-taxable minimum applies is 6,000 euros;
- 3) the amount of taxable income above which the differentiated tax-free minimum does not apply is 21,600 euros per year or 1,800 euros per month;

In addition to the non-taxable minimum, an individual is also entitled to the following tax benefits:

- tax benefits for dependents (for each dependent 3,000 euros per year or 250 euros per month);
- additional tax benefits for persons with disabilities (1848 euros per year or 154 euros per month for persons with a certain disability group I or II and 1440 euros per year or 120 euros per month for persons with a certain disability group III), politically repressed persons and members of national resistance movements (1848 euros per year or 154 euros per month) [6].

As a comparison, in Moldova the non-taxable minimum applies to an income of up to 360,000 lei (approximately 18,500 euros per year) and amounts to 27,000 (approximately 1,385 euros per year or 115 euros per month) [1]. The dependent exemption in Moldova is approximately €460 per year and the disabled exemption is €1,615 per year. As for other types of income tax benefits (deduction of various types of expenses), they are completely absent in Moldova.

Another problem, common to the Republic of Moldova and other countries, is the erosion of income of a significant part of the population (primarily the middle strata) due to inflationary growth in tax payments. The erosion of nominal amounts due to inflation, unless steps are taken to compensate for it, results in the effective tax rate rising with inflation and more individuals paying higher tax rates.

Many countries have managed to avoid this by indexing these amounts. But adjustments for inflation based on an assessment of inflation processes that occurred in previous years may harm budget revenues in the next year, in which the inflation rate may be lower. Governments benefit from erosion because inflationary processes lead to increased taxes without making unpopular decisions. In the Republic of Moldova, partial indexation of the income tax scale and exemption amounts has been used for many years (see Table 2).

Table 2. Evolution of the personal income tax scale in the Republic of Moldova and the amounts of personal and dependent exemptions

Year	Income tax scale	Personal exemption (lei per year)	Exemption for dependents (lei per year)
2016	– 7% of annual taxable income not exceeding 29,640 lei; – 18% of annual taxable income exceeding 29,640 lei	10128	2256
2017	– 7% of annual taxable income not exceeding 31,140 lei; – 18% of annual taxable income exceeding 31,140 lei	10620	2340
2018	12% annual taxable income	24000	3000
2019	12% annual taxable income	24000	3000
2020	12% annual taxable income	24000	3000
2021	12% annual taxable income	25200	4500
2022	12% annual taxable income	27000	9000
2023	12% annual taxable income	27000	9000
2024	12% annual taxable income	27000	9000

Source: adaptation by the author based on: Tax Code for 2016-2024.

But although there is an increase in personal exemption by 2.7 times and exemption for dependents by almost 4 times, a comparison of these amounts with the minimum consumer basket (2877.1 lei in 2023 [7]) allows us to conclude that the impact of direct taxes is low to improve the social sphere in the Republic of Moldova.

The progressive scale of income tax affects the mechanism of redistribution of income of individuals and helps to weaken the social stratification of society. The spread of personal income tax rates across developed countries is very significant. The minimum rate ranges from 0% in Switzerland to 38% in Denmark, and the maximum ranges up to 56.4% in Sweden [8]. At the same time, even at the legislative level, the authorities of developed countries recognize income tax as an instrument of social policy.

Personal income tax in the Republic of Moldova is constantly being reformed in terms of changing and reducing the rates of this tax. To analyze the consequences of reforming the personal income tax in the Republic of Moldova in 2017-2024, the share of income saved for several income levels due to a decrease in the level of taxation was calculated (see table 3.).

Table 3. Calculation of personal income tax in the Republic of Moldova in 2017 and 2024 (taking into account the availability of personal exemption), and savings from income tax reduction for 2017-2024

Gross income	Income tax for 2017	Income tax for 2024	SI, %
2000	64,05	0	3,20
2500	95,55	3	3,70
3000	127,05	57,60	2,31
5000	365,25	276,0	1,78
7000	689,25	494,40	2,78
10000	1175,25	822,0	3,53
15000	1985,25	1368,0	4,11
20000	2795,25	1914,0	4,41
25000	3605,25	2460,0	4,58
30000	4415,25	3006,0	4,70
40000	6035,25	4368,0	4,17
50000	7655,25	5460,0	4,39
80000	12515,25	8736,0	4,72
100 000	15755,25	10920,0	4,84
150 000	23855,25	16380,0	4,98

Source: author's calculations

The share of saved income (SI) for each income level was calculated using the following formula developed by the author:

$$SI = \frac{IT_{2017} - IT_{2024}}{GI} \times 100 \%, \text{ where}$$

IT₂₀₁₇ is an income tax calculated at the rates for 2017, taking into account personal exemption, mandatory contributions to state social insurance and contributions to compulsory health insurance;
IT₂₀₂₄ is the income tax calculated at the rates for 2024, taking into account personal exemption and contributions to compulsory health insurance;

GI – gross income.

The data obtained indicate that the group of citizens with an income of 5,000 lei per month received the smallest savings from changes in income taxation - 1.78% of income, and groups of people receiving 15,000 lei and above received more than 4% of income savings. At the same time, there is a clear tendency for the share of saved income to increase, the higher the income. That is, the income tax acquires a sort of regressive scale, which confirms our judgment about the unfair distribution of the tax burden between different segments of the population of Moldova.

A significant shortcoming and source of additional inequality is the current system of income tax benefits in the form of personal exemption and dependent exemption. In 2023, personal exemption amounted to 2,250 lei per month, and for dependents - 750 lei per month, while the cost of living in 2023 per person averaged 2,877.1 lei, that is, personal exemption did not cover even 79% of the subsistence level minimum, and exemption for dependents – even 26%. If for citizens receiving fairly high incomes, the amount of income tax exemptions is not of fundamental importance, then for

low-income citizens, this benefit allows them to save part of their small income by reducing income tax. Consequently, such a small amount of personal and other types of income tax exemptions neutralizes the significance of this benefit, designed to some extent to help the lowest income segments of the population.

Conclusions

Based on the above, we can conclude that there are certain problems in the system of using income tax as an instrument for redistributing income and regulating inequality in our country. Among the measures, the adoption of which, in our opinion, will help mitigate the differentiation of personal incomes of the population of the Republic of Moldova, we can propose:

- establish a tax-free minimum income exempt from income tax at the subsistence level, with indexation of this amount, which will avoid leveling the value of this benefit. In this case, the amount of exemption for dependents must coincide with the personal exemption, since, in our opinion, the use of a smaller amount as an exemption for dependents is discriminatory towards them;
- calculate the possible consequences of changes in income tax rates for population groups with different income levels and adhere to the unshakable rule that the poorest should benefit to a greater extent and the richest to a lesser extent.

The problem of fair redistribution of income and reducing differentiation in the incomes of different segments of the population is especially acute at present due to the economic crisis and rising unemployment. Therefore, it would be extremely short-sighted to ignore it.

But in conclusion, I would like to note that, while emphasizing the importance of reforming the taxation of personal income, it is necessary not to forget that it in itself is not able to solve the problem of excessive stratification of society by income, even over a long period. Reforming the personal income tax is only one of the important tools in the complex of socio-economic measures necessary for this.

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METHODOLOGICAL IMPROVEMENTS REGARDING THE EXCHANGE RATE CALCULATION OF THE MOLDOVAN LEU

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Abstract: The exchange rate has a direct impact on many macroeconomic indicators. The real exchange rate floating affects demand for exports and imports and, as a result, influence the trade balance, current account and production dynamics. An overvalued currency can lead to a current account deficit, and if such a deficit persists for a long time, it can lead to a currency crisis. The problem of an undervalued currency may seem less significant, but this has negative consequences too, such as low output growth in the non-tradable goods sector. In addition, it leads to the deterioration of the situation of the current account of the trading partner countries. Thus, deviations of exchange rates from their stable values are in most cases undesirable.

In the practical way of estimating the equilibrium exchange rate, the main goal is to determine the real effective exchange rate (REER), since the dynamics of foreign trade and other flows reflected in the balance of payments depend on this indicator. In this study, in addition to estimating the level of fluctuation in real effective exchange rate needed to reach the equilibrium level, we also provide corresponding estimations for the nominal effective exchange rate and the real exchange rate of the Moldovan leu against the US dollar.

Thus, the relevance of the research topic is determined by the fact that today there are many theories and methods of determining the nominal and real exchange rate. In this article we will analyze these theories and methods in detail and consider the perspectives to use them in the national practices.

Keywords: exchange rate, nominal exchange rate, real exchange rate, current account, Balance of Payments, Trade Balance.

JEL Classification: E58, E52, G21, F37, F31, F32

Introduction

The estimates below use different measures of the exchange rate. In order to correctly interpret the results, it seems necessary to dwell briefly on the basic indicators used.

First, exchange rates can be bilateral or multilateral. A bilateral exchange rate is the relative price of two currencies. A multilateral (or effective) exchange rate is an index of bilateral exchange rates between the currency of the home country and the currencies of other countries (usually trading partner countries whose exchange rates with the home country are used as weights for calculating such index).

Second, exchange rates can be nominal or real. A nominal exchange rate is the price of one currency expressed in terms of another. The real exchange rate is the nominal exchange rate adjusted for price differences, i.e. the value of the nominal exchange rate multiplied by the relative price level. Nominal and real exchange rates can be either bilateral or multilateral.

Third, both direct quotations (amount of foreign currency per domestic unit) and indirect quotations (amount of domestic currency per foreign unit) can be used.

In the practice of estimating the equilibrium exchange rate, the main goal is usually the real effective exchange rate (REER), since the dynamics of foreign trade and other flows reflected in the balance of payments depend on this indicator. In this paper, in addition to estimating the size of the required change in the real effective exchange rate to reach the equilibrium level, we also provide corresponding estimates for the nominal effective exchange rate and the bilateral exchange rate of the Moldovan leu against the US dollar. The latter is used because for a country this exchange rate traditionally plays the role of a nominal anchor due to the high level of dollarization of the national economy.

Methodological aspects of determining the real exchange rate

The Republic of Moldova is in a floating exchange rate regime. Thus, the volatility of the exchange rate differs from one country to another, being influenced by a multitude of causes such as the degree of liberalization of the capital account in the balance of payments, the inflation rate on other markets, problems of foreign countries such as the case with Russia, Ukraine, etc.

Interventions in the foreign exchange market can be carried out often, depending on the economic problems of the country. In this way, various goals are pursued such as:

- decreasing the degree of volatility of the exchange rate;
- orientation of volatility in the necessary direction of the economic goal.

Thus, the interventions are carried out either to target the inflation rate, which is also the objective of the NBM, or the appreciation of the national currency.

One of the reasons that avoids the frequent flexibility of the exchange rate is that this volatility increases the economic costs related to foreign trade activity due to difficult calculations and risk elimination methods such as:

- various bank accounts that involve many commissions;
- instability planning at company level;
- the complexity of the accounting records in the balance sheets.

But the volatility of the nominal exchange rate in the market leads to the balancing of the real exchange rate. If the nominal exchange rate is managed correctly and very intensively, the imbalance of the real exchange rate through the price level can be avoided, but at the same time the objective of direct inflation targeting becomes more difficult to follow.

The foreign exchange market in the Republic of Moldova is often affected by the consequences of exchange rate volatility. Thus, there is a currency pressure on the market caused by the depreciation of the Moldovan leu. In this situation, the interventions of the monetary authority on the market are determined by the currency pressure.

Exchange rate pressure is the change in the exchange rate that would have occurred if the central bank had refrained from intervening in the foreign exchange market, considering the expectations that agents form based on the actions actually taken by the central bank (WEYMARK 1995).

In order to observe the changes on the foreign exchange market related to the volatility of the exchange rate, a calculation index is proposed. In cases of pressure on the market, the National Bank can act passively so the exchange rate changes depending on economic factors, or it can act by selling or buying the currency. Thus, in the case of the floating regime of the exchange rate on the market, the pressure can be followed by the percentage change in the exchange rate and, in the case of the

fixed exchange rate, by the change in the foreign exchange reserve. In the case of the predominance of both regimes, an index is deduced by which we determine the degree of pressure. The calculation formula was introduced by (Girton and Roper, 1977) so, we have:

$$PV = \sum \Delta \%CV + \Delta \%RV \quad (1)$$

in which:

PV – pressure on the foreign exchange market;

$\Delta\%CV$ - the percentage change in the exchange rate;

$\Delta\%RV$ - the percentage change in the foreign exchange reserve.

Thus, determining the value of the currency pressure, we can follow, for the most part, the periods when the interventions of the monetary authority were carried out. But, even if the National Bank intervenes and regulates the exchange rate, we still do not have a real market rate, but a nominal one. Each of the citizens of the Republic of Moldova may at some point wonder if the exchange rate is undervalued or overvalued. This question is always in the center of attention in the international economy. Thus, in order to find the correct answer and to make an analysis of the country regarding the degree of development of the economy, the researchers arrived at the determination of the effective real exchange rate.

The majority of the population agrees with the nominal exchange rate, i.e. the one presented by the Central Bank for the banks in the system. But the nominal exchange rate is not enough for a legal entity or even for an individual holding a larger amount of money. Each of them will be interested in what can be bought with this currency, that is, what is the purchasing power. Is it better to hold currency in euros or dollars? In this case, the need for the real effective exchange rate arises, which aims to measure the value of a country's goods against another country, a group or the rest of the world.

If we talk specifically about the problems related to the Republic of Moldova, then we know that the IMF follows the dynamics of the monetary policy, and our state does not register the best results in this regard. Thus, the exchange rate is the first in importance in foreign trade, because for a healthy economy we must have an appreciation of the real exchange rate.

The problem of estimating the real effective exchange rate is very important for Moldova. In general, it contributes to the integration of the country's economy into an economic area with a wide horizon of possibilities.

Next, we will present calculation methods of REER for the Republic of Moldova. To determine the real exchange rate as mentioned before requires the NEER and adjusting the deflators of two markets. In international practice, several deflators are proposed as a basis for calculation, such as:

- consumer price index (CPI);
- the producer price index (PPI);
- world industrial product price index (WPI);
- the price index for imported products (PM);
- price index for exported products (PX);
- unit labor cost (ULC);
- the gross domestic product deflator (GDP).

As we know, and it is presented in the balance of external payments, the Republic of Moldova is a country that imports more than it exports. So, we will choose CPI, ULC, IPP and DGDP as the basis

of calculation. The International Monetary Fund offers CPI, ULC, etc. as deflators. The European Central Bank has its standard calculation methodology using the ULC deflator.

In general, less developed countries are less likely to achieve real results that correspond to the economic situation than highly developed countries. As the indices used as deflators in the calculation method often represent artificial values and not only the Republic of Moldova in our case but also foreign countries as trade partners can have a negative influence.

During the paper I mentioned that the effective real exchange rate measures changes in the competitiveness of a state, by considering price changes between these states. If the REER indicator increases, then competitiveness is lost.

The REER determination methodology is based on two calculation options, such as:

- weighted geometric mean;
- weighted arithmetic mean.

The weighted geometric mean represents the determination of the REER by the product of the NEER and the deflator used for the foreign country relative to the value of the Republic of Moldova.

The weighted arithmetic average is calculated by the sum of the nominal exchange rate and the ratio between the deflator of the foreign country and the Republic of Moldova.

The difference between these methods is that the arithmetic mean has the advantage of ease of calculation which attracts researchers and practitioners. But the geometric mean even if it represents a more complicated method of determination, then it has useful properties such as symmetry and coherence. The arithmetic mean is generally influenced by the year taken as the basis for the calculation of the deflator and the change of the basis of calculation in the case of dynamic calculation. While the geometric mean, the deflator is not influenced by the year taken as the basis of calculation. Thus, we will use the geometric mean, which is provided by the IMF and the ECB.

To determine the REER, first of all, we calculate the NEER which has the following calculation formula: changes between these states. If the REER indicator increases, then competitiveness is lost.

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To determine the REER, first of all, we calculate the NEER which has the following calculation formula:

$$\mathbf{NEER} = \prod_{i=1}^n \left(\frac{S_i}{S_i^*} \right)^{w_i} \quad (2)$$

in which:

n – the number of countries (currencies) in the basket;

S_i – the exchange rate of the national currency against the currency of country i ;

S_i^* – the exchange rate of the national currency against the currency of country i in the base period;

w_i – the weight of the country (currency).

At the same time, the methodology for calculating the real exchange rate is as follows:

$$\mathbf{REER} = \prod_{i=1}^n \left(\frac{S_i}{S_i^*} \times \frac{X_i}{X_{MD}} \right)^{w_i} \quad (3)$$

in which:

n – the number of countries (currencies) in the basket;

S_i – the exchange rate of the national currency against the currency of country i ;

S_i^* – the exchange rate of the national currency against the currency of country i in the base period;

X_i - the deflator used, whether CPI, ULC, PPI or GDP of the foreign country;

X_{MD} - the deflator used for the Republic of Moldova;

w_i – the weight of the country (currency).

The problems encountered when determining this indicator are:

- determining weights and choosing the correct countries depending on trade relations;
- choosing the most advantageous deflator for calculation;
- the correct choice of the exchange rate of the Moldovan leu against the other currencies of foreign countries in the necessary period.

The effective nominal exchange rate represents the changes in the rate of the Moldovan leu against other currencies of the partner countries considered on the market, the increase signifying the strengthening of the national currency.

Next, we will analyze the method of determining trade partners, which is in the previously presented formula. Determining weights and choosing countries as main trading partners is a significant role. Because it determines how exchange rates between countries and deflators influence the competitiveness of the Republic of Moldova. In general, the researchers say that it is desirable to consider all the partner countries with which they have trade, even if the links are not only direct. But if we really look at these researches, they require a lot of investigations that are primarily time-consuming, so we will consider the countries with higher weights, as those with small weights do not have a significant role in determining the REER.

A number of foreign researchers demonstrate that under certain conditions of elasticity between the goods offered on the same market, the total weights of the trading partners for a certain country are proportional to the elasticities of the demand for these goods in relation to the price of the goods produced by the trading partners.

The method of determining the weights consists in considering all trade flows from the partner countries of the Republic of Moldova, i.e. both import and export. The IMF proposes the separate determination of trade flows with the following calculation method.

$$w_i \text{ import} = \left(\frac{\text{import\_tara\_j}}{\text{total\_import\_tara\_i}} * 100\% \right) * \frac{\text{import\_tara\_i}}{\text{total\_comert\_tara\_i}} \quad (4)$$

in which:

$w_i \text{ import}$ – the share of the country (currency) in the total import of the Republic of Moldova.

$$w_i \text{ export} = \left(\frac{\text{exp ort\_tara\_j}}{\text{total\_exp ort\_tara\_i}} * 100\% \right) * \frac{\text{exp ort\_tara\_i}}{\text{total\_comert\_tara\_i}} \quad (5)$$

in which:

$w_i \text{ export}$ – the share of the country (currency) in the total export of the Republic of Moldova.

Respectively, the sum of these two weights is w , which represents, as I mentioned, the weight of the trade of a certain country used in the research carried out.

Conclusion

In general, the nominal exchange rate may be undervalued or overvalued relative to the real exchange rate. Many highly developed countries whose main profit is export revenue such as China or Japan tend to depreciate the exchange rate in order to be able to export as many goods as possible to foreign markets. The Republic of Moldova, being a less developed country, has a weak industry, so the exchange rate is much overvalued compared to the real norm. So, in the case of the research conducted of the nominal exchange rate and the real exchange rate there will be considerable differences. However, the calculation method such as the deflators used can influence the results.

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RATING OF EMERGING G22 COUNTRIES ACCORDING TO THE INDEX OF TRADITIONAL FINANCIAL INCLUSION AND FINTECH

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Abstract: Assessing the financial inclusion of countries must take into account both traditional methods and fintech innovations. They provide a complete picture of people's access to and use of financial services, contributing to economic development and reducing inequalities. While traditional financial inclusion refers to access to and use of conventional financial services such as bank accounts, credit and insurance, fintech-based financial inclusion targets financial technologies that have revolutionized access to financial services, especially in regions where traditional banking infrastructure is limited. The main fintech enablers involve access to digital payments, credit through fintech platforms, and the use of online investment and savings services.

The rating of countries according to financial inclusion indices can be assessed using both traditional methods and financial technologies (fintech). This study will allow us to highlight countries, which have made significant progress in promoting financial inclusion through fintech-based techniques.

Keywords: Fintech – financial technology (FT), traditional financial inclusion (TFI), financial inclusion based on Fintech, Rating countries by financial inclusion index.

JEL Classification: G1, G2, G3

Introduction

In the past few years, digital financial inclusion has emerged as a significant factor or driver of financial inclusion across many countries. Prior literature, nevertheless, reveals that there are multiple determining factors in facilitating the financial inclusion process throughout countries, regardless of whether they are developing, or developed.

A substantial percentage of individuals in low- and middle-income countries are still unbanked (Naumenkova et al., 2019), even though financial inclusion offers multiple benefits for developing countries. Several studies have found a link between increased levels of financial inclusion and institutions (Park & Mercado, 2015; Honohan, 2008). Therefore, in developing countries, both the private and public sectors must work together to create a supportive framework for financial

inclusion, since financial inclusion is known worldwide as an attribute of sustainable development because it facilitates more efficient and safer financial transactions.

According to Zhang and Guo (2019), while institutional financial innovation can provide businesses with high-quality advanced financial services by employing novel payment instruments, increased efficiency, and enhanced utility, most companies in emerging economies lack the resources and thus cannot cover the considerable costs of establishing digital payment systems. According to the literature, offering financially vulnerable individuals the possibility to manage financial risk will help reduce poverty (Chaudhry et al., 2020; Demirgüç-Kunt et al., 2018; Gutiérrez-Romero & Ahamed, 2021). Several studies have found a positive relationship between financial innovation and economic growth, but whether it has the potential to drive firm sales growth is unclear and still subject to be explored (Laeven et al., 2015; Beck et al., 2016).

The adoption of digital financial services by the majority of adults has had a positive impact on the countries' economic financial sector (Shen & Hueng, 2021). Nevertheless, such advantages are only visible in developed economies because most developing countries lack access to the financial system. According to one study, 37% of adults in developing economies do not have any accounts with financial institutions, emphasizing the significance of financial inclusion for developing countries (Demirgüç-Kunt et al., 2018).

Furthermore, it is critical to investigate the relationship between digital financial inclusion and Fintech merging the financial infrastructure gap. As per findings, Bangladeshi banking institutions made significant investments in technological infrastructure to guarantee an improved transaction flow and customer access (Aziz & Naima, 2021). Furthermore, developing nations that have a greater degree of digital financial inclusion can alleviate poverty while offering a higher rate of financial inclusion in the country.

Guieze (2014) claims that in order to enhance access to financial services and products in developing countries, the issue of a country's features or structural constraints, such as rising levels of poverty and inequality, rising public debts, inadequate financial infrastructure, and low levels of financial literacy, must be addressed. These limitations impede financial inclusion and must be resolved.

Indeed, about 85% of software platform innovations have origins in the banking industry, indicating that access to banking services is expanding in developing countries (Van der Boor et al., 2014). Banks are essential actors for increasing financial inclusion, especially in developing nations (Safari et al., 2022). Furthermore, the advantages of technological developments would then help developing nations enhance inclusive and sustainable growth (Kelkar, 2010). The empirical findings indicate a significant link between ICT infrastructure advancement and financial inclusion programs. The findings suggest that substantial economic growth, combined with financial inclusion initiatives, will have a long-term effect on ICT infrastructure development in India (Pradhan et al., 2021; Kanungo & Gupta, 2021).

Muganyi et al. (2022) investigated the impact of Fintech and RegTech on the growth of China's financial industry. The researchers found that by making loans, deposits, and savings more accessible, fintech helps the financial system in China grow. RegTech also significantly enhances financial development. The authors contended that national policies should strike an equilibrium between growth and risk in the advancement of fintech.

Recently, there has been a small but burgeoning scientific literature regarding the effect of mobile payments on household wealth and enterprise economic expansion, with the majority of them

focusing on Africa, considering the region's finance structures' ground-breaking position in implementing digital money. Mbiti and Weil (2015) reveal that enhanced use of M-Pesa decreases the utilization of informal savings systems and increases the tendency to save via formal financial institutions accounts, whereas Kikulwe et al. (2013) demonstrate that micro farmers in Kenya who use M-Pesa purchase more inputs, sell a greater portion of their output in marketplaces, and thus have higher returns.

Wieser et al. (2019) demonstrate that mobile money agent rollout significantly increases remittance transactions and nonfarm employment in Uganda, whereas Aggarwal et al. (2020) demonstrate that digital money implementation enhances saving rates and leads to a redistribution of labour from business to agriculture among Malawian microenterprises. Moreover, according to Suri and Jack (2016), M-Pesa has lowered Kenya's poverty rate by 2%.

These research findings demonstrate the significance of financial technologies as channels for boosting economic growth. In connection with these studies, it is believed that countries with higher Fintech penetration will achieve better financial development.

Methodology and Data

This study seeks to explore the impact of Fintech through fintech-based determinants of financial inclusion and the effects on economic development in the G20 developing nations. The G20 group of developing countries, which was founded in 2003, is an association of what was then 20 developing and emerging countries. As the member states change frequently, it does not always include exactly 20 countries. Currently there are 23 countries, however, Cuba does not disclose any data, and due to information availability restrictions, Cuba was excluded from the group in the current research. Often, this alliance is also abbreviated to "G20", occasionally referred to as G21, G22 or G20+, however this leads to confusion in regards to the other "G20" group of the 20 most important industrial nations. Therefore, further we will refer to the group of developing nations as G22.

All member states comprise a total area of 39.62 million km² and about 4.63 billion people. Previous empirical studies on financial inclusion and sustainable development indicators did not focus on this specific group of countries, even though it covers 26.17 percent of the habitable area around the world and 58.23 percent of the world population (World Data, n.d.). Although the information available on the formation and functioning of the G22 group of emerging nations is quite limited, the best summary of the formation and history of this group of countries can be found on World Data, which among other things also reports on the structural capacity of the group, which has about 60% of the world's population, 70% of the world's farmers and over ¼ of global agricultural exports. It can therefore be said that the G22 group of developing countries has emerged under certain conditions of conflict of interest in the WTO negotiation process with the major powers of the USA and the EU in order to strengthen the negotiating position of the G22 member states (Papda, 2005).

To this end, a series of models will be estimated, confirming or rejecting hypotheses on the contribution of innovative financial instruments to the formation of economic development trajectories of G22 developing countries.

Financial Inclusion Data Sources

The determination of the financial inclusion index and the development of regression models on it, correlated with various socio-economic factors, expressing economic development, carried out in this thesis, is based on multiple data sources.

Data on financial inclusion comes from three major sources, including:

- The Financial Access Study (FAS) conducted by the International Monetary Fund (IMF) and related databases;
- The World Bank's Global Financial Inclusion Survey and Database – The Global Findex (Development Research Group, 2022);
- The World Bank's World Development Indicators (WDI) database, through annual monitoring of the economic situation: 266 positions of countries and groups of countries generated according to various criteria (geographical, economic blocs, etc.).

Subsequently, in order to validate the data from the various databases, through repeated recording, on the World Bank's global development and financial inclusion indicators for the G22 group of countries, they were cross-checked so that, by analysing the methodologies related to the recording processes of these data comparable situations in time and space are available.

The **Global Findex database** is relatively recent, already in its fourth edition (2011, 2014, 2017, 2021) and includes over 850 financial inclusion indicators collected from the perspective of adult users of financial services, disaggregated by key demographic and social characteristics - gender, age, education, income, employment status and residence. Covering over 140 economies, the financial inclusion indicators measure how people save, borrow, make payments and manage their risk. The indicators are based on survey results from interviews with randomly selected adults aged 15 and over. This study covered the entire period from 2011 to 2021.

The **FAS database** provides data on more than 150 indicators on access to and usage of financial services. It is a database with annual coverage, backdated to 2004 (the database was launched in 2009), so the data come directly from financial service providers. Both demand and supply side data are quite useful in the financial inclusion measurement phase to get a holistic view of an economy's financial inclusion. However, collecting demand-side data is much more challenging compared to supply-side data as it is more resource-intensive and time-consuming. In some cases, demand-side data are characterised by low response rates, which is why data are collected relatively infrequently. On the other hand, supply data are collected at relatively low administrative cost and tend to be collected more frequently.

Financial Inclusion Indices

As previously mentioned, the proposed indices take values between 0 and 1, with 0 representing the lowest level of financial inclusion and 1 representing full financial inclusion, based on the data available for the G22 countries. Therefore, the higher the value of the index, the better the countries' performance in this dimension.

The syntheses produced, following the processes of determining the financial inclusion indices, show rather diverse situations in terms of the evolution of the activities across the 22 states in the four reference years (2011, 2014, 2017, 2021) providing insights into the progress and adoption of financial services in the G22 group. While in the past, before the emergence of Fintech, traditional financial services have been historically the dominant means of providing access to financial resources, the rise of Fintech-based services has led to increased opportunities for inclusion, as indicated by the growth of the FFII. The data in Figure 1 highlights the substantial increase in the FFII from 0.46 in 2011 to 0.70 in 2014 suggesting that Fintech-based financial services had a transformative impact, rapidly expanding access to financial resources during that period, compared to TFII. This surge may be attributed to innovations such as mobile banking, digital wallets, and online lending platforms, which lowered barriers to entry and reached underserved populations.

Despite experiencing a slight dip in 2017 (FFII: 0.37), Fintech-based financial inclusion remained relatively robust. This resilience could be attributed to the flexibility and adaptability of fintech solutions in addressing the evolving needs of consumers and businesses. The TFII's fluctuations, with a notable decrease from 0.35 in 2014 to 0.12 in 2017, indicate challenges in the traditional financial sector's efforts to sustain and expand financial inclusion. These challenges might include limited physical access to banking services, cumbersome bureaucratic processes, and inadequate infrastructure in remote areas.

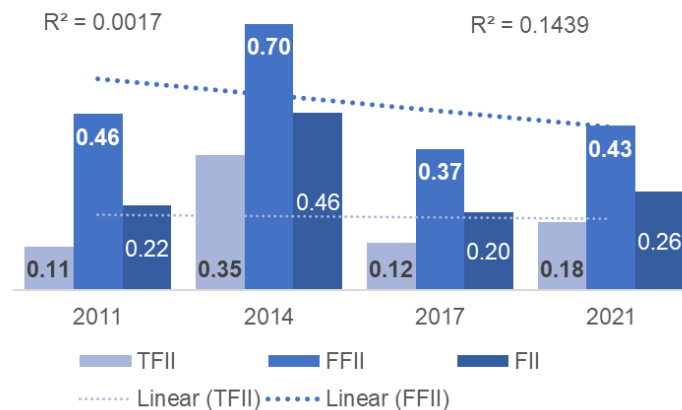


Figure 1. Indices of financial inclusion at the level of traditional and Fintech-based financial activities

Source: elaborated by the author

The fact that both indices experienced an increase in 2021 (TFII: 0.18, FFII: 0.43) suggests that traditional and Fintech-based approaches can be complementary in achieving higher financial inclusion rates. Collaborations between traditional financial institutions and fintech start-ups may have led to hybrid solutions that cater to a wider range of individuals and businesses. Continuous monitoring of these indices can provide valuable information about the long-term impact of financial inclusion efforts. Tracking the trajectory of both TFII and FFII over time can help assess the sustainability of their growth and understand the factors influencing their development.

The Financial Inclusion Index is a synthetic expression of data on various indicators of financial inclusion, capturing aspects of the nature of its manifestations from different perspectives, and ranging between 0 and 1, where 0 indicates complete financial exclusion and 1 indicates complete financial inclusion. According to some expert sources, countries with high financial inclusion are those characterised by an FII value between 0.5 and 1, countries with medium financial inclusion employ a value between 0.3 and 0.5, while countries with low financial inclusion are characterised by values below 0.3.

The data provided in Table 1 allows us to examine Fintech tools by size, from various dimensions, namely accessibility, access, and usage, which provides a more comprehensive view of the progress and challenges in the adoption of Fintech tools for financial services. The overall TFII shows fluctuations over the years, with the highest value in 2014 (0.353) and the lowest in 2011 (0.114). It has experienced a slight upward trend from 2014 to 2021, reaching 0.178. The TFII on the accessibility dimension shows a relatively steady increase from 2011 (0.064) to 2021 (0.097), while the access dimension displays fluctuations over the years but shows an overall increasing trend, from

0.179 in 2011 to 0.259 in 2021. The significant drop in the usage dimension of the TFII from 0.695 in 2011 to 0.111 in 2014, with slow recovery until 2021 at a value of 0.192, can be attributed to structural challenges and systemic barriers that hindered the adoption and accessibility of traditional financial services, taking time to address and overcome.

The overall FFII displays fluctuations without a clear trend over the years. It started at 0.461 in 2011, peaked at 0.696 in 2014, and decreased to 0.429 in 2021. The average value for FFII from 2011 to 2021 is 0.456. The accessibility dimension demonstrated growth from 2011 (0.811) to 2014 (0.862), yet experienced a significant decline to 0.199 in 2017, followed by a subsequent increase to 0.626 in 2021. The access dimension exhibits year-to-year fluctuations but maintains a relatively stable trend, averaging at 0.266 from 2011 to 2021, whereas the FFII's usage dimension exhibits notable fluctuations, decreasing from 0.509 in 2011 to 0.151 in 2014, then increasing to 0.708 in 2017, followed by a slight decline to 0.572 in 2021.

Table 1. Indices of traditional financial inclusion based on Fintech tools by size

	2011	2014	2017	2021	Average 2011-2021	Slope 2011-2021
TFII	0.114	0.353	0.125	0.178	0.192	-0.014
TFIId	0.064	0.079	0.090	0.097	0.082	0.003
TFIIa	0.179	0.167	0.145	0.259	0.188	0.007
TFIIu	0.695	0.111	0.144	0.192	0.286	-0.042
FFII	0.461	0.696	0.369	0.429	0.456	-0.026
FFIId	0.811	0.862	0.199	0.626	0.416	-0.036
FFIIa	0.305	0.227	0.269	0.238	0.266	0.000
FFIIu	0.509	0.151	0.708	0.572	0.572	0.042
FII	0.221	0.463	0.204	0.257	0.286	-0.018

Source: elaborated by the author

Overall, the TFII and FFII show mixed trends with fluctuations, and their average values from 2011 to 2021 indicate that financial inclusion through Fintech tools remains a complex and evolving landscape.

The positive slope in the accessibility dimension of TFII (0.003) could be attributed to progressive efforts and policies aimed at improving access to financial services over time, while the negative slope in the FFII's accessibility dimension (-0.036) might result from challenges or barriers that hindered consistent accessibility advancements in its context.

The positive slope (0.042) in the usage dimension of FFII suggests a gradual increase in the utilization of traditional financial services from 2011 to 2021. This contrasts with the negative slope (-0.042) in the usage dimension of TFII, indicating a decline in the actual usage of traditional financial services over the same period. The different trends between TFII and FFII could be influenced by varying factors and contexts shaping the adoption and utilization of financial services in each case.

The positive slope (0.007) in the access dimension of TFII indicates a gradual improvement or increase in the accessibility of financial services over time. In contrast, the zero-slope recorded by

FFII suggests that there has been little to no significant change in the accessibility of financial services according to its measurements. This could imply that efforts or circumstances impacting accessibility have remained relatively stagnant within the FFII context.

The data in Figure 2 provides an overview of traditional financial inclusion and fintech-based financial inclusion by average level between 2011 and 2021. The overall average TFII is 0.192, while the overall average FFII is higher at 0.456. This suggests that fintech-based financial inclusion has been more successful in providing access to financial services compared to traditional financial inclusion based on Fintech tools by size.

The usage dimension of both TFII and FFII has the highest average values (0.286 and 0.572, respectively). This indicates that the actual utilization of financial services through Fintech tools has been the most prominent factor contributing to financial inclusion growth. The access dimension of FFII (0.266) outperforms the TFII's access dimension (0.188), indicating that Fintech tools have been more effective in enhancing access to financial services within the G22 group. The higher accessibility dimension value of FFII (0.416) compared to TFII's accessibility dimension (0.082) suggests that fintech-based financial services have made it easier for people to access financial resources.

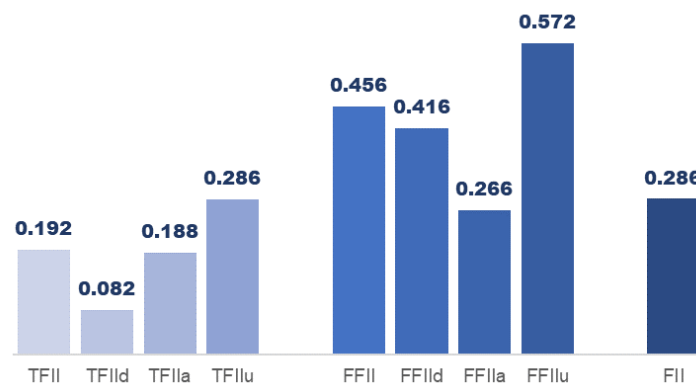


Figure 2. Indices of traditional financial inclusion by size

Source: elaborated by the author

The overall slopes for both TFII (-0.014) and FFII (-0.026) in Figure 3 suggest a slight declining trend in both traditional and fintech-based financial inclusion by size between 2011 and 2021, indicating that despite fluctuations, the progress in financial inclusion has not been consistently positive and has encountered certain challenges.

The usage dimension of both TFII (-0.042) and FFII (0.042) exhibited the most notable changes in trends. While the usage dimension of TFII decreased, the FFII's usage dimension increased. This indicates that the adoption and utilization of financial services through Fintech tools have displayed divergent trends for traditional and fintech-based financial inclusion.

The access dimension slope of TFII (0.007) suggests a slight positive trend, indicating a gradual improvement in the accessibility of financial services over time within the TFII framework. On the other hand, the access dimension slope of FFII (0.000) indicates that there has been little to no significant change in the accessibility of financial services according to the FFII measurements. This

highlights the need to focus on improving access to a wider range of financial services through Fintech tools to enhance financial inclusion.

The differing trends in the accessibility dimension of TFII (0.003) and FFII (-0.036) indicate that traditional financial inclusion experienced a slight positive trend in terms of improving access to financial services over time. In contrast, fintech-based financial inclusion saw a decline in ease of access, possibly due to various factors such as changes in technology, regulations, consumer behaviours, or market dynamics that might have affected the effectiveness of fintech tools in maintaining or enhancing accessibility to financial services.

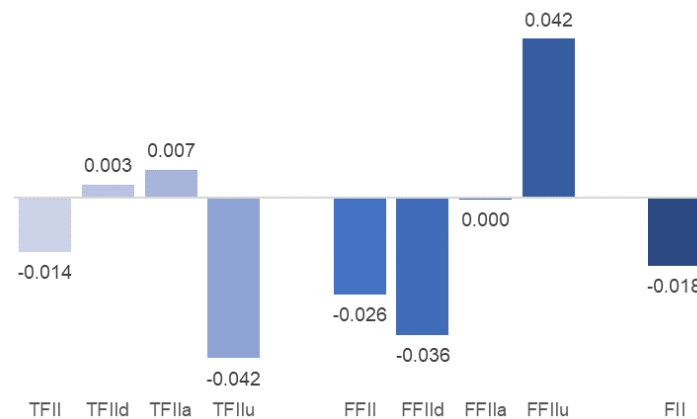


Figure 3. Slope of the changes in the rating position (2011-2021)

Source: elaborated by the author

Rating positions on TFII, FFII and FII of the G22 developing nations

As it is presented in Table 2, some countries have experienced a decline in financial inclusion ratings between 2011 and 2021, while other countries registered considerable improvement in terms of both traditional and Fintech-based financial inclusion.

The top TFII performers in 2021 are Guatemala, Pakistan and Ecuador, which have the highest TFII scores, indicating better traditional financial inclusion compared to other countries in the list. **Guatemala** ranks first in TFII in both 2011 and 2021, maintaining a strong position in traditional financial inclusion over the years. In FFII, Guatemala's performance also improved, ranking 5th in 2021 compared to 8th in 2017, indicating successful fintech adoption over the years. **Pakistan** ranks 2nd in TFII in 2021, demonstrating commendable progress in financial inclusion. The country's traditional financial inclusion rating has improved significantly over the years, rising from 11th in 2011 to 2nd in 2021. In fintech-based financial inclusion (FFII), Pakistan ranks 17th in 2021 compared to 8th in 2011, showing a notable decline over the years. **Ecuador** ranks 3rd in TFII in 2021, indicating significant progress in traditional financial inclusion. The country has experienced fluctuations in traditional financial inclusion scores, but has made significant progress compared to its 15th position in 2017, demonstrating determination to address financial inclusion challenges. In the FFII, Ecuador ranked 6th in 2014 and moved up to 4th in 2021, indicating improvements in terms of fintech adoption.

Meanwhile, Argentina, India and Bolivia have relatively lower **TFII ratings**, indicating challenges in achieving higher levels of traditional financial inclusion. **Argentina** ranks 22nd (last) in the 2021 TFII, highlighting significant challenges in achieving traditional financial inclusion. The country's

TFII rating has remained relatively low over the years, indicating persistent barriers to accessing formal financial services for a significant proportion of the population. In the FFII, Argentina ranked 2nd in 2014 and dropped to 10th in 2021. **India** ranks 21st in TFII in 2021, dropping from 12th position in 2017, indicating room for improvement in traditional financial inclusion. In terms of FFII, India has dropped from 4th place in 2011 to 13th place in 2021. **Bolivia** ranks 20th in TFII in 2021, dropping from the 5th position in 2017, indicating the urgent need for more efforts to promote traditional financial inclusion. Meanwhile, it also shows a decline in FFII from 2017 to 2021, moving from 7th to 11th position.

China, Chile and Uruguay have the highest **FFII scores** in 2021, indicating better financial inclusion based on fintech tools. **China** ranks 1st in FFII in 2021, showing remarkable progress in the adoption of Fintech tools for financial inclusion, compared to the 10th position in the ranking in 2017. It also recorded improvements in terms of TFII, moving from the 17th position in 2017 to the 11th position in 2021. In terms of FFII, **Chile** ranked 2nd in 2021 and 9th in 2017, reflecting the strong adoption of fintech solutions for financial inclusion. In TFII, Chile ranks 9th in 2021 compared to 16th in 2017, indicating a positive trend over the years. **Uruguay** ranked 3rd in FFII in 2021 compared to 11th position in 2014, showing significant progress in the adoption of Fintech tools for financial inclusion. Uruguay ranked 1st in 2017, demonstrating its successful adoption of fintech. In TFII, the country's position in the ranking dropped from the 8th position in 2017 to the 16th position in 2021.

Peru, South Africa and the Philippines have relatively lower **FFII scores**, indicating challenges in adopting Fintech tools for financial inclusion. **Peru** ranked 22nd (last) in FFII in 2021, with a significant drop from the 6th position in 2017, indicating challenges in adopting Fintech tools. In TFII, Peru ranks 15th in 2021, indicating significant fluctuations over the years. **South Africa** ranks 21st in FFII in 2021 and 2014. This compares with the 11th position in 2017, indicating the need for more substantial efforts to leverage technology for financial inclusion. In terms of TFII, South Africa ranks 7th in 2021, compared to the 2nd position in 2011, indicating a negative trend in fintech adoption. **The Philippines** ranked 20th in FFII in 2021, compared to the 9th position in 2011, maintaining low positions over the years, suggesting room for improvement in Fintech-enabled financial inclusion. In TFII, the Philippines ranks 19th in 2021, down from 10th in 2011, indicating a significant decline in TFI over the years.

Some countries show significant changes in their rankings between 2011 and 2021. For example, China has improved its ranking in both TFII and FFII, moving from 17th to 11th in TFII and from 3rd to 1st in FFII. On the other hand, some countries have experienced a decline in rankings, such as the Philippines, which moved from 10th to 19th in TFII and from 9th to 20th in FFII. There are notable disparities in financial inclusion among countries. While some countries have consistently maintained higher rankings, others struggle to improve their financial inclusion metrics throughout the analysed period.

The data in Table 3 show the average ratings and the slope of the rating levels of the 22 countries studied for the Traditional Financial Inclusion Index (TFII), the Fintech Financial Inclusion Index (FFII) and the General Financial Inclusion Index (FII) over the period 2011-2021.

Due to the fact that the ratings are attributing the best ranking to the 1st position and the lowest score to the 22nd position, a decrease in the slope would indicate better performance. The more negative the slope – the better the performance and vice versa.

The most remarkable progress in achieving financial inclusion through the implementation of Fintech techniques, as expressed by FFII, was achieved by Chile, which ranked first by average rating for the period between 2011 and 2021, while the worst performance among the G22 countries was recorded by the Philippines (22nd place). At the same time, the most dynamic in the change of position in the rating of countries by FFII was Uruguay, which gained on average over the 4-year period a little more than one position (slope=-1.05), moving from 11th place in 2014 to 3rd place in 2021. At the opposite pole are Egypt and Turkey, which lost about 2.5 and 2 positions, on average in 4 years, respectively between 2011 and 2021.

Countries with a significant weight in the global economy, such as China and India, have dropped to more modest positions (6 and 13 respectively) in the FFII, with China showing a favourable dynamic (-0.26 positions in 4 years), while India's position in the FFII has declined (+0.88 positions in 4 years). The information in Table 3 reveals a key finding: the positions of countries in the FFII rating differ from those in the TFII rating. For example, Chile, with the first average position for the period 2011-2021 in the FFII rating, ranks only 12th in the TFII rating, while Guatemala, with the first position in the TFII rating, ranks 5th in the FFII rating. The correlation between the two rating lists, for FFII and TFII, shows a weak positive correlation ($r=0.14$), indicating that efforts on one dimension of financial inclusion (e.g. FFII) have only a weak impact on the other dimension (e.g. TFII). Similarly, no interdependencies were found between the rating dynamics of the 22 countries by the two elements of financial inclusion. For example, Uruguay's strongest dynamics in FFII (-1.05 positions over 4 years) is associated with the largest decline in TFII (+1.02 positions on average over 4 years), while Egypt also fell significantly in FFII by around +2.5 positions over 4 years and by almost 1 position in TFII (+0.91 positions over 4 years).

Table 2. Rating positions on TFII, FFII and FII of the G22 developing nations (2011-2021)

Country	TFII				Rating			
	2011	2014	2017	2021	2011	2014	2017	2021
Guatemala	0.417	0.164	0.231	0.416	1	4	3	1
Pakistan	0.350	0.200	0.144	0.318	11	2	4	2
Ecuador	0.336	0.153	0.087	0.307	14	5	15	3
Brazil	0.338	0.072	0.127	0.274	13	17	7	4
Tanzania	0.375	0.336	0.358	0.244	7	1	1	5
Nigeria	0.379	0.137	0.340	0.238	6	7	2	6
South Africa	0.407	0.143	0.119	0.191	2	6	9	7
Venezuela	0.404	0.168	0.112	0.177	3	3	10	8
Chile	0.348	0.080	0.076	0.153	12	15	16	9
Turkey	0.330	0.111	0.067	0.150	16	10	18	10
China	0.323	0.069	0.070	0.150	17	18	17	11
Thailand	0.322	0.095	0.109	0.150	18	12	11	12
Mexico	0.334	0.076	0.067	0.143	15	16	19	13
Indonesia	0.392	0.049	0.063	0.142	5	20	20	14
Peru	0.296	0.083	0.101	0.142	22	14	13	15
Uruguay	0.400	0.105	0.121	0.133	4	11	8	16
Egypt, AR	0.365	0.134	0.093	0.122	9	8	14	17
Paraguay	0.373	0.116	0.136	0.120	8	9	6	18
Philippines	0.356	0.021	0.031	0.111	10	22	22	19
Bolivia	0.297	0.069	0.137	0.095	21	19	5	20
India	0.315	0.091	0.107	0.085	19	13	12	21
Argentina	0.300	0.040	0.049	0.061	20	21	21	22

Country	FFII				Rating			
	2011	2014	2017	2021	2011	2014	2017	2021
China	0.91	0.438	0.4	0.734	3	10	10	1
Chile		0.685	0.404	0.674		3	9	2
Uruguay		0.435	0.615	0.671		11	1	3
Ecuador		0.634	0.454	0.666		6	5	4
Guatemala	0.913	0.528	0.414	0.637	2	7	8	5
Tanzania	0.348	0.33	0.563	0.613	7	16	2	6
Mexico	0.85	0.418	0.392	0.432	5	14	12	7
Brazil	0.918	0.452	0.55	0.429	1	9	3	8
Venezuela		0.64	0.387	0.429		5	15	9
Argentina		0.695	0.388	0.423		2	13	10
Bolivia		0.396	0.426	0.419		15	7	11
Paraguay			0.387	0.416			14	12
India	0.909	0.432	0.381	0.415	4	12	16	13
Indonesia	0.72	0.427	0.323	0.412	6	13	17	14
Thailand		0.456	0.131	0.38		8	21	15
Nigeria		0.17	0.2	0.34		19	18	16
Pakistan	0.238	0.199	0.19	0.295	8	18	19	17
Egypt, AR		0.743	0.459	0.288		1	4	18
Turkey		0.684	0.142	0.166		4	20	19
Philippines	0.236	0.088	0.07	0.096	9	20	22	20
South Africa		0.057	0.393	0.088		21	11	21
Peru	0.025	0.243	0.449	0.075	10	17	6	22

Country	FII				Rating by FII			
	2011	2014	2017	2021	2011	2014	2017	2021
Guatemala	0.536	0.279	0.294	0.488	1	6	2	1
Ecuador	0.476	0.294	0.205	0.416	10	5	11	2
Tanzania	0.364	0.334	0.426	0.357	20	1	1	3
Brazil	0.474	0.194	0.257	0.328	11	15	5	4
Pakistan	0.306	0.200	0.161	0.309	22	14	17	5
China	0.463	0.188	0.178	0.309	15	16	15	6
Chile	0.485	0.248	0.184	0.301	9	9	14	7
Uruguay	0.526	0.213	0.267	0.286	4	11	4	8
Nigeria	0.510	0.149	0.285	0.275	5	20	3	9
Venezuela	0.529	0.307	0.204	0.261	3	2	12	10
Mexico	0.466	0.187	0.174	0.238	13	17	16	11
Peru	0.442	0.262	0.213	0.234	19	8	8	12
Indonesia	0.490	0.170	0.152	0.233	8	19	19	13
Thailand	0.464	0.211	0.118	0.228	14	12	20	14
Paraguay	0.505	0.301	0.221	0.218	6	3	7	15
Bolivia	0.445	0.176	0.233	0.201	18	18	6	16
India	0.456	0.202	0.199	0.193	16	13	13	17
Egypt, AR	0.499	0.298	0.210	0.181	7	4	10	18
Argentina	0.447	0.219	0.160	0.178	17	10	18	19
Turkey	0.471	0.271	0.095	0.156	12	7	21	20
South Africa	0.531	0.110	0.211	0.151	2	21	9	21
Philippines	0.309	0.046	0.045	0.106	21	22	22	22

Source: elaborated by the author

It is important to note the circumstances in which distortions occur between the two elements of financial inclusion. For example, China, which ranks more favourably among the top countries in the TFII (6th), is ranked unfavourably in the FII (only 16th), a phenomenon that can also be observed in the case of India. We believe that China's (India's) great difficulty in ensuring traditional financial inclusion is expressed in the high population density/number, which cannot be physically covered by traditional financial instruments due to their massive costs, which is more easily solved by Fintech instruments.

Table 3. Average rating and changes in rating level for FII, TFII, FFII (2011-2021)

Country	TFII		FFII		FII	
	Average 2011-2021	Slope 2011-2021	Average 2011-2021	Slope 2011-2021	Average 2011-2021	Slope 2011-2021
Chile	12	-0.29	1	-0.23	10	-0.07
Ecuador	7	-0.74	2	-0.28	5	-0.61
Uruguay	8	1.02	3	-1.05	4	0.19
Brazil	9	-1.13	4	0.46	7	-0.94
Guatemala	1	-0.05	5	0.26	1	-0.14
China	16	-0.61	6	-0.26	11	-1.01
Egypt, AR	11	0.91	7	2.49	9	1.10
Tanzania	2	-0.14	8	-0.50	2	-1.37
Argentina	22	0.18	9	1.04	20	0.35
Mexico	17	-0.13	10	0.06	14	-0.27
Venezuela	5	0.64	11	0.46	3	0.89
Bolivia	19	-0.40	12	-0.49	18	-0.56
India	20	0.22	13	0.88	15	0.04
Indonesia	15	0.73	14	0.79	17	0.26
Paraguay	10	0.88	15	-0.50	6	0.89
Peru	18	-0.62	16	0.84	21	0.21
Turkey	14	-0.34	17	2.01	19	1.04
Thailand	13	-0.54	18	0.86	16	0.11
Pakistan	3	-0.74	19	0.79	13	-1.30
Nigeria	4	-0.12	20	-0.43	8	-0.14
South Africa	6	0.51	21	0.14	12	1.26
Philippines	21	0.75	22	1.00	22	0.08

Source: elaborated by the author

These insights provide a glimpse into the financial inclusion performance of various countries over the past decade. They highlight the variations in traditional and Fintech-based financial inclusion efforts and their impact on overall financial inclusion. It is important to note that countries with higher FII values are considered more financially inclusive, meaning they have better access to financial services and opportunities for their populations. On the other hand, countries with lower FII values face challenges in providing financial services and opportunities to their citizens, leading to financial exclusion. As previously mentioned, the index is flexible and can be modified over time and for different sets of countries to reflect changes in financial inclusion dynamics.

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MANAGING THE RISK OF DECREASING FINANCIAL STABILITY

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Abstract: This article discusses the issues of assessing the risk of reducing the financial stability of an enterprise, analyzes the content of this type of risk, and proposes the stages of its assessment. The results of calculations and analysis of the risk of reducing financial stability depend on the presence or absence of distortions in the financial statements. Based on the study, enterprise operations were identified that could lead to a deterioration in the balance sheet structure and a decrease in financial stability. The proposed stages of assessing the risk of a decrease in financial stability will allow us to develop an action strategy aimed at minimizing negative consequences. In conclusion, it is emphasized that the sustainable development and stable position of business entities in modern conditions depend on their ability to quickly respond to changes in the environment, which is reflected in indicators of financial stability. Therefore, achieving financial sustainability is an important condition for the effective functioning of an enterprise.

Keywords: risk of reducing financial stability, financial risks, risk identification, capital structure, financial difficulties, mitigation measures risk, solvency, investment attractiveness.

JEL Classification: G32

Introduction

The development of a market economy contributes to the fact that the main condition for the financial stability of an enterprise is its financial stability, which is a guarantee of survival and the basis for the strength of its position. In this regard, ensuring financial stability in modern conditions is one of the most important tasks. In addition, it is necessary not only to ensure a stable level of financial stability, but also to strive to find ways to improve it. (Serebryakova *et al.* 2017)

Financial stability is understood as the ability of an enterprise to carry out its activities while maintaining a balance of assets and liabilities, subject to influence from the external and internal environment, which guarantees its constant solvency and investment attractiveness within the limits of acceptable risk.

Classification of enterprise financial stability

The classic classification of financial stability should be considered the following division: (Lee *et al.* 2014)

- Absolute financial stability, characterized by a high level of solvency of the company. With this type of financial stability, the organization does not depend on external creditors and competently manages its financial flows and working capital.
- Normal financial stability, which is also characterized by sufficient high level of solvency. With normal financial stability, the company is partially dependent on its creditors, however, it uses

borrowed funds rationally and resorts mainly to long-term loans and borrowings. (Simonov *et al.* 2016)

- Unstable financial condition, characterized by a violation of the normal solvency of the organization. With this type of financial stability, the company has a need to attract additional capital; not only long-term, but also short-term loans and borrowings are used as sources of financing.

- Crisis financial condition. The company is completely insolvent and is on the verge of bankruptcy.

The influence of financial risks on the strategic development of an enterprise

Financial risks have a serious impact on many aspects of the strategic development of an enterprise, but their most significant influence is manifested in two directions: (Pimenov 2015)

- the level of risk has a decisive impact on the formation of the level of profitability of the enterprise's financial transactions;

- financial risks are the main form of generating a direct threat of bankruptcy of an enterprise, since the financial losses associated with these risks are the most tangible.

Risk of reduced financial stability

The risk of a decrease in financial stability refers to the so-called structural risks of an enterprise, since it is caused primarily by imperfections in the structure of the formation of operating assets and capital. Therefore, the main content of the process of managing the risk of reducing the financial stability of an enterprise is the optimization of the composition of long-term and current assets, on the one hand, as well as the ratio of equity and borrowed capital, on the other. (Lee *et al.* 2014)

It should be emphasized that the results of calculations and analysis are influenced by the quality of financial statements, the presence or absence of distortions in them, as well as the level of professionalism of the analyst. If the information requirements are met, there is a high probability of identifying the risk of a decrease in financial stability through the analysis of financial statements. In addition, the risk identification method, based on the analysis of audit reports and other expert opinions on the financial condition of the organization, is also quite informative. (Gilyarovskaya *et al.* 2012)

The most risky types of transactions that can be identified through analysis of an organization's financial statements are systematized in Table 1.

Similar to the data presented in the table, you can supplement the list of operations, taking into account the characteristics of the organization's activities and its industry. Both external (official) and management reporting, generated in accordance with the internal requirements of management personnel, can be used as an information base for identifying such operations. Forecasting financial difficulties allows you to develop measures to reduce risks in advance and more objectively draw up plans for the development of the organization. (Pimenov 2015)

Based on the analysis and assessment of identified risk factors that contribute to a decrease in financial stability, methods and tools are developed to mitigate the negative impact. In addition, in order to formalize the actions of the risk manager and increase the efficiency of applying risk neutralization methods, it is necessary to create regulatory and methodological support, including a list of standard risk management procedures. (Shulgina *et al.* 2012)

Table 1. The most risky operations in the activity of enterprises in the structure of the accounting balance

Operations with an increased risk	Reflecting the economic content of high-risk transactions in balance sheet items	
	Article	Change
The investment of property as a contribution to the authorized capital of another company with the subsequent resale of the stake to third parties (interested parties)	Fixed assets. Financial investments	Decrease Increase with subsequent write-off of the amount
The introduction of property as a contribution to the authorized capital of a friendly company or a one-day company	Fixed assets. Financial investments	Decrease Increase
Repayment of debt to interested/third parties with valuable property, including fixed assets	Fixed assets Accounts payable	Decrease
Providing an interest-free loan to a friendly company, an affiliate	Financial investments	Increase depending on the term of the loan
Issuance of commercial or commodity credits and their non-return, transfer of advance payment to the Supplier for a non-existent operation	Receivable indebtedness	Increase
Bills of exchange in which the debtor accepts bogus bills as payment for goods, works, services	Receivables	Increase
Formation of artificial debt to a friendly creditor	Accounts payable	Increase
Realization of financial investments in low-quality securities in the absence of income on them	Financial investments	Increase
Making guarantees on loans of third parties that are not related to a legal entity	Securing obligations and payments issued	Increased off- balance sheet item

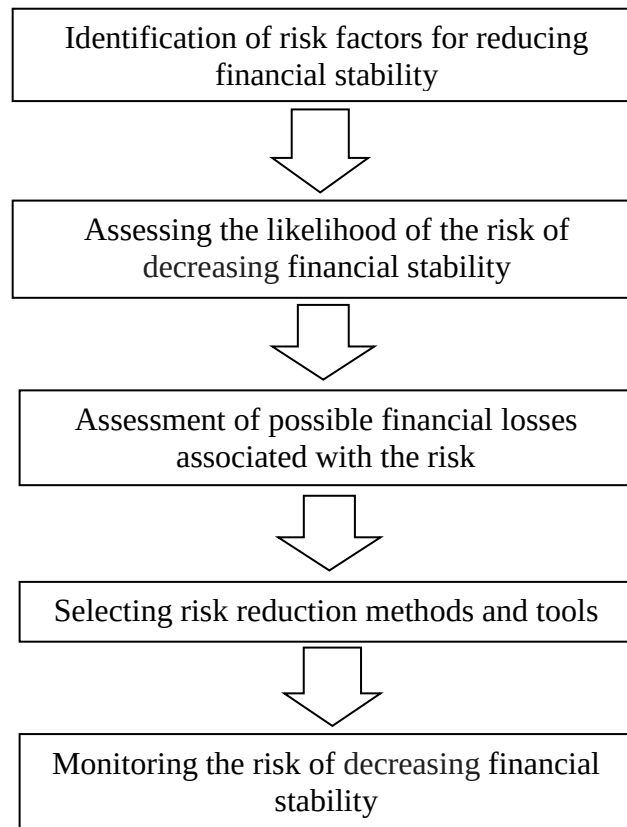
Source: based on Lyadova (2020)

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When managing the risk of reducing the financial stability of an enterprise, the following stages of its assessment are proposed. (Scheme 1)

The risk management system used at the enterprise, including the risk of reducing financial stability, must ensure the prompt identification of problem areas and the adoption of the necessary measures to eliminate them.



Scheme 1. Stages of assessing the risk of reducing the financial stability of an enterprise.

Source: authors own study or based on Gilyarovskaya et al. (2012)

Conclusions

Summarizing the above, we can draw the following conclusions. In conditions of economic instability, accompanied by a high level of uncertainty, the creation of an effective risk management system becomes necessary. An important aspect of this system is managing the risk of reducing financial stability.

To structure the risk assessment process, we have identified the main stages of assessing the risk of reducing the financial stability of an organization, which allows us to deeply examine the factors influencing the risk.

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EVOLUTION OF BUDGETARY-FISCAL POLICY IN THE REPUBLIC OF MOLDOVA AT THE CURRENT STAGE

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Abstract: In the Republic of Moldova, public finance management (PFM) is subject to continuous reforms. Reforms are necessary to improve PFM, especially given that resource allocation must be in line with the national goals in the context of the Republic of Moldova's EU candidate status. The vision of reforms is reflected in the policy document Strategy for Public Finance Management 2023-2030. The Memorandum on Economic and Financial Policies signed with the International Monetary Fund in 2023 also provides for a series of reforms of budget-fiscal policy to strengthen revenues mobilization, improve budget quality and budget transparency, efficiency of expenditure related to economic growth etc. Moldova has already implemented the foundations of a modern budget and has made good progress in line with the recommendations of international organizations on budgetary governance. The most important reforms were the introduction of new budget legislation, a medium-term budget framework, performance budgeting, and the piloting of gender-responsive budgeting.

This paper examines some aspects of the evolution of budgetary-fiscal policy in the Republic of Moldova, with particular attention to the budgetary process. Based on this analysis, the recommendations focus on ways to strengthen the institutional and policy framework, improve the quality of the methods and tools available for decision-making throughout the budget process, and the quality of the budget management system.

Keywords: public finance management, reforms, budgetary-fiscal policy, budgetary governance, gender budgeting

JEL Classification: H61, G18

1 Introduction

The policy of the Government of the Republic of Moldova is focused on measures to restore economy, economic growth, and maintain and support the sustainable development framework. Consolidation of public finances will be achieved through the effective distribution of public money according to clearly defined priorities and increased accountability for the use of public funds, through best

practices to improve the quality of public spending and prevent waste of public funds.

At the same time, the process of European integration is a priority in the medium and long term. Increasing the level of preparation for accession to the European Union (EU) and aligning national legislation with EU *acquis* will impact all areas of socio-economic development.

These processes occur against the backdrop of risks that could negatively impact the macrofiscal picture. During 2024 and in the medium term, the prevailing risks are escalation of global geopolitical tensions, prices for energy resources and other products, supply chains, lack of external demand etc. The conflict in Ukraine, which continues into 2024, affects the security of the region, putting additional pressure on the Government and population in the context of uncertainty over energy and raw materials prices (Ministry of Finance, 2024). Recession and negative shocks in the economies of the Republic of Moldova's main trading partners could negatively affect exports, remittances, industrial activity and increase uncertainty about the global economic outlook. Domestically, unfavorable climatic conditions and a decline in agricultural production, worsening imbalances at the macroeconomic level, especially the labor shortage in the labor market, contribute to the vulnerability of the national economy during 2024 and beyond.

The purpose of the research is to analyze the evolution of budget-fiscal policy in the Republic of Moldova at the present stage, examining the main elements and processes of budget-fiscal policy with an emphasis on gender equality. The aim is to identify elements of the gender dimension in the national policy documents of the Ministry of Finance. The component of the **performance programs** of the Medium-Term Budgetary Framework (MTBF) documents, as well as other budgetary-fiscal policy documents, were analyzed through the lens of gender integration.

The basic aspects of budgetary-fiscal policy analysis led to the consideration of priorities, measures, actions established by the government (at the central and/or regional/local level) in order to collect revenues and meet the needs of the population and legal entities. In the same vein, such an analysis will include the institutions responsible for carrying out these activities, performance indicators, and the resources required to implement these activities.

Since the development of budget drafts is carried out on the basis of policy documents such as the Development Strategy of Public Finance Management (2023-2030), the State Debt Management Program (2024-2026), the National Development Strategy "European Moldova", the comprehensive approach also takes into account the set of priorities specified in the above documents in order to extract the relevant aspects of the budgetary-fiscal policies.

2 General Overview of Fiscal-Budgetary Policy in the Republic of Moldova

Experts believe that the Republic of Moldova has a comprehensive legal framework regarding public finance management and budgetary-fiscal governance. The legal framework was improved with the adoption of the Law on Public Finances and Budgetary-Fiscal Responsibility in 2014 and currently provides an adequate platform for public finance management (Ministry of Finance, n.d.b).

In the Republic of Moldova, public finance management (PFM) is subject to continuous reforms. Considering the objective of European integration, our country strives to comply with the requirements and best practices of the European Union in various areas, including public finance management. The vision of reforms in this area is reflected in the policy document Development Strategy of Public Finance Management for 2023-2030 (approved by Government Decision No. 71 of 22.02.2023). Following the expiration of the previous strategy (2013-2020), the current one has

incorporated the lessons learned from the previous strategy. The Memorandum on Economic and Financial Policies signed with the International Monetary Fund in 2023 also envisages a number of budgetary-fiscal policy reforms to strengthen revenue mobilization, improve budget quality and budget transparency, and optimize growth-related spending etc.

In the context of our country's participation in the annual economic and financial analysis exercise for EU candidate countries, the Economic Reform Program (2024-2026) was approved. The document aims to prepare Moldova for future participation in the coordination and governance of EU economic policy. The document also proposes strengthening structural reforms to support macroeconomic stability, improve competitiveness and foster inclusive growth and job creation. (Ministry of Finance, n.d.c)

The budgetary-fiscal policy is also developed in accordance with other convergent policies and ensures the achievement of the goals adopted in the Activity Program of the Government, restricted by the possibilities of the medium-term budgetary framework (MTBF). The current medium-term budgetary framework (2025-2027) reflects the Government's budgetary-fiscal policies, including debt and expenditure, for a three-year period and is based on the national policy documents: the Government Activity Program "Prosperous, Safe, European Moldova", the National Development Strategy "European Moldova 2030", the National Action Plan for the Accession of the Republic of Moldova to the European Union for 2024-2027, the Association Agreement between the Republic of Moldova and the European Union, the Republic of Moldova – European Union Association Agenda (2021-2027), the National Development Plan for 2025-2027, as well as the commitments to development partners. [1] This linkage highlights the close correlation between the set of planning documents, MTBF and the sectoral strategies of the national policy framework (Figure 1). Budgetary and fiscal policy documents go through the same life cycle as planning and public policy documents, in accordance with the provisions of the legal framework, especially Government Decision no. 386/2020 on planning, elaboration, approval, implementation, monitoring and evaluation of public policy documents.

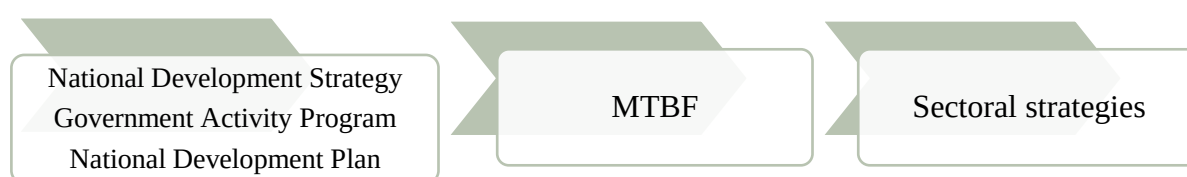


Figure 1 The role of budget-fiscal policy in the planning process

Source: own work of the authors

At the level of budget development and preparation, the legal framework provides medium-term budget planning and annual budget preparation are carried out in a single process in accordance with the budget calendar specified in Article 47 of the Law on Public Finances and Budgetary-Fiscal Responsibility. Detailed technical steps for developing the medium-term budgetary framework and the annual budget, including the responsibilities of the Ministry of Finance, are provided in the Methodological Set for the Development, Approval and Amendment of the Budget (approved by the Order of the Minister of Finance no. 124 of 21.12.2023), as well as in the annual Budget Circular (Ministry of Finance, n.d.a). The medium-term state debt management program is drawn up simultaneously with the MTBF.

Addressing the issue of gender equality in the public finance system. A sensitive aspect of the reform agenda, which is being actively promoted in our country with the support of development partners, is the integration of gender into public policy, including public finance management. It is recognized that gender-responsive public finance management can address specific gender needs and reduce gender gaps across sectors, as there is a direct link between the use of public funds and the quality of people's lives, as well as the impact of factors affecting access to public resources based on gender, age, disability, ethnicity.

Given the focus of public finance on program budgeting (*bugetarea pe programe*), gender-responsive budgeting concerns not only the funding of gender equality initiatives, but also includes the analysis of fiscal policies and budget decisions to understand their intended and unintended impacts on gender equality in order to design and implement more effective policies (Government Decision no. 71, 2023). In our country budget development does not take into account gender discrepancies. The guidelines issued by the Ministry of Finance and the budget circular do not provide sufficient information on the impact of budget policy on gender equality or guidance on how to it can be achieved. The budget documentation does not include details of policy priorities or budget measures aimed at gender equality, or an analysis of the impact of budget policies on gender equality (Government Decision no. 71, 2023).

2.1 Budgetary-Fiscal Governance

Promoting sustainable and prudent budgetary fiscal policies is the goal of budgetary-fiscal governance. Budgetary-fiscal governance is a set of guidelines and procedures that determine how budgetary-fiscal policy is planned, approved, implemented and monitored. The basic element of budgetary-fiscal governance is the medium-term budgetary framework, together with national budgetary-fiscal rules and the independent budgetary-fiscal institutions (Ministry of Finance, n.d.a). Considering that the implementation of budgetary-fiscal policy in a given year has implications for subsequent periods, it is necessary to establish a sound budgetary framework in the medium term.

The medium-term budgetary framework. Every year the Ministry of Finances publishes a medium-term budgetary framework, which is based on reliable forecasts over a three-year period. The legal and administrative procedures of MTBF in Moldova are robust enabling a disciplined budget formation process. In particular, the adoption of Law no. 181/2014 reinforced the MTBF process introduced in Moldova in 2002 by establishing clear requirements for the structure and milestones for both the MTBF and the annual budget (Ministry of Finance, n.d.a).

There is a need to ensure that the MTBF serves as an effective instrument for *linking policy to budget* and for strengthening compliance with rules and regulations. At the same time, the analysis contained in the MTBF only concerns the impact on policies over a three-year horizon. There is currently no assessment of the impact of existing policies on the long-term sustainability of public finances in Moldova. In the longer term, there may be a need to further strengthen the link between policy and budget in the MTBF; and develop the capacity to assess the impact of existing policies on the long-term sustainability of public finances in Moldova in order to feed this analysis in the design and implementation of economic policies (Ministry of Finance, n.d.a).

According to national planning documents, the main objective of the Government is to strengthen the budgetary-fiscal position and the management of public finances. In the context of current challenges, in order to address economic problems and boost sustainable development of the country, the Government focuses on promoting macroeconomic policies oriented towards stability and reforms that

promote economic growth. Among the main goals of budget policy over the past decade are those that have a social focus: 1) strengthening social assistance programs and adopting policies that guarantee social protection and social security for those in need; 2) the implementation of a clear social protection policy that will support vulnerable segments of society and encourage employment, guaranteeing the sustainability and effective management of these expenditures (Ministry of Finance, n.d.).

3 Priorities of Expenditure Policy by Sectors and Budget Programs

Budgets are prepared and reports are presented on the basis of performance-oriented programs in accordance with the performance principle (Law no. 181, 2014). The dynamics of public expenditures for the period 2022-2027 and projected allocations by key sectors are presented in Figure 2.

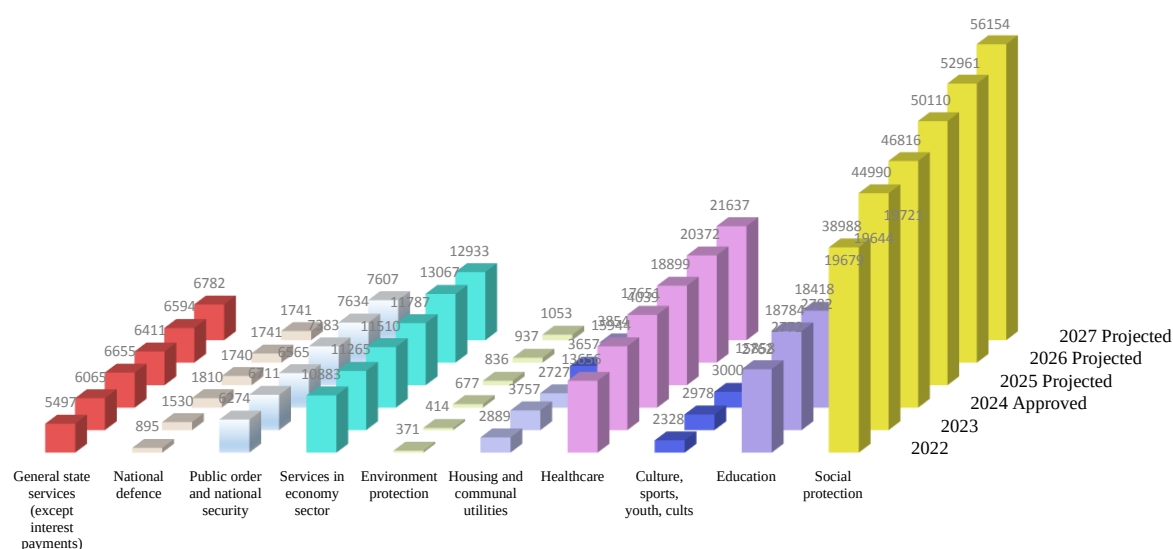


Figure 2 Budget expenditure for 2022-2027, million lei

Source: own work based on data from the Ministry of Finance

Social protection expenditure accounts for the largest share of expenditure in the national public budget for 2022-2027 (interest payments excluded). The share of these expenditure in 2025-2027 will amount to an average of 39.8%. The growth of this category of public expenditure is determined by the annual indexation of social payments and the growth in the number of recipients of social payments. Next come health care expenditures, which are expected to increase due to healthcare expenditures from the Compulsory Health Insurance Fund and the development of the material and technical base of medical institutions.

Estimates for 2025-2026 show that budget expenditures will increase by 1.9 percentage points in 2025 and 1.4 percentage points in 2026 as a percentage of GDP. Thus, growth is projected in the areas of social protection, education, public order and national security both in nominal values and as a share of GDP, with expenditures being adjusted as a result of the implementation of wage policy measures (Ministry of Finance, n.d.).

3.1 Government Social Protection Program and its Objectives

The social protection sector remains a priority in the Government Activity Program and the National Development Strategy. For the period 2025-2027, the Government Activity Program proposes to reform the social assistance system by reviewing and reforming social assistance benefits in order to increase participation in the labor market. The procedure of establishing and administering social support payments and packages will be improved to ensure more efficient and fair distribution. The National Development Strategy aims to achieve a strong and inclusive social protection system by providing quality and relevant social assistance services, strengthening the sustainability of the social insurance system and ensuring a child protection system that responds promptly and effectively to the needs of every child.

At the same time, the social protection sector is gender sensitive as it differentiates between the needs of women and men. Goals, priorities, indicators with a focus on the gender dimension can be defined in the MTBF. In general terms, the objectives of the social protection sector for 2023-2027 in the Government Activity Program are presented in Table 1.

Table 1 Objectives of the social protection sector

	MTBF 2023-2025	MTBF 2024-2026	MTBF 2025-2027
Government activity program	- Improve the quality of life by promoting comprehensive policies to ensure sustainable, equitable and socially responsible social protection that adequately supports the population. - Modernization of the functioning of the labor market, promotion of development-oriented policies, strengthening equal opportunities for women and men, including youth, as well as equal remuneration for work of equal value	- Design and implement development-oriented productivity growth strategies and policies that support productive employment, decent work, fair working conditions and access to the labor market for all, strengthening equal opportunities for women and men, including youth, older persons and persons with disabilities. - Ensure a sustainable increase in pensions, benefits and allowances	- Reformed social assistance system by reviewing and reforming social welfare benefits to increase labor market participation. The way social support payments/packages are established and administered will be improved to ensure a more efficient and equitable distribution
National Development Strategy	A robust and inclusive social protection system achieved through: - provision of a range of quality and appropriate social assistance services; - strengthening the sustainability of the social insurance system; - ensuring a child protection system that responds promptly and effectively to the needs of each child		

Source: own work based on data from MTBF

Comparative evolution of priorities in the social protection sector in 2023-2027 is presented in the following table.

Table 2 Priorities of the social protection sector

Social Protection	MTBF 2023-2025	MTBF 2024-2026	MTBF 2025-2027
Sector priorities	-	Promoting equality between women and	Preventing and combating violence

		men, reducing gender inequality in the labor market and in wages	against women and domestic violence
			Promoting and ensuring equality between women and men in the Republic of Moldova
Key performance indicators	Gender equality aspects integrated into sectoral policies	Integrating aspects of gender equality, prevention and combating violence against women and domestic violence into sectoral policies	-

Source: own work based on data from MTBF

In the coming period (2025-2027), preventing and combating violence against women and domestic violence, as well as promoting and ensuring equality between women and men, continue to be priorities for the social protection sector. Particular attention is paid to the indicator on the integration of dimensions of gender equality, prevention and combating violence against women and domestic violence into sectoral policies.

The MTBF provides for the allocation of resources for subprogram 9006 "Family and child protection" and subprogram 9013 "Ensuring equal opportunities for women and men". The share of total subprogram 9013 allocations by sector represents the values in Table 3.

Table 3 Share of total allocations of subprogram 9013 by sector (2021-2027), thousand lei

Subprogram	2021 executed	2022 executed	2023 executed	2024 approved	2025	2026	2027
9006 „Family and child protection”	3 141 115,0	3 479 057,0	4 272 019,9	4 887 158,5	5 283 606	5 634 940,8	6 012 429,7
Total share by sector	10,63%	8,92%	9,45%	10,48%	10,5%	10,6%	10,7%
9013 „Ensuring equal opportunities for women and men”	53,4	18,2	21,5	14,6	14,6	14,6	14,6
Total share by sector	0,00018%	0,00004%	0,00004%	0,00003%	0,00003%	0,00002%	0,00002%
Total per sector	29.525.500,0	38 988 420,0	44 990 300,0	46 612 565,3	50 109 741,3	52 961 002,4	56 153 592,3

Source: own work based on data from MTBF

The main activities and medium-term expenditures of subprogram 9006 "Family and child protection" for 2023-2027 are presented in Table 4.

Table 4 Activities of subprogram 9006 and medium-term expenditures, thousand lei

Activities	MTBF 2023-2025			MTBF 2024-2026			MTBF 2025-2027		
	2023	2024	2025	2024	2025	2026	2025	2026	2027
Maternity benefits	811 258,3	859 629,3	977 131,5	842 072,3	929 647,7	1 023 542,1	913 654,7	1 004 106,7	1 100 500,9
One-time allowance for the birth of a child	382 551,4	495 406,2	573 198,2	414 658,7	437 450,8	459 310,0	664 840,3	697 053,1	734 456,0
Child care allowance	2 804 851,9	3 012 784,9	3 213 650,2	3 029 100,5	3 252 564,9	3 492 155,6	3 105 668,9	3 329 339,2	3 567 706,8
Paternity allowance	32 191,1	35 538,9	38 722,8	34 262,7	37 826,0	41.646,4	44 292,9	48 678,1	53 351,1
Free helpline for victims of domestic violence and violence against women	873,6	873,6	873,6	873,6	873,6	873,6	873,6	873,6	873,6

Source: own work based on data from MTBF

The main activities and medium-term expenditures of subprogram 9013 "Ensuring equal opportunities for women and men" are reflected in Table 5.

**Table 5 Activities of subprogram 9013 and medium-term expenditures,
thousand lei**

Activities	MTBF 2023-2025			MTBF 2024-2026			MTBF 2025-2027		
	2023	2024	2025	2024	2025	2026	2025	2026	2027
Providing support for the activity of joint information and service bureau	53,4	53,4	53,4	33,4	33,4	33,4	14,6	14,6	14,6
Total for subprogram 9013	53,4	53,4	53,4	33,4	33,4	33,4	14,6	14,6	14,6

Source: own work based on data from MTBF

Government Decision no. 661 of 30.08.2013 approved the framework regulation on the organization and operation of the Joint Information and Services Bureau, which establishes a unified mechanism for providing information and services to the population, as well as the procedure for receiving requests from applicants and providing services by addressing the service providers within the Bureau (Government Decision no. 661, 2013). The Bureau provides services to people in urban and rural areas, including women and vulnerable groups. The MTBF 2023-2025 also includes two gender-sensitive performance indicators: the number of recipients of information and services, and the share of the recipients of information and services provided by the mobile teams out of the total number of recipients of information and services.

Conclusion

Understanding the evolution of fiscal-budgetary policy and governance is layered with complexity. While the existing legal framework requires some reforms to strengthen overall budgetary-fiscal discipline, reform is also needed to improve the management of public finances, especially in the context of Moldova's EU candidate status.

International experience shows that there is no single or universal way to address this issue; instead, each country must create its own budgetary-fiscal governance and framework, taking into account its unique political context and available resources. This would be particularly relevant in our case, given the generally limited understanding of the specifics of the budgetary-fiscal sector and the lack of informed and evidence-based debate on the development and implementation of public policy.

Empirical evidence suggests that developing gender-responsive budgetary-fiscal policy needs to take into account country-specific features, including human and financial capacities, political traditions and history of gender discrepancies. They should serve as a basic principle for testing the applicability of such a gender approach in the country's budgetary-fiscal policies.

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SESSION VIII.

**LEGAL CONFLICTOLOGY IN ECONOMIC LAW
RELATIONSHIPS**

THE RIGHT TO PRIVACY AT THE WORKPLACE

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Abstract: Employees in any workplace, whether physical or virtual, have certain fundamental rights to privacy. These rights form the cornerstone of a healthy, respectful work environment and are often legally protected. In this article, we'll explore what these rights entail and what are the obligations of the parties in this context.

In order to achieve the proposed objective, we will analyze the international legal provisions as well as those of the Republic of Moldova regarding the protection of private life at the workplace, as well as some cases from international judicial practice.

Keywords: private life, working place, electronic monitoring, employees, data protection.

JEL Classification: K311, K 24, J81, J83.

Introduction

The concept of private life is a general notion recognized and enshrined for decades in the laws of modern states, which aims to protect individuals against the implications of third parties on their personal space. With the passage of time, the question regarding the value dimension of this concept arises more and more often, considering the evolution of legal relations, the processes of globalization and digitization of everyday life (Pislaruc, 2020).

The aspect of private life persists in most material and informational spaces, and the workplace is no exception in this respect. The exact definition of the concept of the private life of the employee at work with the stability of some fixed limit would be a too restrictive measure, from which consideration it is more appropriate to set some benchmarks, which would help the litigant to determine if certain actions on the part of the employer or third parties can be considered interference in the employee's own life or not. (Pislaruc, 2020)

The main international regulations of the right to private life can be found in: Universal Declaration of Human Rights of 1948 - Article 12; International Convention on Civil and Political Rights of 1966 - Article 17; European Convention on Human Rights from 1950 - Article 8; and at the EU level we find certain regulations in the Charter of Fundamental Rights of the European Union - Article 7.

As the term "privacy" can be defined with varying degrees of strictness, it is preferable to use the term "violations of private or personal life" (European Committee of Social Rights, Conclusions 2006). The emergence of new technologies which have revolutionised communications have permitted employers to organise continuous supervision of employees and in practice enabled employees to

work for their employers at any time and in any place, with the result that the frontier between professional and private life has been weakened. The right to undertake work freely includes the right to be protected against interferences with the right to privacy. (European Committee of Social Rights, Conclusions 2012)

Pursuant to Article 1 paragraph (2) of the European Social Charter (ESC), natural persons must be protected against interference with their private or personal life associated with or arising from the professional situation, in particular through modern electronic communication and data collection techniques. (European Committee of Social Rights, Conclusions 2006)

Violations of the right to privacy and dignity can take very different forms. These can range from questions to employees or job seekers about their family situation or background, their associations, their opinions, their sexual orientation or behaviour, and about their or their family members health. and how they spend their time outside of work. They may also result from the temporary or permanent storage and processing of this data by the employer, from its exchange with third parties and from its use for the purpose of taking measures regarding employees. (European Committee of Social Rights, Conclusions 2006)

Under Articles 1§2 and 26 of ESC, the principles protecting employees from unnecessary interference in their personal or private lives are worded in the most general terms. However, it should not be overlooked that under various specific circumstances, violations of these principles can also constitute violations of other articles of the Revised Social Chart. This applies in particular to Article 3 (one of whose aims is to counter threats to workers' health, including their mental health), Article 5 (in relation to the right to join organisations and not to disclose that one is a member), Article 6 (in relation to collective bargaining), Article 11 (in relation to mental health), Article 20 (in relation to discrimination on the ground of sex), Article 24 (in relation, in particular, to paragraph a., on reasons for dismissal) and Article 26 (in relation to protection against various forms of harassment). (Digest of the Case of Law of the European Committee of Social Rights)

The European Convention on Human Rights (1950), at Article 8 establishes: "1. Everyone has the right to respect for his private and family life, his home and his correspondence. 2. There shall be no interference by a public authority with the exercise of this right except such as is in accordance with the law and is necessary in a democratic society in the interests of national security, public safety or the economic well-being of the country, for the prevention of disorder or crime, for the protection of health or morals, or for the protection of the rights and freedoms of others.."

The main collision between the right to a private life and the employee's labor obligations lies in the unprecedented development of IT and CT technologies (internet, e-mail, social networks). A series of normative acts regulate the protection of the individual against interference in everything related to privacy. (Donțu, 2022)

In the Republic of Moldova, the protection of the right to private life of employees is regulated by the following normative acts:

- a. The Constitution of the Republic of Moldova (1994) partially guarantees the right to a private life and protects some aspects related to this right: Article 28, private and family life; Article 32, enshrines the right to free image; Article 30, privacy of of correspondence.
- b. Law of the Republic of Moldova no.133/2012 on the protection of personal data, aims to ensure the protection of the fundamental rights and freedoms of natural persons with regard to the processing of personal data, especially the right to the inviolability of intimate, family and private life.

c. Labor Code of the Republic of Moldova (2003), in Article 91 refers to the general requirements regarding the processing of the employee's personal data and the guarantees regarding their protection;

d. Article 177 of the Criminal Code of the Republic of Moldova (2002) regulates the crimes related to the the violation of privacy and the violation of the right to privacy of correspondence - Article 178.

The most controversial subject in the matter of employees' right to privacy is their monitoring at the workplace.

The monitoring of the use of the Internet and e-mail by employees has turned into a custom, with employers expressly indicating that the means of information technology made available to employees are intended exclusively for the purpose of carrying out professional activity.

The jurisprudence of the European Court of Human Rights (ECtHR) proposed a judicial solution in the field of monitoring employees at work.

Thus, in the case of *Copland v. UK*, 2007, the Court decided that the sphere of privacy protection includes telephone conversations and electronic correspondence at work. Although the employer defended himself, demonstrating that the content of the phone calls was not monitored, but only their duration and cost, as well as the numbers dialed, the ECtHR decided that he affected the private life of his employee, especially in the conditions that the latter did not was warned about the possibility of monitoring.

The petitioner wrote to the employer to ask if there was a general investigation or if only her e-mails were being investigated. The employer informed the petitioner that, under the conditions in which all e-mail traffic was recorded, the College's information department only investigated her e-mails, at the request of her superior. At that time the College had no availability policy in force regarding the monitoring of telephone, e-mail or Internet use by employees.

There must be a measure of legal protection in the internal law of the state against the arbitrary interference of public authorities in private life, because the lack of public control generates the risk of an abuse of power. The Court mentioned that, it does not exclude the fact that monitoring the use of the telephone, e-mail or the Internet by an employer at the workplace can be considered as "necessary in a democratic society" in certain situations, in order to fulfill a legitimate purpose. However, considering that in that period, in English national law there were no regulations regarding monitoring actions, the interference described above was not qualified "in accordance with the law", a fact which, taken together with other circumstances, determined the European Court to find the violation of art. 8 of the Convention by the UK.

The monitoring of employees has been a sensitive subject for a long time in the member states of the European Union. Thus, pursuant to Article 29 of Directive 95/46/EC of the European Parliament and of the Council of 24 October 1995 on the protection of individuals with regard to the processing of personal data and on the free movement of such data, a working group was established for the protection of persons in regarding the processing of personal data, invested with the powers of an independent European advisory body for data protection and privacy issues. This advisory body developed a Working Document on the supervision of electronic communications at the workplace, through which the following principles were established, as recommendations: (Working Document (EU) 2002)

- a) the principle of necessity, according to which the employer must verify whether the monitoring of employees is necessary for a defined purpose, the collected data not being kept longer than is necessary to fulfill the proposed purpose;
- b) the principle of finality, according to which the data must be collected for a specified, explicit and legitimate purpose and not further processed in a way incompatible with those purposes. In this context the “compatibility” principle means, to use an example, that if the processing of data is justified on the basis of the security of the system, this data could not then be processed for another purpose such as for monitoring the behaviour of the worker.
- c) the principle of transparency, according to which the employer must be clear and open about his activities. It means that no covert e-mail monitoring is allowed by employers except in those cases where a law in the Member State under Article 13 of the Directive allows for that.
- d) processing operations means that any data processing operation can only take place if it has a legitimate purpose as provided for in Article 7 of the Directive and the national legislation transposing it.
- e) the principle of proportionality, according to which requires that personal data including those involved in monitoring must be adequate, relevant and not excessive with regard to achieving the purpose specified;
- f) the principle of security, this principle obliges the employer to implement appropriate technical and organisational measures to ensure that any personal data held by him is secure and safe from outside intrusion. It also encompasses the right of the employer to protect his system against viruses and may involve the automated scanning of e-mails and network traffic data.

Another case from ECtHR jurisprudence is that of *Bărbulescu v. Romania (2017)*. Examining the application, the European Court found that, although the applicant had indeed been informed about the prohibition to use the Internet for personal purposes, imposed by the internal regulation, nevertheless, the instructions of an employer cannot reduce to zero the exercise of the right to private social life at the workplace. Respect for privacy and the confidentiality of communications is still required, even if they can be limited to the extent necessary. The monitoring of the applicant's communications by the employer and the latter's consultation of their content, with a view to justifying the dismissal of the person in question, is not considered “interference” on the part of a public authority, because the stated measure was taken by a legal entity of private law.

However, the Court observed that the measure adopted by the employer was confirmed by the national courts, from which they consider the request of the applicant Bărbulescu to have been examined from the perspective of the state's positive obligations. The Romanian state had the obligation to adopt a normative framework designed to protect the applicant's right to respect his private life and his correspondence in the context of his professional relations with a private employer. Thus, the Court referred to European Union law when it ruled on respect for private life and data protection:

- monitoring the use of the internet by an employee at work and using the collected data as a reason for dismissal (*Bărbulescu v. Romania (MC)*, 2017, points 44-51).
- the dismissal of some employees who had been video-surveilled by their employer at the company's headquarters (*López Ribalda and others v. Spain (MC)*, 2019, paras. 63-66).

The European Court of Human Rights established that, although the purpose of Article 8 of the Convention is essentially to protect the individual against arbitrary interference by public authorities, nevertheless, in addition to this negative obligation of the state, there is also the positive obligation,

which consists in adopting measures intended to ensure respect for private life even in the sphere of private relationships between individuals.

From the above, the employer's positive and negative obligations are deduced, in the context of ensuring the right to the protection of employees' private life.

The legislation of the Republic of Moldova contains modest regulations regarding the protection of the employee's right to private life. This right is reflected in article 91 of the Labor Code, which states that: the employer is not entitled to obtain and process data related to the employee's political and religious beliefs, as well as his private life. In the cases provided by law, the employer can request and process data about the employee's private life only with his written consent.

In most EU member states, the monitoring of telecommunications (e-mail, internet, telephone): listening and recording of telephones or private conversations, as well as violating private correspondence, are strictly prohibited and fall under the criminal provisions. Conversations or emails of a private nature (including those between employees) may not be listened to/recorded or read in any way, even when they have been expressly prohibited.

Communication technology is an indispensable tool for modern organisations – including emails, access to the internet, or mobile phones provided to staff. Limited private use of these tools is often permitted, generating a level of expectation by employees for privacy: employers should not routinely read employee' emails or check what they are looking at on the internet.

However, employers also have a legitimate interest to ensure that usage remains limited. In order to balance the monitoring of usage while respecting their employees' privacy, employers should adopt a gradual approach and avoid the collection of data when possible. (Data protection (EU))

Under these conditions, the employer is required to adopt an internal policy for the processing of employees' personal data, which contains both the rights and obligations of the parties to the legal employment relationship in order to ensure and respect the right to private life within the legal relationship work.

The justification of an interference in the private life of the employee will only take place when certain conditions are met, therefore, when examining cases that concern the private life of employees, the state and national courts must take into account the following aspects:

- 1) interference in private life must be provided by law;
- 2) the interference is necessary in a democratic society;
- 3) offering the employee guarantees and tools to defend against arbitrary actions;
- 4) the interference pursues a legitimate purpose;
- 5) informing the employee about the employer's possibility to adopt monitoring measures as well as about the implementation of such measures;
- 6) assessment of the extent of the monitoring carried out by the employer and the degree of intrusion into the private life of the employee;
- 7) the possibility of establishing a monitoring system based on less intrusive means and measures;
- 8) the consequences of monitoring for the employee. (Pislaruc, 2020)

Analyzing part of the European jurisprudence in the matter of the employee's right to private life, the statement is outlined that, when the plaintiff invokes that a legal person has committed an interference in his private life, thus violating the provisions of Article 8 of the Convention, the Court will analyze the case from the perspective of the state's positive obligations.

In conclusion, we mention that states are obliged to regulate the protection of the employee's right to private life.

Although the Republic of Moldova has ratified art. 1 of the European Social Charter and ensures this right of employees, the national labor legislation does not contain provisions regarding the monitoring of electronic communications of the employee, this fact being achieved more through the lens of the Law on the protection of personal data.

Given that technologies are part of the work process, and their use is a part of necessity, it is required to regulate the electronic monitoring procedure at the employee's workplace, so that this fact does not interfere with the private life of the employee, but also does not harm the employer. As a result, employers will develop clear internal regulations for electronic monitoring at the workplace.

From the perspective of integration into the European Union and the harmonization of national legislation with the Community AQuis, this aspect is only a matter of time for employers and employees in the Republic of Moldova.

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ECONOMIC GENDER EQUALITY IN MOLDOVA: LEGAL CHALLENGES

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Abstract: Economic gender equality is a pivotal issue in the Republic of Moldova, where significant disparities continue to exist between men and women in terms of income, employment opportunities, and access to resources. This abstract addresses the legal frameworks and policies currently in place in Moldova aimed at promoting gender equality in the economic sphere. The study explores the effectiveness of these laws, highlighting both successes and areas of persistent inequity.

The research employs a mixed-method approach, combining quantitative data analysis of gender disparities in economic indicators with qualitative assessments through legal case studies and policy reviews. The purpose of this study is to identify the legal obstacles that hinder gender equality in economic relationships and to propose legal reforms that could enhance equity.

Preliminary findings suggest that while Moldova has made strides in aligning its legal system with international standards on gender equality, enforcement remains weak, and cultural norms continue to perpetuate gender biases in the workforce. The study concludes with recommendations for improving legal enforcement mechanisms and promoting gender-sensitive economic policies.

Keywords: Gender Equality, Economic Law, Moldova, Legal Reform, Gender Inequity

JEL Classification: K38, J16, D63

1 Introduction

Economic gender equality is not only a fundamental human right enshrined in international frameworks but also essential for achieving social justice and sustainable development. As outlined by the **Council of Europe** according to the 2030 Agenda for Sustainable Development's 17 Sustainable Development Goals (SDGs), gender equality forms the bedrock of democratic development, poverty reduction, and the achievement of the **UN Sustainable Development Goals (SDGs)** (United Nations, 2020). In Moldova, despite legislative strides aimed at promoting gender equality, significant gaps persist between the de jure (law) and de facto (practice) realization of these goals, especially in the economic sector (Findlaw, 2020).

Gender inequalities manifest in various dimensions of economic life in Moldova, including employment, wage gaps, and access to entrepreneurial opportunities. For instance, while Moldova's legal framework mandates equal pay for equal work, data consistently show that women earn less than men across many sectors. According to a 2022 report by the **World Economic Forum** (World Economic Forum, 2022), Moldova ranks 32nd in terms of gender parity in economic participation, highlighting the disparities that continue to exist in wages, career progression, and leadership

positions. Laws such as Moldova's **Law on Ensuring Equal Opportunities for Women and Men (2006)** aim to ensure formal equality in all sectors of life, including employment and public participation. However, legal frameworks alone are insufficient to close the gender gap, particularly in a society where traditional gender roles continue to influence perceptions of women's economic roles. A 2020 study by **UN Women** highlights that Moldovan women continue to disproportionately shoulder unpaid care work, which limits their participation in the formal economy (UN Women, 2020). Moreover, institutional weaknesses, including underfunded monitoring bodies and inadequate judicial enforcement, further hinder the translation of gender equality laws into concrete progress. This paper explores the legal and cultural challenges to achieving economic gender equality in Moldova. Specifically, it will analyze the national and international legal frameworks designed to promote gender equality, assess the enforcement mechanisms in place, and examine the cultural and institutional barriers that undermine progress. By drawing on case studies and international comparisons, the study provides recommendations for enhancing the efficacy of Moldova's gender equality laws.

2. Legal Framework on Gender Equality in Moldova

2.1 National Legislation

Moldova's **Law on Ensuring Equal Opportunities for Women and Men (2006)** stands as the cornerstone of the nation's legislative framework for promoting gender equality. The law mandates that men and women must have equal access to opportunities in education, employment, and public life (Transparency International Moldova, 2020). It also establishes mechanisms to monitor and combat discrimination, including the creation of specialized institutions, such as the **National Council for Preventing and Eliminating Discrimination and Ensuring Equality**.

Additionally, the **Labor Code** of Moldova includes specific provisions aimed at protecting women from discrimination in the workplace. For example, it guarantees equal pay for equal work and prohibits the dismissal of women due to pregnancy or maternity leave. However, a 2021 report by the **International Labour Organization (ILO)** pointed out that Moldova continues to face challenges in implementing these protections, particularly in private sector industries where enforcement is weaker (International Labour Organization (ILO), 2021). For example, despite legal provisions, there is a persistent wage gap between men and women, with women earning approximately 14.5% less than their male counterparts, according to a 2020 **National Bureau of Statistics** report.

Moreover, gender-based discrimination is often underreported, partly due to societal norms and the fear of retaliation. A study by **Transparency International Moldova** found that over 60% of women in the workforce had encountered some form of gender-based discrimination but did not file complaints due to mistrust in legal institutions or fear of negative repercussions (Transparency International Moldova, 2020). This reflects a broader problem of institutional weaknesses, where the bodies responsible for enforcing gender equality laws are often under-resourced and lack sufficient authority to hold violators accountable.

2.2 International Obligations

Moldova's commitment to promoting gender equality extends beyond its national legislation to include various international agreements and treaties. As a signatory to the **Convention on the Elimination of All Forms of Discrimination Against Women (CEDAW)**, Moldova has pledged to align its national laws with international gender equality standards. CEDAW, often referred to as the

international bill of rights for women, requires signatory states to eliminate discrimination against women in all spheres of life and to ensure that women enjoy equal rights and freedoms.

While Moldova has made progress in ratifying international agreements, challenges remain in their domestic implementation. For instance, in its 2019 report, the **CEDAW Committee** expressed concerns regarding Moldova’s ability to fully implement its obligations under the convention. The report highlighted several areas where Moldova needed to improve, particularly in addressing the gender wage gap, combating violence against women, and ensuring equal access to education and healthcare.

In addition to CEDAW, Moldova is also a member of the **Council of Europe** and is therefore bound by the **European Convention on Human Rights**, which enshrines the principle of non-discrimination, including on the basis of sex (CEDAW Committee, 2019). However, despite these international obligations, Moldova has faced criticism for its slow progress in achieving gender parity in economic participation. According to a 2021 **World Bank** report, one of the main barriers to full implementation of gender equality in Moldova is the lack of coordination between national and international bodies (World Bank, 2021). There are often gaps between Moldova’s legal obligations under international agreements and the practical enforcement of these commitments.

3. Legal and Institutional Challenges

3.1 Legal and Institutional Weaknesses

While Moldova has a solid legal framework aimed at promoting gender equality, the practical enforcement of these laws remains weak due to significant institutional limitations. The primary institution responsible for monitoring and enforcing gender equality laws is the **National Council for Preventing and Eliminating Discrimination and Ensuring Equality**. This body is tasked with overseeing the implementation of the **Law on Ensuring Equal Opportunities for Women and Men (2006)** and other related legal frameworks. However, a 2020 report by **UNDP Moldova** highlighted that the council often faces substantial challenges, including underfunding, insufficient staff, and a lack of technical expertise to effectively carry out its mandate (UNDP Moldova, 2020).

A 2019 survey conducted by **Transparency International Moldova** found that approximately 70% of women who experienced workplace discrimination did not report the incidents, partly due to a lack of confidence in the ability of institutions like the National Council to address their concerns (Transparency International Moldova, 2019). Moreover, the council is limited in its enforcement powers, often relying on other government bodies to implement its recommendations. This results in delayed actions or, in many cases, no action at all. In its 2021 annual report, the National Council itself acknowledged that societal resistance to gender reforms, particularly in rural areas, has hindered the progress of gender equality initiatives. This resistance is often rooted in traditional gender norms that view women primarily as caregivers, limiting their perceived role in the public and economic spheres.

One example of the council’s limited capacity to enforce gender equality is the wage gap between men and women in both public and private sectors. Although the council has issued recommendations and guidelines for employers, its inability to enforce mandatory wage transparency has resulted in little progress in closing the gender pay gap. According to a 2020 **ILO** study, Moldova continues to see a wage disparity of approximately 14% between male and female employees, a figure that has remained relatively stagnant over the past decade.

In addition, legal literacy remains a significant barrier to effective enforcement. Many Moldovan women are unaware of their legal rights and the recourse available to them under gender equality laws. A 2020 **UN Women** report pointed out that only 15% of women interviewed were aware of how to file a complaint regarding gender discrimination, reflecting the broader challenges of access to justice in Moldova.

3.2 The Role of the Judiciary

The judiciary in Moldova is another critical institution that faces challenges in the interpretation and enforcement of gender equality laws. While the legal framework provides avenues for addressing gender-based discrimination in employment and other sectors, the courts often struggle with the proper application of these laws due to a lack of gender-sensitive training and institutional biases.

Recent cases of economic discrimination highlight the judiciary's inconsistent approach to gender-related claims, particularly in wage discrimination. For example, in **EEOC v. Enoch Pratt Free Library (2020)**, female branch managers were found to be earning significantly less than their male counterpart despite performing equal work. The court ruled in favor of the women, awarding them backpay and liquidated damages, yet the case took time to resolve, reflecting criticisms about the speed and effectiveness of the judiciary in handling such claims (Business & Human Rights Resource Centre, 2021).

Another case, **EEOC v. Covenant Medical Center, Inc (2020)**, involved a female business intelligence developer who was paid substantially less than her male colleagues. Despite her superior experience, the company justified the disparity with prior salary histories and negotiation differences. The case was resolved with a monetary settlement and an increase in her pay, but gender equality advocates continue to express concerns about the length of time these cases take to resolve and the adequacy of compensation (U.S. Equal Employment Opportunity Commission (EEOC), n.d.).

These cases underscore the broader societal impact of gender pay discrimination and the judiciary's role in addressing these systemic issues.

In the Republic of Moldova, gender-based wage discrimination remains a significant issue despite legislative efforts. A study by the Partnership for Development Center found that Moldovan women lose an average of 9,620 MDL annually due to occupational inequality. This is a result of systemic gaps in legislation, such as the absence of "equal pay for equal work" principles in critical laws like the Law on Remuneration and collective labor agreements. Despite Moldova's commitment to international conventions on gender equality, these gaps hinder effective enforcement of wage equality in various sectors, particularly industrial fields where women constitute a significant portion of the workforce (Robu, 2023),(Borgan Project, 2020).

Moreover, cultural and institutional factors, such as Soviet-era patriarchal norms, contribute to these disparities. Women are disproportionately affected by informal employment and precarious working conditions, exacerbating the gender wage gap. The lack of gender-sensitive policies and programs, particularly in labor-intensive sectors, further perpetuates this issue. While some reforms have been introduced, including a new National Gender Equality Program, there are still substantial barriers to achieving economic parity between men and women in Moldova. (Borgan Project, 2020).

Another example is a landmark case from 2018, a female employee sued her employer for wage discrimination after discovering that her male colleagues were receiving higher salaries for similar work. Although the case was eventually ruled in her favor, it took nearly two years for the court to reach a decision, and the compensation awarded was deemed inadequate by gender equality

advocates. The **National Council for Preventing and Eliminating Discrimination and Ensuring Equality** later criticized the judiciary's handling of the case, citing delays and a lack of understanding of gender discrimination's broader societal impacts.

In the Republic of Moldova, there are notable instances where the judiciary's approach to gender-based wage discrimination has been inconsistent, particularly in handling cases brought before the Equality Council and national courts. A legal analysis by the United Nations Development Programme highlights several cases where women have faced wage disparities compared to their male counterparts. Although Moldova has ratified international conventions on gender equality, such as the Equal Pay for Equal Work principle, enforcement remains a challenge, especially in the private sector, where wage gaps persist.

One significant example is the gender wage gap identified in various industries, with Moldovan women earning approximately 15% less than men. This gap is particularly pronounced in sectors like industrial work, where women are overrepresented. Courts have ruled on several cases addressing this issue, but delays in rulings and inadequate enforcement of penalties remain a concern. The 2016 National Gender Equality Program aimed to address these disparities, yet gaps in the legal framework, such as the absence of specific provisions in key labor laws, continue to hamper progress.

These cases illustrate the broader structural and cultural factors at play, where patriarchal norms and weak enforcement mechanisms undermine efforts to achieve wage parity (Robu, 2023), (Economic Council to the Prime Minister of the Republic of Moldova, 2024)), (Wadham and Russu, 2016)).

This cases reflects broader issues within Moldova's judiciary system. A 2020 report by the **European Court of Human Rights (ECHR)** found that the Moldovan judiciary has significant gaps in applying international human rights standards, including those related to gender equality. The report pointed out that Moldovan courts often fail to consider the structural and systemic nature of gender-based discrimination, focusing instead on individual cases without addressing the broader institutional biases that perpetuate inequality.

Moreover, judicial decisions often lack consistency, with different courts applying varying interpretations of gender equality laws. A 2019 study by **UNDP Moldova** found that judges often interpret gender discrimination claims narrowly, limiting their decisions to explicit cases of unequal treatment while neglecting subtler forms of discrimination, such as indirect discrimination or systemic biases. This inconsistency creates uncertainty for women seeking justice and undermines the effectiveness of Moldova's gender equality laws.

To address these challenges, gender-sensitive training for judges has been recommended by various international organizations, including **UN Women** and the **Council of Europe**. However, as of 2022, progress in implementing such training has been slow, with only a few judicial workshops focusing on gender issues. In the absence of comprehensive judicial reform, the enforcement of gender equality laws in Moldova remains inconsistent, leaving many women without adequate legal recourse for economic discrimination.

4. Cultural and Social Barriers

In addition to the legal and institutional challenges, cultural perceptions of gender roles in Moldova play a significant role in limiting women's economic participation. Traditional views on family roles, where women are seen primarily as caregivers and men as breadwinners, continue to dominate in many parts of the country. A 2020 **UN Women** report highlights that women in Moldova spend an

average of four hours more per day on unpaid domestic work than men, which directly impacts their ability to participate in the formal economy. This disproportionate burden of care work is a major factor that prevents women from seeking full-time employment or pursuing entrepreneurial ventures. A study by the **National Bureau of Statistics** in 2019 revealed that 44% of women in Moldova feel that societal expectations regarding family responsibilities have hindered their professional development. This perception is even more pronounced in rural areas, where traditional gender norms are deeply entrenched, and access to childcare services is limited. As a result, many women are forced to make difficult choices between family obligations and economic independence.

The media and education systems also contribute to reinforcing traditional gender roles. According to a 2021 study by **UNICEF Moldova**, textbooks and educational materials often depict women in stereotypical roles, such as mothers or teachers, while men are portrayed in leadership or technical positions (UNICEF Moldova, 2021). This perpetuates the idea that women are less suited for leadership or economically demanding roles. In a society where these views are deeply ingrained, laws promoting gender equality struggle to gain traction, as they conflict with societal norms.

Furthermore, public opinion surveys conducted by **Transparency International Moldova** in 2020 found that 63% of respondents believed that a woman's primary role should be in the home, while only 25% supported gender parity in high-level professional roles. This cultural resistance to gender equality makes it difficult for women to assert their rights, even when legal mechanisms exist to protect them. For instance, many women are reluctant to report cases of workplace discrimination, fearing backlash from their communities or families.

These cultural barriers intersect with legal challenges to create a complex landscape for gender equality in Moldova. Even when women have the legal right to equal pay or protection from discrimination, societal expectations often deter them from pursuing these rights. To overcome these obstacles, a comprehensive approach is required, one that addresses not only legal reforms but also cultural shifts in how gender roles are perceived and valued in society.

5. Policy Recommendations

To address the challenges identified in Moldova's quest for economic gender equality, this paper proposes several policy recommendations aimed at strengthening both the enforcement of existing laws and shifting cultural perceptions of gender roles.

1. **Increased funding for the National Council for Preventing and Eliminating Discrimination and Ensuring Equality:** The council currently lacks the resources to effectively monitor and enforce gender equality laws. By increasing funding and staffing, the council can better address complaints of discrimination and ensure that employers comply with gender equality legislation.
2. **Judicial training programs focused on gender-sensitive interpretations of the law:** Judges and legal professionals must receive comprehensive training on how to interpret gender equality laws. This includes understanding the systemic nature of gender-based discrimination and ensuring that legal judgments reflect the broader societal implications of gender inequality.
3. **Public awareness campaigns to shift cultural norms surrounding gender roles:** Cultural barriers remain one of the most significant obstacles to achieving gender equality in Moldova. Public awareness campaigns, particularly in rural areas, should focus on challenging traditional gender roles and promoting the economic and social benefits of gender equality. This could involve partnerships with educational institutions, the media, and civil society organizations to reach a wider audience.

4. Expansion of childcare and family support services: Providing accessible and affordable childcare is essential for increasing women's participation in the workforce. Policies that support work-life balance, such as parental leave for both mothers and fathers, can help shift cultural perceptions of caregiving as a shared responsibility between genders.

5. Incentivizing private sector compliance with gender equality laws: The government could introduce financial incentives for businesses that demonstrate compliance with gender equality legislation, such as tax breaks or public recognition. This would encourage employers to actively promote gender diversity and equal pay within their organizations.

6. Conclusion

Moldova has made notable progress in aligning its gender equality laws with international standards, but significant challenges remain in both the enforcement of these laws and societal acceptance of gender equality. While legal frameworks exist to promote equality in the workplace and beyond, weak institutional capacity and deeply ingrained cultural norms continue to hinder women's full economic participation. Addressing these issues requires a multifaceted approach that includes legal reforms, institutional strengthening, and cultural change.

To bridge the gap between formal legal equality and actual equality in practice, Moldova must invest in strengthening its enforcement mechanisms and shifting societal attitudes that limit women's roles in the economy. By tackling both the legal and cultural dimensions of gender inequality, Moldova can make meaningful progress toward achieving gender parity in economic participation and ensure that women and men alike have equal opportunities to contribute to the country's development.

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ANALYSIS OF SOME CASE STUDIES ON ELECTORAL CORRUPTION

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Abstract: Electoral corruption is one of the most serious threats to democracy and the fair electoral process. In essence, electoral corruption involves the manipulation of votes and electoral procedures through various illicit means such as bribery, intimidation, fraud and the use of public resources for partisan purposes. These practices not only undermine the integrity of elections, but also erode citizens' confidence in democratic institutions and the political system as a whole.

Keywords: vote buying, intimidation, pressure, prevention, combat, legal liability, awareness campaigns, civic education

JEL Classification: D71, K40

Introduction

In many countries, electoral corruption is an endemic problem that affects not only developing countries but also established democracies. Whether it is the distribution of material benefits to voters to influence them, the manipulation of electoral lists, the intimidation of political opponents, or the falsification of ballots, these practices distort election results and endanger the principle of representativeness. As a result, leaders elected through such means can end up serving the interests of narrow, powerful groups at the expense of the common good.

Another important aspect of electoral corruption is its connection with other forms of corruption. Politicians who resort to illicit means to win elections will often perpetuate other types of corruption once in power. This creates a vicious circle in which public resources are diverted for private purposes, and state institutions are weakened and become ineffective in combating corruption. In this context, citizens are the ones who suffer the most, through the loss of access to quality public services and the diminution of economic opportunities.

Combating electoral corruption requires concerted efforts and complex strategies that involve both legislative measures and effective institutional mechanisms. Educating and mobilizing citizens, careful monitoring of the electoral process by non-governmental organizations and international institutions, and the firm enforcement of existing laws are essential to ensure free and fair elections.

The degree of investigation of the problem at the current time, the purpose of the research. At the current time, the importance and purpose of developing this scientific approach, arises from the author's intention to highlight in the foreground some landmarks of electoral corruption. At the same time, there is also the urgent need to carry out a comprehensive analysis regarding the essence of the research subject.

Materials used and methods applied. In the process of developing the scientific article, we were guided by several and various scientific research methods that made it possible to properly investigate the titular subject, among which we can list: the analysis method, the synthesis method, the deduction method, the systemic method, the historical method, as well as the comparative method.

The theoretical and legal basis of the scientific approach includes the defining material such as national legislation, as well as various sources from international specialized literature – which directly or indirectly address the essence and content of the subject under research.

Results obtained based on scientific analyses. Electoral corruption is a complex phenomenon that refers to various forms of influencing election results through illegal or unethical means. This includes acts such as vote buying, voter intimidation, electoral list manipulation and ballot box fraud. These practices undermine democratic principles and the right of citizens to freely express their political will.

Another definition would be that electoral corruption is the illegal use of funds, influence or other means for the purpose of obtaining a political or electoral advantage. This phenomenon has serious consequences for the integrity and credibility of the democratic process, distorting the will of citizens and undermining the fundamental principles of the rule of law.

Electoral corruption can take several forms, each with its own implications and effects on the integrity of the electoral process. The main types of electoral corruption include:

- 1) **Vote buying** – offering money, goods or material advantages in exchange for voting. This practice undermines the freedom of voters to freely express their choice;
- 2) **Voter intimidation and pressure** – threats, violence or any form of coercion on voters to get them to vote a certain way. This violates fundamental electoral rights;
- 3) **Institutional favoritism** – the use of public resources or official influence to favor a particular candidate or party. This abuse of power undermines the fairness of electoral competition.

Electoral corruption can use a variety of mechanisms to influence election outcomes. Some of the most common methods include *vote buying*, *voter intimidation*, *electoral manipulation*, and *illegal campaign financing*. These illegal practices pose a serious threat to democracy, undermining the integrity and fairness of the electoral process.

Vote buying is one of the most widespread forms of electoral corruption. It involves offering money, goods or other material advantages in exchange for a voter's vote. This practice distorts the will of the electorate and undermines democratic principles, as voting is no longer free and fair.

False electoral promises mean that politicians may resort to false or exaggerated electoral promises to win votes. This includes offering benefits or projects that cannot be delivered or are not in the public interest. Such manipulative tactics create a lack of trust in the political system and distort elections

Deceptive electoral advertising means that electoral advertising materials may be used to spread false or biased information about candidates. This may include personal attacks, distortion of achievements or policies, or exaggeration of qualifications. Such practices distort elections and cause voters to make decisions based on incorrect information.

Electoral corruption has a devastating impact on democracy, undermining the integrity and legitimacy of democratic processes. When elections are influenced by corrupt practices, the will of the people is distorted and public trust in the system is seriously damaged. Citizens lose faith in their ability to

choose their leaders through free and transparent voting, which undermines the basic principles of a functioning democracy.

The outcome of corrupt elections leads to the installation of leaders in power who are not legitimately elected and who do not represent the real interests of the population. They can then use state resources for their own benefit or that of affiliated interest groups, ignoring the needs and wishes of citizens. This leads to an erosion of government accountability and the rule of law, generating a vicious circle of lack of trust and alienation from the political system.

In the long term, electoral corruption fuels the frustration and disillusionment of the population with democracy, paving the way for authoritarianism, populism and political instability. Without strong electoral integrity, a democracy cannot survive and progress, and the country risks slipping into a deep democratic crisis.

The Republic of Moldova has made significant strides in recent years to combat corruption at the national level. There is a well-defined legislative framework, which includes a series of laws and regulations designed to prevent and sanction acts of electoral corruption.

Among the most important normative acts are the ***Law on Preventing and Combating Corruption, the Criminal Code of the Republic of Moldova, the Law on Financing the Activities of Political Parties and Electoral Campaigns***, and the ***Electoral Code***. These laws establish both corruption offenses, including those related to elections, and sanctions for violating legal provisions.

Also, the Republic of Moldova operates the National Anticorruption Center, an institution specialized in preventing, investigating and combating the phenomenon of corruption. It carries out activities of monitoring, controlling and investigating corruption cases, including in the electoral sphere.

Sanctions for acts of electoral corruption are:

- **Criminal sanctions.** Acts of electoral corruption are considered serious crimes and can attract significant criminal sanctions. The individuals involved can be sentenced to imprisonment from 2 to 7 years, depending on the seriousness of the act. Fines and confiscation of illegally acquired assets can also be imposed;
- **Civil sanctions.** In addition to criminal sanctions, participants in electoral corruption may be required to pay civil damages. Affected victims or institutions may claim material and moral damages. Election results may also be annulled if the corruption significantly influenced the final outcome;
- **Ban on public office.** Convictions for electoral corruption may also result in a ban on holding public office for a period of 5 to 10 years. This sanction aims to deter and remove corrupt individuals from the electoral process and public administration;
- **Complementary sanctions.** In some cases, complementary sanctions may also be applied, such as confiscation of illicit assets, publication of the sentence in the media or prohibition of the right to stand for election. These additional sanctions aim to effectively punish those involved in corrupt acts and strengthen confidence in the integrity of the electoral process.

The role of the authorities in combating electoral corruption. In combating electoral corruption, the authorities play a crucial role. They are responsible for developing and implementing effective legislation against all forms of fraud and manipulation during electoral processes. This legislation must be clear, comprehensive and provide for strong sanctions for violations.

The authorities must also ensure rigorous supervision of all stages of the electoral process, from the registration of candidates to the counting of votes. They must closely monitor the activity of political

parties, the media and electoral observers in order to detect and sanction any attempt to corrupt the elections.

In addition, the authorities must promote transparency in the financing of electoral campaigns and ensure that voters are well informed about their rights and obligations. Civic education and awareness campaigns about the dangers of electoral corruption are also essential.

The role of the media in combating electoral corruption. The media plays a crucial role in combating electoral corruption. Through journalistic investigations, investigative reporting and in-depth analysis, the media can make a significant contribution to revealing and unmasking acts of electoral corruption. Journalists can expose to the public the complex schemes through which candidates or parties try to influence voters through illegal methods, such as offering money, gifts or favors in exchange for votes.

The media also has a responsibility to inform citizens about the legislation and sanctions applicable to electoral corruption, thus encouraging more conscious and responsible electoral participation. Through editorials, debates and interviews, the media can raise public awareness of the dangers that electoral corruption poses to the health of democracy.

In addition, the media can play an important role in monitoring the electoral process, reporting possible irregularities and violations of the law. The presence of journalists at polling stations and in party headquarters can ensure greater transparency and accountability of political actors.

Citizens' Responsibility in Preventing Electoral Corruption. Citizens play a vital role in preventing electoral corruption and maintaining the integrity of the electoral process. They have a duty to actively engage in the supervision and monitoring of elections, to ensure that fraud or manipulation does not occur. Citizens' duties include:

1. *electoral information and education.* Citizens must inform themselves about electoral laws and regulations, in order to be able to identify and report any illegalities;
2. *participation in election observation.* Citizens can become accredited electoral observers, who will monitor the conduct of the election and report any irregularities;
3. *reporting cases of corruption.* Citizens who witness acts of electoral corruption must immediately report them to the competent authorities, to ensure their investigation and sanctioning;
4. *refusal to be corrupted.* Citizens must exercise their right to vote freely and consciously, without being influenced by bribery or pressure. Civic engagement of citizens is essential to ensure free and fair elections that reflect the will of the people and strengthen democracy.

Awareness campaigns and civic education. In order to combat electoral corruption, it is essential to carry out awareness campaigns and civic education at the national level. Competent authorities, non-governmental organizations and the media should collaborate to organize information sessions in schools, universities, public institutions and within local communities. These campaigns could include seminars, debates, information brochures and audio-visual materials that explain in detail the mechanisms of electoral corruption, the applicable legislation and the ways to report possible violations.

Conclusions and recommendations. Finally, it is worth mentioning that electoral corruption represents a serious threat to democratic integrity and the well-being of society. This phenomenon distorts the will of voters, undermines trust in the electoral process and strengthens the power of those who resort to illicit practices. To effectively combat electoral corruption, sustained efforts are needed

from all actors involved: competent authorities, mass media, non-governmental organizations and, last but not least, citizens.

In order to ensure the integrity of elections and consolidate democracy in the Republic of Moldova, the following recommendations are required:

a) *Strengthen the legal framework and enforce sanctions.* Anti-corruption legislation must be updated and improved to provide effective tools to prevent, investigate and combat electoral corruption. Law enforcement authorities must act promptly and decisively to sanction any violations;

b) *Increasing transparency and accountability of political actors.* The financing of electoral campaigns, the expenses and activities of political parties must be subject to rigorous control and be carried out transparently. Citizens must have access to information on the wealth and interests of candidates;

c) *Educating and involving citizens.* Promoting civic education and the active participation of citizens in the electoral process are essential to raise awareness and reduce vulnerability to manipulation. Citizens must be informed and report any signs of electoral corruption;

d) *Strengthening the role of the media.* Journalists and media institutions play a crucial role in denouncing and exposing acts of electoral corruption. The media must act independently and professionally, providing reliable and objective information.

Only through a holistic approach and concerted involvement of all stakeholders will we be able to effectively prevent and combat the phenomenon of electoral corruption, guaranteeing the integrity of elections and strengthening democracy

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SESSION IX.

**CONTEMPORARY LIBRARIES: CHALLENGES,
TRANSFORMATIONS AND PREMISES FOR
DEVELOPMENT IN THE NEW SOCIO-ECONOMIC
CONTEXT**

ALIGNING LIS COMPETENCY AND QUALIFICATION STANDARDS WITH MARKET DEMANDS: A CASE STUDY FROM MOLDOVA

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Abstract: In today's digital landscape, the Library and Information Science (LIS) sector is challenged to keep pace with rapid technological developments and the exponential growth of information. These changes require constant reassessment of library roles and functions, transforming libraries into multi-functional information and cultural hubs. To remain relevant, LIS training programmes need to be regularly updated to equip professionals with advanced information management skills and the ability to navigate effectively in digital environments. It is imperative to develop flexible competency and qualification standards that encompass both technical skills and soft skills, such as communication and ethical information handling, to align LIS education with current and emerging trends.

Prompted by these needs, the Ministry of Education and Research of the Republic of Moldova initiated task forces to establish competency and qualification standards in library, information and archival studies. These efforts aim to meet the demands of the labour market and to create a modern, coherent educational framework. Between 2023 and 2024, these task forces developed Competency Standards and Qualification Standards for the professional field 0322 Library, Information and Archival Studies for the bachelor's, master's and doctoral levels, as well as the Occupational Standard and Qualification Standard for the professional-technical level.

These competency standards provide a robust framework for assessing and improving the skills of librarians in Moldova. By setting out core competency requirements, they help to ensure a high quality of service in diverse library environments, enabling librarians to meet the needs of the community and provide accurate and relevant information.

In addition, these standards have informed the development of qualification standards at the four levels of the National Qualifications Framework (4, 6, 7 and 8). Developed in line with European standards, international best practice and the specific competence needs of the LIS sector, these standards are designed to synchronise professional training with market demands, facilitating updates to legislation, curriculum content, job descriptions, recruitment of qualified staff and development of training programmes and qualification examinations.

In a rapidly changing world, proactive training in LIS is important. Identifying key skills and adapting qualification standards will prepare a new generation of librarians to lead innovation in information and education, enhance the profession and ensure that libraries remain vital in modern society.

Keywords: Library and Information Science (LIS), competency standards, qualification standards, digital transformation, professional training, learning outcomes.

JEL Classification: D83; I23; L86

1 Introduction

The transformation of libraries into multifunctional centres of information and culture expands and complicates the role of librarians, highlighting the need for LIS training programmes to constantly adapt to these changes. Today's information technology-driven environment has created new professional demands that require appropriate skills and competencies to develop innovative products and services in response to emerging trends (Sindh and Pinki, 2009). Today's librarians need a diverse set of skills and qualifications to cope with the evolving information landscape. These competencies include technical, people and conceptual skills, as well as important personal qualities such as innovation and social awareness (Amdan *et al.*, 2024). Research shows a gap between the expectations of experienced library and information science (LIS) professionals and the perceptions of recent graduates about the ICT skills required for future jobs (Tahir and Warraich, 2021). It is important to develop professionals who, in addition to information resource management skills, are able to adapt and operate effectively in the changing digital environment.

As the field of LIS continues to evolve in response to advances in technology, changes in information management and changing user needs, traditional methods of education and training are being challenged. Competency-based education offers an alternative approach that focuses on the mastery of specific competencies and skills and is therefore better suited to preparing professionals for the rapidly changing demands of the field. A detailed argument for the adoption of competency-based LIS education is presented below.

These changes have prompted LIS schools to adapt their curricula and libraries and LIS centres to revise their requirements for candidates to meet the changing needs of the labour market (Bronstein and Nebenzahl, 2020). In this context, the development and adaptation of competency and qualification standards is of paramount importance.

2 Problem Statement

In a digitised and changing world, the role of libraries and LIS professionals is becoming increasingly complex and essential. The establishment of competence and qualification standards for these professionals is important to ensure their adaptability and relevance in the face of technological and societal change, and to define the skills and knowledge needed in practice.

New LIS qualification standards are needed to meet the challenges of rapid technological developments and changing information needs. There is currently a gap between academic skills and the practical needs of employers, and areas such as digitalisation and artificial intelligence are not sufficiently addressed in current standards. The employability of LIS graduates is influenced by the alignment of their skills with the needs of industry. Research suggests that while academic programmes provide foundational knowledge, there is a significant gap in the practical skills required by employers. A survey of UK employment agencies found that different library and information management (LIM) sectors prioritise different skills, suggesting the need for tailored curricula (Stephens and Hamblin, 2006). At the same time, despite faculty awareness of industry trends, there is scepticism among practitioners about the adequacy of LIS curricula in preparing graduates for the

workplace (Blankson-Hemans and Hibberd, 2004). Another study found that the Master's programme in LIS did not fully meet the expectations of graduates, employers and society, highlighting a mismatch between educational provision and labour market needs, and recommended a periodic review of the programme to integrate the required 21st century skills to better meet current market needs (Kassim *et al.*, 2023). LIS schools and other organisations should be aware of the learning needs of librarians, including research, and facilitate them by creating a conducive environment for learning and applying research knowledge (Malik *et al.*, 2023).

In contrast, some argue that the evolving nature of LIS roles, particularly in digital environments, requires continuous adaptation of curricula to ensure that graduates remain competitive in a changing labour market (Mullins, 2012). As the demand for advanced skills increases, academic programmes need to adapt to include training in emerging technologies and digital skills (Mu, 2023).

Quality assurance mechanisms also need to be improved to ensure consistency across institutions and to align local standards with international standards, thereby facilitating graduate mobility. The process of reviewing these standards requires more effective collaboration between academic institutions, employers and regulatory bodies.

There are also issues around global LIS educational standards and their impact on professional mobility. The study "An Investigation of LIS Qualifications throughout the World", conducted by researchers at the University of Central England and supported by the International Federation of Library Associations (IFLA), found that the lack of uniform, internationally recognised standards for LIS qualifications hinders the ability of professionals to move and work internationally (Dalton and Levinson, 2000). The researchers conclude that there is no simple solution to achieving reciprocity of LIS qualifications. They suggest further global cooperation to address professional standards or encouraging more countries to adopt accreditation models. In the long term, coherent standards need to be developed to facilitate greater international mobility of LIS professionals.

3 Context

The Qualification Standards for Library, Information and Archival Studies are a basic framework that regulates the professional competencies required by professionals to meet the demands of the labour market. These standards are developed using rigorous methodologies that ensure the link between employers' needs and the higher and vocational education and training system. As part of the development process, the Ministry of Education and Research (MEC) formed working groups that included representatives from various info-documentation structures in the Republic of Moldova, such as libraries, information centres and professional associations, as well as members of academia and vocational training institutions in the field.

Initially, there were no competence standards, which required the creation of both competence standards and qualification standards for four levels of the National Qualifications Framework (NQF): level 4 for vocational-technical studies, level 6 for bachelor's studies, level 7 for master's studies and level 8 for doctoral studies. The process of developing the qualification standards was influenced by the integration of the Republic of Moldova in the context of globalisation and the need to adapt to the dynamics of the labour market, constantly consulting European and international practices.

The Qualification Standards were based on the Competence Standards and the taxonomised occupational competences allowed to focus on learning outcomes, final assessment and criteria for awarding qualifications. The working groups followed the established methodological steps, which

included training experts, documenting the functioning of the labour market, analysing the legal framework, consulting graduates and sector representatives, and defining criteria for assessing the quality of vocational education and training.

In order to facilitate the internationalisation of the labour market and education, it was necessary to align national qualification standards with regional and international standards. This process included the interoperability of learning outcomes and national qualifications instruments with the European Qualifications Framework (EQF), the Europass diploma, the language passport and other similar mechanisms. Compatibility of higher education credit systems with the European Credit Transfer and Accumulation System (ECTS) has also been achieved to ensure international recognition of qualifications. The principles of quality assurance of qualifications have been applied in accordance with the EQF.

In parallel, international and national LIS competence indices, competence and qualification standards in other countries, as well as the results of studies on the competences needed in a modern information environment and development trends in the field were analysed.

4 Results and discussion

The Qualification and Competency Standards are a validated framework describing the professional competencies and associated levels of competence required to become a librarian or library and information professional. They promote competence-based education which focuses on the development of practical skills, not just the accumulation of theoretical knowledge.

Education, training and certification focus on demonstrating the required outcomes in line with the needs of the labour market. The labour market uses 'occupational competence' to describe the skills needed for a job, defined by tasks and responsibilities, while the education system uses 'learning outcomes', which show what a graduate can do after graduation.

Qualification standards comprise competence areas, competences and learning outcomes. In the national normative documents there is no clear definition of the concept of an area of competence, only that it should reflect the stages or phases of the provision of a service or production. According to the Glossary of Key Information Security Terms the area of competence is defined as "A cluster of related Knowledge and Skill statements that correlates with one's capability to perform Tasks in a particular domain. Competency Areas can help learners discover areas of interest, inform career planning and development, identify gaps for knowledge and skills development, and provide a means of assessing or demonstrating a learner's capabilities in the domain" (Paulsen, 2019). The educational objective refers to the content of knowledge and skills required to perform tasks in a subject area, facilitating career planning, identification of gaps and assessment of the learner's competences.

The areas of competence in the qualification standards have been aligned with IFLA (International Federation of Library Associations and Institutions) recommendations, available qualification standards from European countries, and the categories of competencies required of LIS professionals. The areas of competence for the professional-technical, bachelor, master and doctoral levels of study are shown in Figure 1.

Area of competence for Librarian (average qualification) – 4 NQF			
1. Organizing info-documentary activities	2. Managing library collections and processing information resources	3. Providing user services and professional development	
Area of competence for Bachelor Qualification, Qualification Level – 6 NQF			
1. Documentation and analysis of info-documentary processes	2. Implementation of info-documentary processes	3. Monitoring of info-documentary processes	
Area of competence for Master Qualification, Qualification Level – 7 NQF			
1. Documentation and analysis of info-documentary processes	2. Implementation of info-documentary processes	3. Monitoring of info-documentary processes	
Area of competence for Doctor Qualification, Qualification Level – 8 NQF			
1. Designing research and teaching activities in journalism and information	2. Conducting research and teaching activities in journalism and information	3. Enhancing the efficiency of journalism and information activities through scientific foundations	

Figure 1 Areas of competence according to the level of qualification for the professional training field Library, information and archival studies

Source: authors own study

The fields of competence for Bachelor's and Master's degrees are identical, although they represent different levels of education, with Master's being a higher level than Bachelor's. The difference lies in the competences and learning outcomes, which are defined in terms of their complexity according to the hierarchy established by Bloom's taxonomy. For the PhD, the areas of competence have been elaborated taking into account that the LIS field is part of the general field of study of Journalism and Information, as well as the fact that these programmes focus on in-depth individual study.

In addition, for each competence area, the occupational competences have been mapped according to the competence standard for levels 6, 7 and 8 or the occupational standard for level 4 CNC. Table 1 provides a summary of the occupational competences corresponding to each level of study to be achieved by the end of university or vocational-technical higher education.

The development of qualification standards has been achieved by aligning vocational competences with the needs of the labour market, clearly defining the learning outcomes for each level of education and ensuring effective assessment of the skills required for different functions and fields.

Table 2 Professional competences relevant to qualifications

Competences			
4 NQF	6 NQF	7 NQF	8 NQF
PC ₁ Managing personal and professional activities	PC ₁ Gathering information on the info-documentary market	PC ₁ Estimation the info-documentary market based on information consumption needs	PC ₁ Establishing the framework of research needs, expertise and innovation in the field of media and communication
PC ₂ Managing information	PC ₂ Compliance with information requests for	PC ₂ Identification of the procedures for analysing	PC ₂ Researching, creating, and promoting knowledge

resources	information resources	and synthesizing the content of information resources	in media and communication
PC ₃ Technical processing of information resources	PC ₃ Establishing and maintaining a collection of information resources	PC ₃ Quality assurance of information resources collections	PC ₃ Scientific expertise and evaluation of media and communication activities and products
PC ₄ Library management of information resources	PC ₄ Ensuring the preservation of information resources	PC ₄ Coordination information resources development, storage and preservation	PC ₄ Implementing scientific achievements in journalism, librarianship, and communication practice
PC ₅ Cataloguing system management	PC ₅ Evaluation of the use of information resources	PC ₅ Evaluation of information resources management	PC ₅ Conceptualisation of professional training programmes in journalism and information
PC ₆ Collections maintenance	PC ₆ Examination of standards, data recording formats, and processing of information resources	PC ₆ Assessing compliance of information/data processing and preservation processes.	PC ₆ Development and establishment of professional training courses in journalism, librarianship, and communication education
PC ₇ Preservation of information resources	PC ₇ Analytical and synthetic processing of information resources' content.	PC ₇ Examination of user needs to expand the offering of info-documentary services and products	PC ₇ Modernise and optimise the journalism and information education process
PC ₈ Serving users through consultation and loans	PC ₈ Establishing an information organization and search system.	PC ₈ Coordination the provision of info-documentary services and user training	
PC ₉ Bibliographic information	PC ₉ Storing and preserving information resources	PC ₉ Managing the preparation of info-documentary products	
PC ₁₀ Provision of cultural and educational services	PC ₁₀ Assessing of the processing and preservation quality of information, data, and information resources	PC ₁₀ Evaluation of user satisfaction	
PC ₁₁ Use of ICT techniques and tools	PC ₁₁ Identifying community information needs	PC ₁₁ Assessment of the external and internal operating environment of the info-documentary institution	
PC ₁₂ Professional capacity building	PC ₁₂ Analysing the supply of information services	PC ₁₂ Planning the activity of the info-	

	and products	documentary institution	
	PC ₁₃ Providing info-documentary services, as well as training for information users	PC ₁₃ Organisation of methodological and innovative activity in the info-documentary field	
	PC ₁₄ Creating information and documentation products	PC ₁₄ Impact evaluation of info-documentary activity	
	PC ₁₅ Measuring user satisfaction		

Source: authors own study

Once qualification standards have been developed, their validation and approval by the competent authorities requires several implementation steps, including the adaptation of curricula in higher education and vocational education institutions to integrate the defined competences and learning outcomes. Active promotion of these standards is also necessary to inform employers and to ensure the recognition of competences and qualifications acquired by graduates in accordance with the new standards.

5 Conclusion

To meet these challenges, it is necessary to develop new qualification standards in library and information science that reflect the needs of industry, integrate technological advances, recognise diverse educational backgrounds, ensure quality, enhance global competitiveness and promote collaboration between stakeholders. These standards will support the development of graduates capable of working in a dynamic information environment.

Qualification standards in LIS include a set of core competencies, changing curricula and compliance with international standards, and are essential to prepare professionals for today's challenges. However, rapid changes in technology and information may require continuous adaptation of curricula to maintain the relevance of LIS education.

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READING CLUBS AS PARTICIPATORY ART AND SCIENCE IN PUBLIC LIBRARIES

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Abstract: The social rating, the feeling of identification with a brand, the group with which an individual associates can be tools for stimulating the need for reading through the creation and development of reading clubs. Reading circles are a form of participatory art and science. The sense of associativity contributes to the education of active citizenship, to the creation of the sense of community and civic belonging, increases the pluralism of ideas and actions, intensifying human communication. The collective allows the sharing of experience and reading states. In addition to intellectual development, clubs, through their informal format, contribute to the stimulation of unconventional thinking, critical thinking, horizontal interpersonal communication and the development of socially proactive interpersonal relationships. A new concept applied to functional literacy is that of transliteracy, which we will not refer to in this article. The public libraries of the Republic of Moldova saw in the last decade an opportunity in these forms of providing reading services. Branches of the B.P. Hasdeu Municipal Library provide users with a wide range of clubs, workshops and cenacles in which reading and post-reading dialogue are the main occupation of the group. The purpose of these services is to increase interest in books and develop reading skills in the community.

Keywords: public library, reading club, critical thinking, intellectual associativity, participatory art, participatory science, pluralism of ideas.

JEL Classification: I30; M31; Z13

1 Introduction

Today, more and more is insisted on the thesis that the purpose of reading is not a passive act (as it is often stereotypically perceived), an activity of rest, but, obviously, social involvement, associativity, participation, the acceptance of a proactive behavior, the generation of post-reading attitudes and results (book events, digital content, textual publications, research projects within reading clubs, cenacles and workshops).

Books and reading are no longer synonymous only with solitude and retreat in the privacy of one's own home. Readers are drawn into library spaces to generate events, to become central actors in them. Reading becomes a public manifestation, performance, show.

Thus, we emphasize the orientation towards a more dynamic, more involved perception of the act of reading as a form of social participation of the individual in a community. And libraries become active hubs for fostering interest in science, technology, and civics through art and research.

Technology, moreover, is that variable that continuously changes the way the user relates to the

library. We do not strictly refer to university and academic libraries, although they are the first to cultivate interest in science, but we extend the perspective towards libraries frequented by the general public, where such concerns are not a priority.

2 The Sciences and Praxis of Reading

Transdisciplinary studies on reading applied to several fields of knowledge are becoming more and more important. Many scholars refer to a type of universal reading that transgresses the boundaries of philological training by encompassing cultural history, education, sociology, psychology, and cognitive neuroscience. It is necessary to massively popularize the culture and science of reading to take on practical forms, applicable to new social needs.

More and more theories of reading development are formulated in different social and individual contexts, connected to the particular needs of the reader and the community. Thus, in the age of inter- and transdisciplinarity, we cannot talk about a unified science of reading, but about the sciences of reading constituted by the multitude of theories from several fields of human knowledge that research the multitude of reading needs of the contemporary individual as well as the variety of practical forms of their satisfaction.

The creation of centers for the study of reading and the promotion of reading, the massive reorientation towards the reading public is the new paradigm in which public libraries exist today. The Internet has shifted the emphasis. Electronic multiplication has diluted librocentrism.

The multimedia dimension has virtually eliminated the concept of the old and rare book as an inaccessible object. Everything can be digitized, all documents can be accessible in possible digital collections. Thus, from a prestigious institution through the preserved book collection, the library gradually became the prestigious institution through the promotion of reading and the dissemination of books.

It is not only interested in quantitative data regarding the collection of documents, but also statistics regarding services and events promoting specific titles and authors. The book is no longer a finality of the bibliographic field, the book has become an important element of a flow of library processes that generate an offer of products and services.

The infrastructure of reading today involves more than the reader, the book, the reading room. It encompasses and runs them like a Möbius Strip, where the process matters and not the object to be preserved, where movement matters as a sign of evolution.

For a long time bibliology, as the science of books and reading, and library science were of interest to the writer. Over time, bibliography became a field strictly reserved for book publishing, and librarianship concerns migrated to the other pole – the reader, the ideal user of the library and in great demand lately, as we all inhabit a universe where the economy of attention is an axis of human development, development supposing the perspective of behavioral psychology and that of behavioral economics (Festré, 2015, P. 3).

Libraries cultivate their user of reading services, always attract them into orbit, competing with other cultural or educational institutions. However, there is more and more talk about a marketing of reading materialized in a range of library services: book clubs, reading workshops, contests and book battles, sustainable reading programs and campaigns, etc.

Library spaces have become friendly, they encourage reading and the reader's presence, library design has also been oriented towards capturing attention and creating a user-friendly atmosphere

that generates needs capable of reconfiguring process flows and the offer of library services.

3 Book Clubs, Reading Clubs, Reader Clubs

We are familiar from literature lessons with the notions of literary salon or literary cenacle. Referring to the development of reading skills, functional and social literacy, we currently use the terms (on-line) book club, reader's club, reading group and book discussion club.

This phenomenon has become an important part of contemporary culture since the 20th century. An applied trend in the western English-speaking area (especially in the USA) is that of writing textbooks, guides, theoretical volumes about the science of reading from the general perspective of knowledge and not through the strictly philological prism of reading, as happens in our area. This reflects the fact that the library must also be multidimensional and multifunctional.

Kathleen F. Malu and Bryce Smedley, in their textbook “The readers club. Handbook”, define a reader's club as a group of its members who meet regularly to read and discuss texts and/or visual images. At the same time, the series of meetings of that group of readers also constitutes that club (Malu and Smedley, 2018, P. 1).

This book club guide outlines some event planning strategies and resources: pre-reading (choice of text, theme, style), reading (visualization, comprehension, semantic linking) and post-reading (discussion, written interpretation, dramatization, use of new words) (Malu and Smedley, 2018, P. 21-83).

An innovative element of this reading vademecum is the fact that the authors refer to a visualization strategy, the exercise of understanding and interpreting an image, its chromatic aspects, its dimensions (Malu and Smedley, 2018, P. 87-96).

Visualization as a complementary activity to reading also belongs to transliteracy, that media and digital literacy imposed by the young generation and the user who comes with new technological requirements that expand the textual to the visual sphere (Andretta, 2010, P. 148).

4 Participatory Art and Science in Book Clubs

Just as reading clubs often organize workshops on interpretation of texts, creative writing, group writing projects, often as a public manifestation or as a public product, we will consider this type of artistic creation as a form of participatory art (professional or amateur). This concept appeared in the Western space as early as the 60s of the last century as a result of cultural emancipation and the need for collective expression.

Terminologically, this type of creation belongs to collaborative art, public art, relational (the artist relates the participants to the activity), contextual (concrete social circumstances of the creation) and social (art influenced by the community, community creation) (NESF Report 35, 2007, P. 2).

Researcher Nelly Țurcan in a documented and conceptually substantiated study published in 2019 in “BiblioPolis” magazine and entitled “Public library and participatory science”, insists on the idea that “public libraries are attractive because they are institutions of knowledge that transcend the boundaries of different disciplines, generations, as well as being transcultural. They also have a huge capacity to fuel social changes through curiosity, knowledge, culture and science” (Țurcan, 2020, P. 13-14).

However, libraries constitute a space open to innovation in the field of participatory research, open science and popularization of science. They bring transformation, ensure the sustainability and efficiency of collective life.

5 Good Library Practices

We believe that public libraries can organize different forms of participatory science within reading clubs, encouraging the creation of scientific book study clubs, with an openness applied to the researched topic (questionnaires, surveys, experiments, etc.). For example, the “Forza” professional reading club at the B.P. Hasdeu Municipal Library (a discussion group of librarians) can easily be transformed into a club with results related to participatory science, which would not be limited only to understanding scientific concepts and theories, but would try to apply them in practical activities. At the same time, already existing book clubs in the Republic of Moldova can be attracted to the physical and online space to benefit readers of different ages and with different experience. An environment conducive to the exchange of post-reading opinions and feelings could be created.

An example of this is the SciFri book club in New York which brings together people interested in science reading: science fiction short stories, non-fiction science books, scientific articles and studies, etc. The club meets monthly, with books chosen for reading by community members. There is also a club radio show, debates are hosted online, authors and scientific experts are invited for interview (What is the SciFri Book Club?).

Similar entities are science book clubs in different geographical spaces that operate online, for example Sciency and Philosophy London Book Club (1000+ members) which aims to read and discuss the world as a dimension of the depths or The Science Book Club Meetap Group in Reston, USA (over 1500 members) that encourages community interest in popular science. We thus identify a horizontal perspective of science, in contrast to the horizontal developments of academic paradigms in the past.

Indeed, recent changes in the librarian field have imposed models of horizontal communication and interaction with the user. The transparency and democratization of the processes is obvious (free online access, free access to the shelf, access of different communities to the library space to host different types of events: from the conference of atheist philosophers to festivals of religious poetry). The library has become a common space where the elitist symbolism of book enlightenment and the Enlightenment pragmatism of book emancipation coexist. We also find a struggle for power, a power through academic, social, cultural discourse, etc.

Library specialists always ask themselves what should be kept, transformed, changed, abandoned in the flow of reading services. And these processes must reflect the needs of the community. There are real answers to potential library strategies and tactics. The tradition of science and culture, the preservation of information and knowledge, the cultivation of memory and cognitive existence do not exist without modernization and updating.

The new paradigms redefine, moreover, the tradition and an aesthetic of the old good, valuable, to be perpetuated. Thus, public libraries move away from the passive custody of library documents to their active promotion, starting from the thesis that, in fact, “knowledge is not identified with the accumulation of texts or information, nor is it found between the covers of the book itself, but in the experience that detaches from the page and turns into another experience” (Manguel, 2011, P. 86).

The transformations are visible (Rosenblatt, 2023, P. 35-38): from the reader-object of infodocumentation processes to the reader-subject of using library products and services. The passive object of book lending has turned into the active subject of the flow of book services. Libraries break away from conservative elitism, from the cumulative preservation of secret and rare documents, resorting to their intensive dissemination to different segments of the reading public.

A book consumer who actively reads (Adler and Van Doren, 2014, P. 293) for a continuous development being the desired and the purpose of the modern library.

The librarian is no longer a custodian in the classic version, but a promoter, an animator, a facilitator of book and reading events. The librarian is no longer particularly concerned with the perishability and safeguarding of the document delivered within the service, but with its impact on the community. The book market, creative industries in the publishing sphere always allow the re-editing of the used book and the intensification of book propagation (in print or electronic format). From the “temple” of the book, the library has turned into its multifunctional center, a social hub that produces cultural and cognitive animation. Animation stimulates the degree of involvement, connection and participation in processes, phenomena, social and community movements that a public library can generate.

The document shelf is no longer an iconostasis, a museum of precious relics, but a collection of public goods to take, to use, to apply, to optimize the life of the individual and the evolved society. It is an environment conducive to human gatherings and relationships.

Conclusion

Public libraries must become centers for the propagation of science and art. Reading and reading services can facilitate this process and its results. We emphasize once again the importance of reading clubs as forms of participatory art and science in public libraries, especially in the context of the Republic of Moldova and its vector of European integration.

These intellectual workgroups not only stimulate an interest in reading, but also contribute to the development of critical thinking skills, discernment, interpersonal communication and civic engagement.

The activities organized within these library activities promote social association and pluralism of ideas, transforming reading from a solitary activity into a collective and dynamic process with public impact.

Also, our article highlights the changes brought about by digitization, book technologies, posthuman knowledge (AI and human-robot mutual knowledge), the nature of reading in the light of recent transformations and new social needs, which have led to the reorientation of libraries towards services more interactive, more accessible and more impactful.

Reading clubs thus become a conducive environment for innovation, creativity and collaboration, facilitating the exchange of experiences and ideas between participants. Thus, book clubs are an effective strategy for revitalizing interest in reading and strengthening communities through outreach, education, participatory research, open science, culture, and civics. Book clubs can help create a fairer, more equitable and more beautiful world.

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ACTIVITIES FOR PROMOTING BOOKS AND READING IN THE SPIRIT OF EUROPEAN VALUES

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Abstract: The Scientific Library of the Academy of Economic Studies of Moldova (SL of ASEM) aligns its activities and initiatives with the objectives set forth in the National Development Strategy “European Moldova 2030”. In this context, the library is actively involved in organizing and conducting a series of events and campaigns dedicated to promoting European values and initiatives in the Republic of Moldova, with a particular focus on students.

The primary goal of these initiatives is to raise awareness and promote, through books and reading, a range of current and significant topics that are relevant to both Moldovan society and the academic community. These topics include globalization, European integration, economic resilience, climate change, green energy, and sustainable development. Additionally, the library addresses essential matters for the academic community, such as cultural diversity, multilingualism, the European linguistic landscape, intercultural education and training, intercultural competence and communication, and intercultural dialogue.

Through the combined efforts of the SL ASEM and various faculties and departments of ASEM as well as NCC, the library makes a significant contribution to fostering the reading culture among young people. It aims to facilitate access to knowledge, raise students' awareness of cultural diversity, and develop their intercultural competence and reading skills. Furthermore, these activities seek to enrich students' vocabulary and promote reading and books among the young people who are passionate about learning.

Keywords: European Moldova, reading culture, book, European values, book promotion, promotion through reading

JEL Classification: I23; I28; M31

1 Introduction

At present, the Republic of Moldova is at a crucial stage in its European integration process which is characterized by numerous challenges and opportunities. To support the European path of the country requires an increased commitment from both social, political and economic actors, and the whole community including scientists, culture and arts, teachers, library staff, etc. In this context, the role of civil society, public institutions, especially libraries as centres of information and education of European awareness, becomes crucial in achieving the objectives of accession to the European Union, promoting European values and principles, facilitating intercultural dialogue, ensuring a transparent

and inclusive integration process, accelerating and strengthening democratic reforms, socio-economic integration.

In this study, we aimed to reveal the proactive role and contribution of the SL to the process of European integration, its active involvement in promoting European values among pupils/students through books and reading. The subject of study aims to promote reading and the love of books in the spirit of European values, the development of reading skills, stimulating interest in reading, promoting cultural and linguistic diversity and the European route of the Republic of Moldova in the activities held. Based on the assumption that European cultural and human values, along with national ones, can be successfully promoted with the help of books and reading in the framework of activities and campaigns organized in the academic environment, we set out to test this assumption.

The investigation has links with the key concepts, terms and notions such as books, reading, literacy, European values, promotional activities, European integration, accession objectives, intercultural competence, collaboration, SL of ASEM, pupils/students, etc. In order to carry out the research, we used both theoretical (analysis and synthesis, induction and deduction) and empirical research-information-documentary methods, based on direct observation in the role of organizer and participant-observer. Being accessible and dynamic, these methods have produced quantitative and qualitative results. In addition, the experience in the field and the professional skills acquired over the course of authors' careers enabled us to test the initial hypothesis and validate the results obtained. In this vein, the study aimed to bring an added value to the investigated field by identifying some of the current challenges faced by reading, some types and functions of reading, highlighting some of the opportunities and benefits of reading for young people, analysing the current situation regarding the promotion of books and reading in the Republic of Moldova, identifying the 6 fundamental values of the EU, explaining the mission of the SL of ASEM in the context of the integration process, presentation of relevant events with the aim of encouraging all types of reading, organized by the SL of ASEM. Moreover, the study aims at describing activities carried out in collaboration with ASEM's faculties, departments, and the NCC, with reference to promoting European values and principles, cultural and linguistic diversity in our institution with the help of books and reading, as well as by formulating conclusions and recommendations.

2 Books and Reading: current challenges

The whole evolution of human development is based on knowledge, which is primarily attained through learning and study, i.e. books and reading. Whether it is motivational reading, for pleasure, information or any other kind of it, reading moves a person on a lifelong spiral. Opening the horizons of knowledge, reading is the foundation on which you can build anything (Osoianu, 2020).

In the opinion of François Hollande, French politician, President of France (2012-2017): „... books are not the stuff like all the others, books teach us how to live, they structure our personality. We must do all we can to give children a taste for reading.” This quotation is a strong exhortation to increase and encourage young people's motivation for reading, to raise their reading proficiency, to adopt best practices in applying reading strategies, to embrace lifelong learning. In this regard, the concept of literacy, in line with the agreed European definition, refers to the development of reading and writing skills that facilitate understanding and learning, using and critically evaluating information provided in a variety of ways by written, electronic and pictorial texts (Cristea, 2013).

The literature in the field gives evidence of different types of reading according to the reader's preferences: linear, receptive, associative, literary, informative, global, exploratory, fast, compulsory, for research and pleasure, etc. The most important functions of reading are: information and documentation, cognitive, formative, and culturalization (Busuioc, 2018). Nowadays, both at local and European level, the way young people read has changed. As it comes to reading, information and communication technologies (ICT) gain more and more ground, representing the biggest "threat" to quality reading. Many scholars sound the alarm about the negative influence of ICT on personal development (Osoianu, 2020).

Digital devices and online activities limit the time available for reading because they are inconvenient, distracting and not suitable for long, attentive and fulfilling reading sessions. Also, online reading content is not as complex, deep and structured as in books. Therefore, discussions about the benefits of reading in relation to cutting-edge technologies need to be persuasive, to put forward strong arguments in favour of books and reading to reduce functional illiteracy. This notion refers to people who can read but do not understand what they have read (Cristea, 2013).

Regardless of the reading habits and reading devices used by young people (physical books or e-readers), the role of reading is essential in promoting and acquiring both national and European human principles and values, in shaping the personality and the development of society, in building a European identity. Therefore, the promotion of reading is an inter-professional responsibility, based on the sharing and transfer of concepts and methodologies between several professions. In this respect, the efforts of the basic actors such as writers, researchers, teachers, publishers, booksellers involved in organizing and promoting reading should be strengthened, focusing also on librarians as professionals who, according to their responsibilities, are meant to organize the reading process, to foster the love of reading and to put the book in the reader's hand as often and as early as possible (Osoianu, 2021).

3 Opportunities and benefits of reading for young people

Reading is the most beautiful and uplifting pastime and can radically change a person's life. Among the various opportunities and numerous benefits of reading for young scholars, we list the following:

- **Reading broadens horizons.** By reading more books, the young person learns about unexpected things they would like to experience, stories and places they would like to know, becoming more courageous and ambitious, wanting to succeed in life.
- **Reading is good for the soul and the psyche.** Reading a book brings inner peace, rest, disconnection from everyday problems, being a therapy. Books mean relaxation and pleasure.
- **Reading enriches general culture.** Many people who read have an enviable general knowledge. School fails to fully cover what we should know. Thus, reading books is essential.
- **Reading makes life better and easier.** A young person who reads will take from books what interests him or her and use that information more effectively in everyday life.
- **Reading educates and disciplines.** There are good and bad characters in books. Acting on the principle of good overcoming evil, young people will want to be good, fair, honest, hard-working, responsible.
- **Reading emphasizes the man.** A young person who reads can fit in anywhere and in any group. Thanks to his knowledge, he will be able to carry on any conversation, making himself liked and appreciated.

- **Reading helps you get to know life.** By reading books, the young person will learn to cope with failures, showing optimism and courage, to overcome obstacles and face challenges.

- **Books are formative.** Reading makes people intelligent, romantic, kind, gentle, tender, confident, courageous, kind, empathetic, etc. In practical terms, it shows them the true values of life.

- **Reading means wealth.** A young person who reads a lot will be a soul-fulfilled man and will acquire an extraordinary spirituality (Hadârcă, 2015).

Thus, the aforementioned allows us to state with certainty that books and reading cultivate, form, train, instruct, educate, discipline, motivate, enrich spiritually and unite us.

4 Promoting Books and Reading in the Republic of Moldova

There is currently no clear national strategy to promote reading in Moldova. However, in recent years, the state authorities have realized the importance of books and reading as a precious European value and have tried to develop a reading culture through various national projects and campaigns:

- 2020 has been declared the national Year of Reading.
- In 2023 the National Reading Promotion Project "Open Book" was launched under the patronage of President Maia Sandu. The project aimed to stimulate the interest in reading among pupils and young people, as well as older people, providing opportunities to discover the joy of reading, develop personally and to integrate actively into society (National Reading Promotion Project "Open Book", 2023).
- Since February 14, 2023 the National Reading Day has been celebrated in the Republic of Moldova. A resolution, in this regard, was unanimously voted in the Parliament of the Republic of Moldova at the beginning of 2022, thus being an important step in promoting the reading culture in our society.
- It is encouraging that the National LecturaCentral Program launched by the National Library of the Republic of Moldova has reached its 7th edition. The slogan of 2024 is very suggestive: "Promoting European values through reading" (National LecturaCentral Program, 2024).

Therefore, in the digital age, in the context of the European integration of the RM, in order to support significantly learning, literacy and reading, to improve the quality of people's lives and to meet the expectations of community members, libraries change in the country, continuously adapting to the new reality, developing and offering new services, collections and practices, promoting both equal and free access to information and knowledge as well as EU values, principles and successful practices through various activities and campaigns. EU values are an integral part of the European way of life. They are the key element in building a European identity. The EU is founded on six values enshrined in Article 2 of the Lisbon Treaty: respect for human dignity, freedom, democracy, equality, the rule of law. Respect for and protection of human rights are enshrined in the EU Charter of Fundamental Rights.

5 SL of ASEM as key institution in promoting Books, Reading and European values in the process of European Integration

It is well known that the library is one of the key institutions in the promoting reading, similar to schools, universities, etc. The library plays an important role in this, with considerable responsibilities and contributions. The promotion of reading and information is the central focus of the library, reinforced by the promotion of services based on the needs of the community in the service area. All over the world, libraries are a central part of the intellectual infrastructure, responsible for promoting

literacy, books and reading (Osoianu, 2003). In fact, reading is the most important and constant process in working with information, in study, self-instruction and self-education activities. Reading has a major role in forming moral and spiritual values of the personality. Today's teenagers are tomorrow's readers. That is why writing and reading, in all their forms, are essential for building an active individual and citizen, capable of making important decisions for themselves and their community, or even for humanity. The promotion of reading among young people is a priority of the SL of ASEM as well as a major concern of the teachers who form, train and educate future professionals. Through its varied activities, the SL of ASEM makes a particular contribution to the formation of reading skills as an artistic and cultural practice.

The activity plan of ASEM SL aims at numerous actions that put into practice the European integration aspirations of the Republic of Moldova:

- Involvement in the support and realization of the National Development Strategy "European Moldova 2030" and the National Plan "Building European Moldova".
- Strengthening the role of the library in public service on the basis of the Law on Libraries in line with European legislation.
- Informational support of the training and research process in study programs with European Union component.
- Ensuring access to information and diversification of e-information services.
- Promoting the common, cultural and human values of the EU (SL of ASEM Report, 2023).

Overall, through its mission, SL of ASEM ensures the optimal functioning of the documentary heritage for training, education and research in the context of European integration of the Republic of Moldova.

6 Activities that promote Books and Reading in ASEM in the spirit of European Values

In close collaboration with the faculties and departments of ASEM, as well as with the National College of Commerce, SL systematically organizes numerous formative, informative and cultural-artistic activities that support actively the development of a strong academic community involved in the process of European integration. It is encouraging that through the actions and events organized, the SL of ASEM manages to bring to the forefront of cultural life the book, reading and their importance in the multilateral development of the personality, of society as a whole.

In this vein, we mention several relevant events such as National Campaign "We read aloud together"; "Generation NEXT" Reading Club; Mihai Eminescu's Birthday on January 15; National Reading Day on February 14; European Languages Day on September 26; "BiblioASEMia" campaign, dedicated to the World Book and Copyright Day and Librarian's Day on April 23; "Book of the Week" project; "ACADEMICA" Book Exhibition; "In support of the first year student" campaign; "Library Night" campaign; Researchers' Night etc. (SL of ASEM Report, 2023). Overall, the activities organized aimed to promote reading and love of books; promote European values in the context of cultural diversity, as well as the European path of the Republic of Moldova; promote Europe's cultural and linguistic diversity, European values and traditions.

Among the objectives set, we list: 1) Development of intercultural competence, including comprehension (reading, listening), speaking (participation in conversation, oral discourse), writing (written expression). 2) Familiarization with world literature, raising the level of general culture. 3) Spiritual formation, emotional enrichment. 4) Stimulation of creative, reflective, autonomous

activities. 5) Enrichment of vocabulary, broadening the horizon of knowledge, accumulation of new experiences. 6) Familiarization with the history of the European Day of Languages, language groups, languages in international circulation, advantages of multilingualism, language barriers. 7) Encouraging lifelong language learning. 8) Familiarization with EU history, EU founders, symbols, European institutions, advantages and benefits of European construction. 9) Raising students' awareness about the accession of the Republic of Moldova to the EU and promotion of European values. 10) Acquiring knowledge about European heritage, history, culture, spoken languages, traditions, folk costumes, gastronomy, personalities and innovations, cultural diplomacy. 11) Training on how to access the EU Electronic Library website, etc. (Rusu, 2022).

Both modern and traditional methods and techniques used in the organized activities undoubtedly led to the achievement of the set objectives. For example, the Literary Club "LIRE c'est VIVRE", now in its 6th edition, included a recital of verses from the works of Grigore Vieru; a review of the books read by the students, PowerPoint presentations in French, accompanied by the biographies of writers, images, photographs, audio and video sequences from the literary works, descriptions and commentaries, personal conclusions, aphorisms, musical breaks, thematic posters, book exhibition. Other methods and techniques: Virtual journeys; Interactive activities; Discussions; Debates; Opinion polls; Quiz games in the Kahoot app; Poetry and song recitals in different languages, etc.

Below, we briefly present some of the successful activities carried out by the SL of ASEM, in collaboration with ASEM subdivisions, in the context of promoting books and reading in the spirit of European values.

1. The National Campaign "Read Out Loud Together" is organized annually on the occasion of WORLD READ ALOUD DAY (WRAD), a global initiative promoted by LitWorld organization since 2010. The World Read Aloud Day is a movement to raise awareness among wide circles of actual and potential readers and aims to promote reading and raise awareness of the benefits of reading. In 2024 the title of the Campaign organized in ASEM was: „Read aloud from Eminescu's public literature". Among the objectives of the campaign we mention: to celebrate the power of reading aloud, to familiarize young people with the political work and public literature of Mihai Eminescu, to appreciate the beauty, to raise awareness of the opportunities offered by reading.

In 2023, the campaign was entitled "One book, one voice, many ears". The NCC students read aloud and recited expressively poems and passages from their favourite books. The event was also attended by ASEM librarians, students from the Faculty of Finance, who guided the young generation to read and broaden their knowledge horizon. In 2022, the Campaign's slogan was "Joy of reading". Pupils and teachers from Mircea cel Bătrân Gymnasium from the village of Moscovei, Cahul district, joined the online event, planned for the ASEM and NCC community, thus being a pleasant surprise and a real reason for joy.

2. "Generation NEXT" Reading Club. In 2023, the SL of ASEM joined the initiative of the Ministry of Culture and the Ministry of Education and Research of the Republic of Moldova within the National Project for the Promotion of Reading "Open Book", relaunching the activity of the reading club "Generation NEXT". In the last period, numerous cultural-artistic events have been organized within the club, among which we enumerate:

✓ **Poetry recital „Let us read Eminescu"** which aimed to raise awareness of the community on the works of Eminescu and to capitalize on the literary works of the poet.

✓ **Literary Club "Reading means living"**. The aim of the literary salon was to encourage and promote reading in the mother tongue and in other languages, cultivate the love of books and of beauty, stimulate information-documentary and extra-curricular activities in the ASEM reading rooms. The objectives of the event include: increasing interest in world literature, valuable literary works, biographies of established writers; developing existential competence; shaping an educated and cultured personality; promoting authentic national, European and universal values; cultural awareness, promoting francophone values; broadening the horizons of knowledge, enriching vocabulary, etc.

✓ **Discussion panel "Languages - Europe's treasure"**. The aim of the activity was the promotion of European linguistic and cultural diversity, as well as the development of communication/speaking/discussion skills, both written and oral production and expression, language learning through reading. Other objectives were to raise awareness of reading works in different languages, know and learn languages by reading books in the original; capitalize on the playful, artistic and imaginative dimensions of reading and books. The successful panel discussion activities demonstrated that French-speaking students are well acquainted with linguistic diversity and European cultural heritage. The main message conveyed to the event participants was the need to know at least two or three languages and to read books in the original language. Intercultural and linguistic communication skills offer young people multiple cultural and economic and social advantages to integrate harmoniously into the European community.

✓ **Literary-artistic Club "Ion Hadârcă - a knight of metaphor"** was organized within the National Reading Promotion Project "Open Book", held under the patronage of the President of the Republic of Moldova, Maia Sandu. Ion Hadârcă's book "The Ruins and Runes of War: A Chronicle of the First 101 Days of Russian Aggression" was presented. Also, students from the faculties of Finance and Accounting, including students of the NCC of ASEM presented a beautiful literary-musical recital of poetry and songs on the verses of Ion Hadârcă.

3. As part of the **BiblioASEMia Campaign: Bibliotec@: Attract, Satisfy, Educate, Motivate**, dedicated to the World Book and Copyright Day and the Librarian's Day on April 23, the SL of ASEM organizes various activities that highlight the scientific book, promotes the academic book to meet information needs, educates the reading culture in the spirit of knowledge, encourages and motivates quality reading. To this end, the SL organizes exhibitions of books by academics, excursions, presentations, book launches, meetings and discussions, exchanges of opinions and best practices.

4. The **"Book of the Week" project** is a book promotion action on the SL of ASEM Facebook page. It promotes the publications of scientific and teaching staff, various publications in the fields related to the disciplines taught. New editorial publications (textbooks, university courses, monographs, practical applications, guides, tutorials, etc.) are identified and presented to the general public in an original way. As part of the project initiated in 2022, around 80 postings were produced, including a description of the book, cover image, a brief annotation to generate interest in new publications.

5. The **Book Exhibition „ACADEMICA"** is a traditional event, dedicated to literature and personal development enthusiasts, organized in the framework of the ASEM Day and the Economist's Day in the Republic of Moldova on September 25. Throughout the exhibition, academics, researchers and students, as well as those interested, have the opportunity to explore new publications and interact with personalities in the field. By promoting reading and continuing education, the book exhibition also supports the development of a strong and engaged academic community. The exhibition

showcases the latest publications of ASE Bucharest and ASEM publishers, organizes meetings, book presentation sessions, discussions, exchange of ideas and best practices.

In this vein, we mention that the activities organized within the framework of the national campaign "We read aloud together", the reading club "Generation NEXT", the campaign "BiblioASEMia", the project "Book of the Week", as well as the book exhibition "Academica", contributes significantly to increasing interest in books and reading, as well as in the European integration of the Republic of Moldova, cultivates tolerance, empathy towards other cultures, promotes a European behaviour model among young people, develops intercultural and language communication skills, required by the local and European labour market. We would also like to emphasize the significant contribution of the European Union Information Centre (EUIC) of the SL of ASEM to the promotion of the fundamental values of modern society. Through its active involvement and formative, informative, assistance and cooperation activities, the EUIC of the SL of ASEM contributes actively to raising the awareness of young students and the general public about European values and initiatives, as well as the EU assistance to the Republic of Moldova in the process of European integration.

Therefore, the statements and evidence presented through the promotion activities briefly described in our study, as well as the objectives achieved during them, confirm the hypothesis initially launched that: common European values can be successfully promoted within ASEM with the help of books and reading through various activities with students, organized by the SL of ASEM in close collaboration with the other subdivisions, and support the validation of the results obtained.

7 Conclusions

The importance of books and reading for personal and professional development is relevant and undeniable. Reading provides equal opportunities for knowledge and development which is the essence of conscious existence. There are several types of reading that support lifelong learning, with specific functions and objectives according to the reader's preferences. Reading is an excellent tool for enriching one's mother tongue and helps to learn new languages. Nowadays, the need to know at least two or three languages is a pressing necessity. Intercultural and linguistic communication skills enable young people to integrate harmoniously into the European community, open up new horizons of knowledge and development, and provide multiple cultural and economic and social advantages.

In the context of the Republic of Moldova's accession to the EU, books and reading play an important role in society, fostering constructive cultural dialogue between different peoples and cultures. The prospect of the Republic of Moldova's accession to the EU entails multiple challenges that lie in knowing, assuming and complying with obligations. One of the most important obligations is the commitment to respect and promote the common values of the European Union: respect for human dignity, freedom, democracy, equality, the rule of law, respect for human rights, including those of minorities. Currently, both at national and institutional level, increased efforts are being made to promote books and reading in the spirit of European principles and values. National programs and projects, information and awareness-raising campaigns, various promotional activities are aimed at the opportunities and benefits of books and reading throughout life, thus contributing to awakening national consciousness.

The activity plan of the SL of ASEM includes numerous actions that put into practice Moldova's European integration aspirations, development and public interest priorities. In cooperation with the faculties, departments and the NCC of ASEM, the SL organizes systematically activities aimed at

promoting common European values in the process of integration of the Republic of Moldova into the EU through reading and books, training and developing reading skills, stimulating interest and cultivating passion for reading, raising awareness of young students and the general public to the true national, European and universal cultural values. The activities organized by the SL of ASEM encourage the multilateral development of the personality and support actively the consolidation of a strong academic community involved in the accession process. In this regard, we emphasize that reading is recognized as the most important way for modern man to educate himself, to be able to make decisions. Today, the clever quotation of the great Chinese philosopher Confucius: "You cannot open a book and not learn something" remains as relevant and topical as in his time.

Therefore, let us always and everywhere enjoy the BOOK, a true and unfailing source of knowledge, values and wisdom! Let us discover systematically new publications in libraries and bookshops! Let us go to book exhibitions, meetings with writers and people of different professions, promoters of national, European and universal identity and values! Let us select valuable books that offer us new perspectives, increasing our chances of success!

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INNOVATIVE STRATEGIES FOR PROMOTING INFORMATION LITERACY IN LIBRARIES: CHALLENGES AND OPPORTUNITIES IN FINANCIAL LITERACY

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Abstract: Acceleration of globalization and the growing complexity of the financial system have a huge impact on people's competencies and skills. The recent financial crises and economic problems, exacerbated by the pandemic, have reinforced the importance of information literacy and the need for financial education. Managing personal finances requires a diverse set of information and knowledge. From budgeting and saving to investing and debt management, understanding financial concepts and the ability to apply them helps people make informed decisions to ensure a prosperous future. The principles of information literacy are reflected in all aspects of financial literacy and are adapted to the needs and resources of society. In this context, libraries see their role in developing and implementing financial literacy programs. They are transforming themselves into community hubs for increasing the financial capabilities of citizens. Through accessible educational programs, reliable and unbiased information resources, and by strengthening partnerships with organizations and financial experts, libraries make a significant contribution to increasing citizens' understanding and application of financial skills in their communities.

The article highlights the experience of libraries in other countries regarding activities to promote financial literacy among citizens of various ages. It also analyzes the theoretical and practical perspectives in approaching innovative strategies for implementing financial education programs and services in libraries.

Keywords: information literacy, financial literacy, financial education, library services, libraries.

JEL Classification: D83; I22; I23

1 Introduction

Information has become a vital source for the world economy and a basic component of education and scientific and technical progress (Jesus, 2010).

Information literacy is also of major importance outside the library field. Depending on the needs and

resources of the community, librarians qualify as true "agents of change", actively involved in the development and implementation of information literacy educational programs. Within these activities, the librarian evolves in the role of expert-consultant, offering his services in other areas of human activity. The excess of information and the diversity of information sources is a challenge for all of society, from pupils, students or teachers, to employees or retired people. This imposes the need to develop information literacy skills and knowledge in order to be able to select, check and evaluate information from a wide variety of sources.

Information literacy is a relatively new notion and is present in documents developed by the International Federation of Library Associations and Institutions (IFLA). Attempts to define "Information Literacy" (IL) have been undertaken over the last decades, especially by librarians and library and information professionals. At a professional meeting in Bucharest in 2010, Hermina Anghelescu noted that "Information Literacy involves the formation of a set of theoretical knowledge and practical skills that allow the identification of an information need, followed by the localization, evaluation and use of the information found, in an approach to solve a problem, find an answer and communicate the information found and processed, through a new product with added value" (Jesus, 2010).

Most of the proposed definitions have many more similarities than differences. In essence, information literacy is the ability to find and use information and is the basis for lifelong learning. The most widely used explanation of "Information Literacy", as accepted by the American Library Association, is: "Information Literacy is a set of abilities requiring individuals to recognize when information is needed and have the ability to locate, evaluate, and use effectively the needed information". This notion is broad enough to encompass the entire spectrum of information skills and abilities, from traditional knowledge to high-tech search engines, and information literate people are individuals, who have learned to learn (Campbell, 2004). However, information alone does not make people informationally competent. The information is:

- a vital element for creativity and innovation;
- a basic resource for education and intellectual activity;
- a key resource for training educated citizens;
- an important resource in national socio-economic development.

Information literacy is a key factor in the process of education and training, which has expanded beyond librarianship and information literacy programs. While the concept of library education emphasizes the definition of the place of library resources, the modern concept of IL focuses on modern information strategies, the process of information retrieval and tools, as well as the skills of users in the field of information technology (Jesus, 2010).

IL is associated with other similar types of literacy or learning. Examples are information technology literacy, media literacy, Internet literacy and, more recently, the concept of financial literacy. The main definition of literacy is: "the condition of being literate" (The Chambers English Dictionary, 2003). On the other hand, the same source defines literacy as "... the ability to read and write, the study of arithmetic and mathematical operations ..." In educational science, literacy is the initial basic process of educating citizens. The merger of literacy and financial management involves acquiring the essential and necessary knowledge to make financially responsible decisions that are integrated into everyday life.

2 Financial Literacy (FL)

In the context of Information Literacy, Financial Literacy is a process of learning and understanding the concepts and skills needed to effectively manage personal financial resources, building savings, investing and of course, income planning and debt management. This educational concept can be sustainable in the digital age, if basic economic terms are explained, if the functioning of different market mechanisms is understood, if various applications are used to facilitate money transactions (Sabau, 2021).

For the first time the term financial literacy appeared at the beginning of the century. The term "literacy" was first coined in American education and economics publications in the early 20th century. This notion was presented as "having information about existing financial services and the ability to use it in decision-making".

The Organization for Economic Co-operation and Development (OECD) is an intergovernmental forum (38 member countries) and is dedicated to "identifying, disseminating and evaluating the necessary and optimal public policies to ensure economic growth, prosperity and sustainability for both member and non-member countries" (OECD, 2021). The OECD's Directorate for Education and Skills provides assistance in the design and management of education systems and expertise in implementing reforms so that citizens can develop the knowledge, skills, attitudes and values they need throughout their lives (OECD, 2024). In the field of financial education worldwide, two concepts are at work: financial education and financial literacy. OECD experts have defined financial literacy as, "the process by which financial consumers/investors improve their understanding of financial products, concepts and risks and, through information, instruction and/or objective advice, develop the skills and confidence to become more aware of financial risks and opportunities, to make informed choices, to know where to go for help, and to take other effective actions to improve their financial well-being" (Kiszl, 2022).

OECD governments have recognized the importance of financial literacy since 2002 by designing and launching a unique project. This project was scaled up in 2008 with the creation of the International Network for Financial Literacy to collect data and evidence, develop methodologies on impact measurement, share experiences and best practices, develop research and benchmarking, design policy tools, promote effective implementation and monitoring. The results of this project have confirmed the hypothesis that financial literacy is becoming an important educational tool for society and is gaining widespread recognition and is included on the policy agenda of many countries.

3 National financial education strategies

On October 29, 2020 the OECD also adopted a set of Recommendations on Financial Literacy, which are, in fact, a unique and comprehensive tool to assist governments/public authorities in their efforts to design, implement and evaluate financial literacy policies (OECD/INFE, 2021). These recommendations cover three important areas, namely:

- Developing strategies for financial education with specific national approaches;
- Adapting to long and short-term country policy objectives;
- Determination of the target groups and stakeholders eligible for training.

The recommendations define financial literacy as: a combination of financial awareness, knowledge, skills, attitudes and behaviors needed to make sound decisions and ultimately achieve individual financial well-being. These recommendations cover: financial literacy from as young an age as

possible; providing objective and neutral information; analyzing data on people's needs in this area; building partnerships to reach as many people as possible with the message; segmenting the audience according to needs and abilities; and systematically evaluating and monitoring progress.

Increasing the financial literacy of the population is feasible through the development and implementation of National Financial Education Strategies. Such strategies first appeared on the public agenda of developed countries in the early 2000s. According to OECD surveys, in 2011- 26 countries had a national financial literacy strategy, in 2015 an expansion of such practices was observed. In that period 59 countries have developed policy to coordinate and promote collective activities to improve financial capability among the population (OECD, 2022). The overall aim of national financial education strategies is to improve people's ability to better manage their personal finances and to avoid or at least reduce financial stress and the severity of financial crises at individual and family level. The first financial education strategy in Europe was developed by UK financial expert Shaun Mundy in 2006, followed by France (2008), Czech Republic (2010), Latvia (2014), Croatia (2015), Italy (2016), and recently Romania has approved the National Strategy for Financial Education 2024-2030 (SNEF, 2024).

At national level there is still no strategy in this area. The initiative to develop a concept of a National Strategy for Financial Education in the Republic of Moldova was announced in 2014 by the National Bank of Moldova (BNM) at a conference, which brought together representatives of public authorities, civil society, experts from the educational and financial education in the country, as well as external partners. However, the action taken by the BNM on the preparation of a preliminary draft took time. Subsequently, on March 21, 2023, the BNM Governor Octavian Armasu stated during the National Forum on Financial Education that the National Strategy on Financial Education will be developed in the Republic of Moldova, and Shaun Mundy, the British financial expert will consult the Republic of Moldova in this process. The event was an eloquent part of the International Financial Education Week and the project initiated by the National Bank of Moldova (BNM, 2023), which is currently being developed by the National Bank of Moldova with the support of the USAID Moldova Institutional and Structural Reforms in Moldova (MISRA) Program. The experts emphasized that financial education is a process with broad social-economic implications, noting the importance of empowering as many institutions as possible. In identifying target groups for financial education, priority was given to children and youth in order to have a long-term impact at different levels of society

4 Financial literacy in libraries. International experience

In the context of increasingly rapid social and economic changes, libraries are increasing their role in developing and implementing educational programs designed to help people understand new financial realities. The library as a social institution enjoys authority and trust in society and is recognized for its many benefits. In addition to its traditional role of providing information, the library is increasingly taking on pedagogical, informational and communication roles.

The issue of people's financial skills and knowledge is relevant for all countries of the world. Library specialists in the United States were among the first to develop and implement this area of work. The first steps of librarians to meet the information needs of the population in the field of finance, money circulation and credit were made at the beginning of the twentieth century. During the Great Depression (1929-1939), US public libraries, while continuing to form collections and provide

bibliographic services on business issues, developed programs to teach the public how to manage personal financial resources. In the late 1960s, the theoretical concept of considering the public library as an organization providing access to information on social services spread in American librarianship. The practical implementation was the creation in the 1970s of information centers based in public libraries. An eloquent example is the Free Library in Baltimore, which continues to operate to this day, and one of its main activities is providing information about financial market services, their structure, technologies of use, etc. (Faulkner, 2016).

In 2003, the US Congress created a Commission on Financial Literacy, the result of whose work was the National Strategy for Financial Literacy (2011), which laid the groundwork for considering libraries as elements of the national infrastructure of further education, forcing significant adjustments in their work. An outstanding experience in financial education is the work of the American Library Association. Specialists in the association have developed „Financial Literacy Education in Libraries: Guidelines and Best Practices for Service” (Yr. 2014, revised in Yr. 2022.) The work provides several practical recommendations in developing financial literacy and instructional programs for the communities served. As examples:

- Establish partnerships with reliable and impartial organizations and specialists;
- Training librarians;
- Developing financial literacy programs for different categories of users;
- Using available knowledge and technologies, providing unbiased sources of financial information, etc.;
- Verification of recommended information and resources, use of authorized information (ALA, 2022).

The Guidelines also recommend that financial literacy be integrated into information literacy education programs based on community needs and resources, and that the library can address this topic on its own or in partnership with non-governmental organizations/experts to provide training and information on financial literacy topics. Looking at the experience of European Union countries a global survey conducted in 2015-2016 showed that financial literacy rates varied widely across the European Union. On average, 52% of respondents were financially literate. Among the best-performing countries are the Netherlands, Denmark, Finland and Estonia, while in central and southern Europe the level is much lower. For example, in Poland and Slovenia, the literacy rate was around 40%, while in Bulgaria only 35% of respondents were financially literate and in Romania only 22% (Berman, 2022).

The survey data was the impetus for initiating the Financial Literacy Through Public Libraries (FINLIT) project with the aim to provide librarians with skills and competences to develop the financial literacy of older users. The mentioned project is part of a long-term strategy to increase the level of financial literacy among the adult population in Bulgaria, Poland, Romania and Slovenia and was implemented in the period 2018-2021 by the Foundation for Information Society Development in partnership with Global Libraries Foundation Bulgaria, National and University Library of Slovenia, County Library Hunedoara - Deva in Romania and co-funded by Erasmus+ program. The outcome of this project is reflected in the financial literacy model for librarians, who in turn will be able to provide non- formal financial literacy courses for adults in the community. Using the platform <https://finlit.eu> librarians can individually train themselves as financial literacy trainers, and library users, can enrich their financial literacy to correctly and informedly use the products offered on the

financial services market, especially online (Morawska, 2022).

The example of the countries involved in the FINLIT project has demonstrated that libraries are those social institutions that support progress and are able to offer a wide range of educational services and activities for the community.

For libraries in the Republic of Moldova involvement in financial education is a challenge. The experience of the Technical-Scientific Republican Library (BRTȘ) is a timely example for expanding educational offers and modernizing services in all types of libraries. If we refer to financial literacy activities in the BRTȘ, we mention joint projects with partners, events and promotional campaigns that gave the opportunity to interact with a large number of people of different ages. At the initiative of researchers from the Financial and Monetary Policy Section of the National Institute of Economic Research, librarians took up the challenge to deliver financial literacy services. Initially there were actions to promote financial literacy concepts. Through traditional collections and digital resources, recommendations, educational programs and outreach activities, we were able to amplify an increased interest in the subject. This has helped initiate new partnerships with financial experts.

In 2021 BRTȘ signed a partnership agreement with the Foundation for Financial Education "OK". Together, we determined the target group of trainees, training methods, necessary materials and format of activities. We managed to considerably revise and improve the financial information resources offered to users. The experience gained in this collaboration has demonstrated the importance of organizing joint events and activities within the library. An eloquent example is the campaign "Financial Education at BRTȘ". This initiative represents an ongoing commitment to promoting and strengthening financial awareness in the community. The main objective being to improve the level of financial understanding and competence among pupils and students, to form a responsible and proactive attitude towards personal financial management and to promote healthy and efficient financial behaviors.

To disseminate financial literacy, various events were organized, tailored to the specifics of the field and the timing of the Global Money Week global actions. The most popular were training activities for students and young people, such as: "Financial education for young people" training; "Protect your money, secure your future" training.

5 Financial education through reading

All forms of training were accompanied by reading recommendations, book presentations and online exhibitions. Interactive activities were also very popular. For example, participants in the interactive game "Banking" had the opportunity to interact with a prototype ATM, discovering its functionalities in a practical and engaging way. When game elements are integrated into events, they become more attractive, especially for pupils and students.

Utilizing a variety of methods and techniques, including trainings, traditional and virtual exhibits, interactive games, and educational partnerships, the library was able to provide training to over 500 people during 2023. The focus on customizing activities to the needs and interests of the target audience, particularly students and youth, helped to increase awareness and understanding of key financial issues such as saving, investing, and budget management.

Collaboration with partner organizations has expanded the reach and facilitated the sharing of resources and best practices at the national level, thereby strengthening the library's role in promoting financial education in the community.

6 Conclusion

Today, financial literacy is seen as a lifelong educational process and is a strategic objective for all developed countries. The continuous modernization of financial services and products, imposes the need to acquire varying skills at different periods of life. Numerous initiatives, especially by non-profit organizations, aim to improve consumers' financial literacy through educational programs and outreach activities, and at the state level the importance of developing a national strategy for financial education is becoming evident.

In collaboration with other financial organizations and partners, libraries can play an even more active role in promoting responsible financial behavior and improving the financial well-being of the communities they serve. Through the effective and innovative use of information resources, librarians can offer a variety of educational programs, helping to build community financial capability and increase awareness of key financial concepts and the ability to use them in practice.

There is a clear need for continuous improvement through courses, seminars and other forms of training, both to improve librarians' knowledge of finance and to keep abreast of new developments and resources in this field. Coordinated efforts are needed to train financial literacy trainers among librarians. Equally necessary and timely would be the introduction of this topic in the educational programs of library instruction centers. Investment in staff development is extremely necessary to maintain and strengthen the positive impact of financial education activities in the community in the long term.

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CREATING THE DIGITAL LIBRARY: MSU CENTRAL LIBRARY EXPERIENCE

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Abstract: Digitization of library collections is one of the long-term strategic tasks of modern libraries, regardless of their organizational subdivision.

Libraries, by digitizing collections and extending access to e-resources, fulfill a significant social mission of providing open access to knowledge and cultural values. There are a lot of theoretical approaches and practices on electronic collection building. Each library has its own specificity in achieving this objective, defined by the structure and content of the traditional collection, the quality of the scanning equipment, the technical and technological complex, and the staff qualifications involved.

This article describes the experience of the Moldova State University (MSU) Central Library, on the implementation of the Digital Library project funded by the Government of Japan within the "Kusanone" Culture Grants Program.

The main purpose of the Digital Library is to preserve the cultural-scientific heritage existing in the MSU Central Library. The main purpose of establishing the Digital Library is to store and preserve the cultural-scientific heritage existing in the MSU Central Library.

Following the legal framework on the digitization of the documents, the existing experience in the field, the USM working group set the stages, the organization and development processes of the Digital Library, which included: identification of priorities for the digitization of the collections; setting criteria and selection of documents to be digitized; development of the working methodology; equipment identification and acquisition; creation of the digital content; Digital Library implementation and management.

The digital library is organized in collections: old and rare books, old periodicals, church books.

The **MSU Publications Collection** represents the scientific heritage, created under the patronage of Moldova State University since its foundation (1946) until 1991, including: conferences, symposia, monographs, didactic and methodical documents, periodical publications.

The development of the Digital Library will expand access to information, will contribute to the promotion of heritage collections at national and international level, offering users a modern way of consulting documents, in line with new technologies.

Keywords: Digital library, digitization, collections, documents, conservation, preservation, heritage.

JEL Classification: D83; I23; L86

1 Introduction

Digitization is the process of converting books, maps, newspapers, and other types of documents from their physical form into digital formats. This transformation goes beyond merely preserving documents; it also enables new ways of accessing information. In this sense, digitization facilitates access to information, ensures the longevity of heritage documents, and extends the library's reach beyond its physical boundaries.

A digital library (also called “an online library”, “an internet library”, “a digital repository”, “a library without walls”, or “a digital collection”) is an online database of digital objects that can include text, still images, audio, video, digital documents, or other digital media formats or a library accessible through the internet. Objects can consist of digitized content like print or photographs, as well as originally produced digital content like word processor files or social media posts. In addition to storing content, digital libraries provide means for organizing, searching, and retrieving the content contained in the collection. Digital libraries can vary immensely in size and scope, and can be maintained by individuals or organizations. The digital content may be stored locally, or accessed remotely via computer networks. These information retrieval systems are able to exchange information with each other through interoperability and sustainability (Digital library, 2024).

The IFLA/UNESCO Manifesto for Digital Libraries defines a digital library as an online collection of quality-assured digital objects that are created or collected and managed according to internationally accepted principles for collection development and are accessible in a coherent and sustainable way, supported by the services needed to enable users to retrieve and exploit the resources (IFLA/UNESCO Manifesto for Digital Libraries, 2019).

This paper presents the experience of the Central Library of Moldova State University (MSU) in the realization of the project to establish a Digital Library. The MSU Central Library holds a vast institutional cultural and scientific heritage, including a valuable collection of old and rare books.

2 Implementation of the project

The goal of the proposed project is to preserve, promote, and expand access to the cultural and scientific heritage of the MSU Central Library.

To achieve this goal, the following objectives have been identified:

- Digitizing the heritage collections held by the MSU Central Library;
- Promoting the written cultural and scientific heritage at both national and international levels;
- Preserving original documents;
- Expanding and improving access to documents;
- Providing a modern way to consult documents in line with new technologies.

The implementation of this project was made possible by a grant offered to Moldova State University in early 2023 by the Government of Japan under the "Kusanone" Culture Grants Program. The grant, totaling 70,814 USD, enabled the acquisition of the necessary technical equipment and the establishment of the Digitization Laboratory. Regarding project management, it is important to note that this process has gone through several distinct stages.

STAGE I: Creation of the working group

At this stage, library staff (9 librarians) and IT specialists (2 persons) were identified and involved in achieving the project objectives. In selecting the librarians, certain criteria were considered: willingness to participate in this type of project, level of qualification, in-depth knowledge of the

collections, particularly old and rare books, as well as openness and the ability to learn new skills related to scanning and data processing.

Tasks and responsibilities were distributed as follows: some librarians were responsible for selecting and preparing documents for the digitization process, others handled document description and metadata creation, while 3 librarians received training and were directly involved in scanning and processing the digital files. The core task of the IT specialists was the creation, development, and maintenance of the digital library web portal.

STAGE II: Documentation

The working group studied the legislative and regulatory framework relevant to the project, including legislation on copyright and related rights, as well as standards, regulations, and technical guidelines necessary for the digitization process. The group also examined the experiences of similar projects implemented in other institutions, both in Moldova and abroad.

STAGE III: Digitization priorities

At this stage, specific decisions were made regarding the identification and establishment of priority collections to be scanned and digitized. These include the institutional collection, which consists of documents published by MSU, with authorship and copyright predominantly belonging to Moldova State University. It was also decided to digitize documents from the collection of old and rare books, specifically those published before 1920.

STAGE IV: Document selection criteria

After identifying the priority collections for digitization, the working group analyzed and established the selection criteria for the documents to be digitized, considering several elements: heritage and documentary value, representativeness of the document (within a specific field or time period), degree of interest and accessibility, preservation of original documents, and legal aspects related to authorship and copyright.

STAGE V: Working methodology

To ensure a well-organized process for transforming documents into digital format, a working methodology was established. In this regard, a Route-map for the document in the digital library was developed, outlining several phases (Figure 1). The Route-map reflects the path of the document from its identification for digitization based on the established criteria to its integration with the PrimoLibUniv electronic catalog.

STAGE VI: Setting up the digitization laboratory

At this stage, was identified and acquired the necessary technical equipment for document digitization. In this sense, was established the Digitization Laboratory and equipped with high-performance equipment, including three scanners with A2 and A3 scanning capabilities, three high-performance computers, a server, and an uninterruptible power supply.

STAGE VII: Librarians' training and document scanning

The training of the involved librarians was conducted practically in parallel with the document scanning process. The librarians learned how to scan and process the digital files of the scanned documents. The first documents to undergo digital transformation were the university periodicals "Ученые записки МГУ," "Труды МГУ," and the MSU institutional newspaper, all preserved in the library collections since 1949. In addition to the periodical publications, documents from the collection of old and rare books, selected by the working group according to predetermined criteria, were also submitted for scanning.

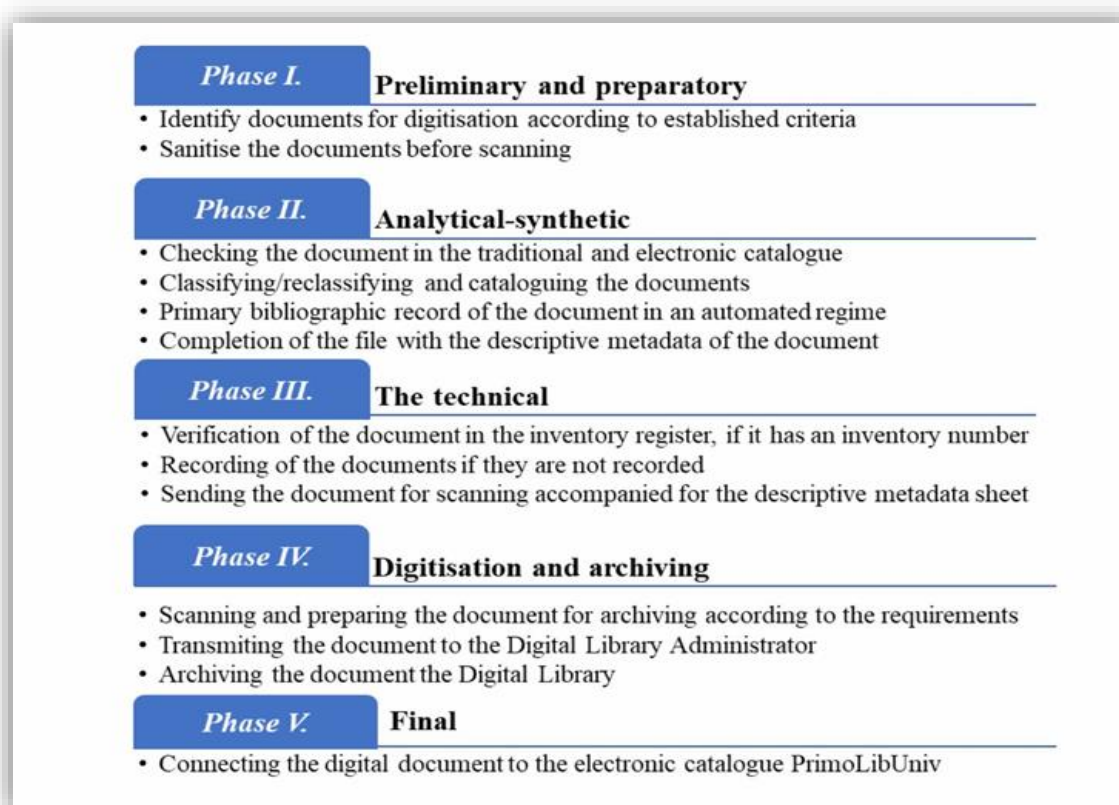


Figure 1 The Route-map of the document in the digital library

Source: Elaborated by authors

STAGE VIII: Elaboration of the Digital Library structure, interface and access.

At this stage, librarians and IT specialists worked together. Was opted for a hierarchical structure of the Digital Library and placement on a web portal. The digitized documents are organized into four main collections, which are further divided into subcollections. (Figure 2).

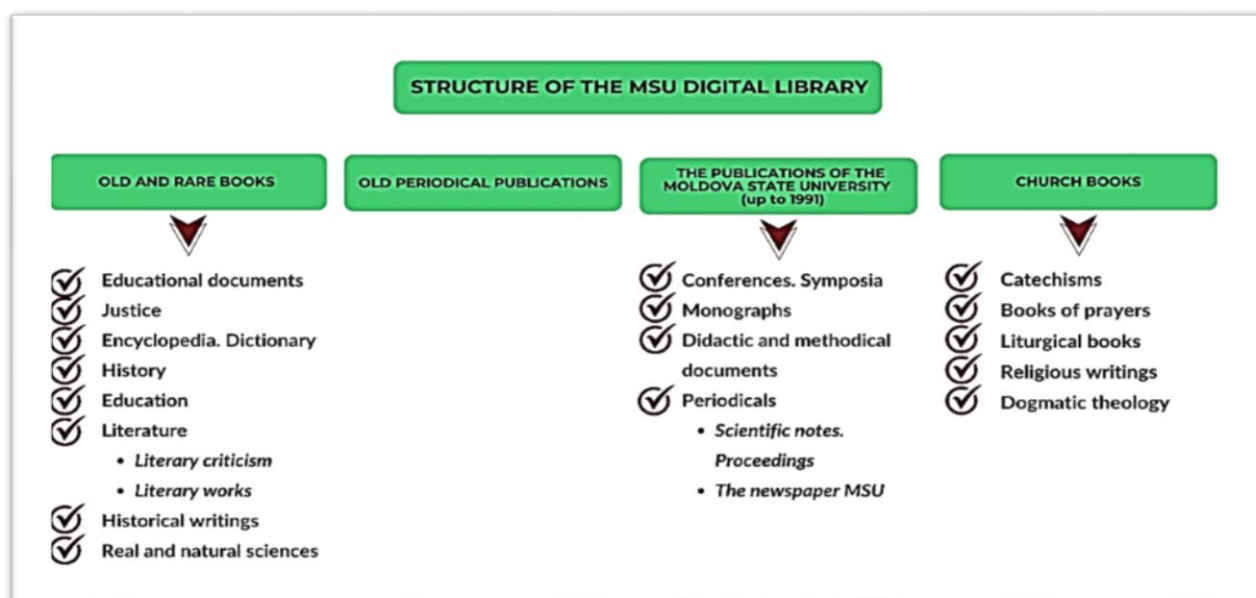


Figure 2 Structure of the USM Digital Library

Source: Elaborated by authors

Documents are archived and available in PDF format, accompanied by a comprehensive set of metadata. The creation of metadata is one of the first step librarians take in the digital transformation of documents.

Metadata are important components in the development of a digital library, as they describe the content and attributes of the digital sources, enabling searches by author, title, subject, topic, and other criteria. Metadata developed according to established standards ensures the interoperability of the Digital Library with other systems (Table 1).

Table 1 Descriptive metadata

ELEMENT	STATUS
Title (written on document)	Obligatory
Author/ Other mention of responsibility	Obligatory
Contributions	Obligatory
Place of publication	Obligatory
Publisher	Obligatory
Year of appearance	Obligatory
The physical description. Number of pages	Obligatory
The text language	Recommended
The domain	Obligatory
Subject/Thematic	Obligatory
Provenance	Recommended (The collection it belongs to)
Bibliographic description	Obligatory
Holder	Obligatory
Document type	Obligatory
The format of original document	Obligatory
Creation date	Recommended
Notes (information about autographs or notes)	Recommended

Source: Elaborated by authors

An important moment to highlight is the integration of documents from the Digital Library with the PrimoLibUniv electronic catalog, which improves the visibility of these heritage documents.

The Digital Library can be accessed through the interface of the USM Central Library webpage at <https://library.usm.md/> or by directly visiting the Digital Library portal at <https://dlib.usm.md/>.

3 Findings and Conclusions

The project for the creation of the MSU Digital Library, started in the beginning of 2023, is a long-term ongoing project. To ensure the sustainability of the project it is necessary in our opinion to undertake the following actions:

- Continuation of work on digitization of documents and development of the Digital Library platform;
- Systematic training of staff involved in the digitization of collections;
- Elaboration of the policy for the development of the Digital Library;

- Development of guidelines/recommendations on digitization of heritage collections (regulatory framework, document selection criteria, technical requirements for hard and software resources, presentation of metadata, etc.).
- Collaboration with the National Digitization Centre of the National Library of the Republic of Moldova;
- The cooperation of institutions that have heritage collections.

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THE ROLE OF ACADEMIC LIBRARIES IN PROMOTING PARTICIPATORY SCIENCE

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Abstract: This paper provides an understanding of the ways in which participatory science and citizen science can benefit libraries and how libraries can effectively implement these initiatives. Based on literature review, methods and practices for implementing citizen science by other libraries are highlighted, including the promotion of civic and research interests that contribute to general scientific progress. The paper outlines reasons why libraries should communicate and encourage active involvement in citizen science projects and what are the benefits of citizen science initiatives for the organisers. Ways of how resources and facilities of academic libraries can be leverage in Open Science are highlighted. The paper elaborates on the six steps recommended by the Open Science Meets Citizen Science Guide that academic libraries should follow while engaging in participatory science. Competences of librarians to initiate participatory science activities are outlined. Professional and material benefits of participants in Open Science and recognition of their contribution to participatory science are also highlighted.

Keywords: participatory science; citizen science; open science; benefits for libraries; libraries as Hubs for Innovation in Participatory Science; librarians' competences

JEL Classification: D83; I23; L86

1 Introduction

Changes in research are having a major impact on academia worldwide, and academic libraries are directly affected by these changes. In this context, academic libraries are called upon to adapt their services to meet the new demands of research development and to actively participate in innovative research initiatives such as Open Science and Participatory/Citizen Science. Through these initiatives, academic libraries can make more effective use of academic resources, enhance interaction with the community and facilitate closer collaboration between researchers, students and citizens, thus becoming dynamic collaborative hubs where knowledge is co-created and shared transparently with wider communities.

Open Science is one of the political priorities of the European Union and is structured into eight pillars. One of these pillars is participatory or citizen science, which promotes the idea that citizens can and should actively contribute to the creation of scientific content. Academic libraries play an important role in facilitating communication and supporting participatory science initiatives, thus helping open up access to research and involve general public in scientific projects.

2 Conceptual aspects

The term 'citizen science' was first used in the UK and the US in the mid-1990s by authors Alan Irwin and Rick Bonney. Alan Irwin is best known for his book *Citizen Science: A Study of People, Expertise, and Sustainable Development* (1995), while Rick Bonney used the term in the context of bird monitoring projects at the Cornell Lab of Ornithology. According to Irwin, participatory science is a model of scientific practice that actively involves citizens in the research process. He introduced the term to describe an approach in which scientists and citizens work together in an open and interactive way to develop scientific knowledge. Rick Bonney referred to the voluntary involvement of the public in scientific projects and science communication. The concepts and terms used in the literature and press to characterize civic researchers and civic science were criticized by Fiona Clark and Deborah Illman (USA) in 2001 - they stated that these terms are "ambiguous, perhaps even contradictory". In 2009 Jonathan Silvertown, UK, an ecologist and professor known for his contributions to citizen science and plant ecology, defined citizen scientists as volunteers who collect and/or process data as part of scientific research. Bruce Lewenstein, USA, in 2004 defined the term highlighting three key elements: lay participation in data collection, data use and data interpretation according to scientific protocols; lay involvement in policy decisions with technical or scientific components; and participation of scientists in democratic and political processes.

In 2013, the European Commission's Green Paper on Citizen Science described that "Citizen science refers to the involvement of citizens in scientific research activities when citizens actively contribute to science with their intellectual effort or with their tools and resources", and in 2015, the European Association for Citizen Science published the Ten Principles of Citizen Science, which summarizes the principles that underpin good practice in citizen science.

In the Republic of Moldova, Nelly Turcan, Ph.D., lecturer at the Department of Communication and Information Theory of the State University of Moldova (USM), is a leading figure in the field of Open Science. She is recognized for her outstanding contributions in involving academic libraries in the promotion and dissemination of Open Access scholarly publications. In 2019, Nelly Turcan promoted the concept of Participatory Science in scholarly publications in Moldova, emphasizing that "Participatory Science effectively transfers scientific activities to a wider community and provides grounds for increased interaction between science and society".

3 The role of academic libraries in promoting Participatory Science

Libraries around the world are already actively involved in participatory/citizen science projects, leveraging their extensive resources and networks to engage and mobilize communities in scientific research. Through their collaboration in these projects, libraries have not only helped to advance scientific research, but have become active centers of innovation, demonstrating how they can enrich community education and support public engagement in participatory science. Already having experience in promoting and implementing Open Science in Universities, academic libraries in Moldova can capitalize on their expertise in assisting researchers, including in managing data generated from participatory/citizen science projects. Academic libraries in Moldova are an ideal framework for supporting and promoting participatory or citizen science, as they can provide various resources and facilities, including:

- Open and accessible library spaces create a safe environment for meetings, collaboration and events related to participatory research. In addition, university libraries have valuable

information resources at their disposal, including collections of books and periodicals in various fields, access to databases and digital tools.

- The connections libraries have with the academic and research communities facilitate collaboration between students, teachers and citizens interested in participatory/citizen science projects.
- Organizing events - by organizing workshops and training sessions, libraries can educate and mobilize communities in citizen science.

The main role of academic libraries in this context is to be intermediaries between researchers, students and the general public. In order to fulfil this role, they need to take on the following responsibilities: creating support centres to facilitate interaction between academia and society; effectively managing the data collected in research; providing advice for the development of data management plans; organizing workshops, webinars and courses aimed at developing volunteers' digital skills and data management; creating platforms dedicated to sharing resources and knowledge between partners from different disciplines; developing the digital infrastructures needed to maintain continuous communication between researchers and the community involved, etc.

To engage effectively in participatory or citizen science initiatives, academic libraries can be guided by the **six steps recommended by the Open Science Meets Citizen Science Guide**. These steps provide a structured framework to help libraries develop and implement strategies to support and promote participatory science. By following these recommendations, libraries can facilitate community engagement in research by supporting access to resources, forming partnerships, and organizing events and workshops that connect citizens with the scientific process:

1. The first step university libraries should take is to **provide mentoring** for Open Science and Participatory Science. As science libraries, there are opportunities to bring our Open Science expertise into the realm of citizen science and help improve traditional research methodologies. Ideally, university libraries should be involved from the very beginning of a participatory/citizen science project, however, it is never too late to add value. Even if a project is already underway, their expertise can be used to optimize and modernize the research process.
2. The second step that can be taken is **Designing Engagement**. If a researcher or a group of researchers have already started their participatory/citizen science project before librarians are involved, they may not be able to influence the Designing Engagement, but understanding the different levels of engagement is still relevant. Citizen science is an extremely diverse field, and the ways in which volunteers can be involved in projects can vary considerably from project to project. Potential ways in which librarians and volunteers can be involved in citizen science include:
 - Input into the formulation of research questions;
 - Contributions to the design of the research project and protocol;
 - Collecting new data, for example from the environment or about themselves;
 - Processing the collected data, e.g. annotating images / videos, transcribing text;
 - Analyzing and interpreting the data, e.g. performing statistical analysis and arguing the results;
 - All (extreme citizen science) or some of the above
3. The third step is **compliance with ethical principles**. It is important to respect rigorous ethical principles and to ensure transparency in the use and sharing of data. University libraries, with their

expertise in information and data management, can contribute to meeting these standards. Ensuring the recognition of volunteer contributions, the protection of privacy and the accessible publication of results are important aspects that need to be taken into account to maintain the integrity and quality of participatory research.

4. Next step like **Data Collection - Open Hardware**. Open data sharing is important for citizen science projects. Volunteers contributing to data collection should have access to the data. The final dataset should be published in a data repository, such as Zenodo, and updated with new data as it becomes available. At the same time, be careful about the personal data included, such as geolocation data or information about volunteers.
5. The fifth step is **Data analysis**. Research volunteers can also contribute to the data analysis. It is recommended that you share all the software code used for this analysis along with the dataset. If the citizen science project attracts dedicated and competent volunteers, they may be willing to conduct additional analysis. In this context, access to the software code becomes even more important.
6. And the last and most important step is **Publishing the results**. As in the case of code and data sharing, when research is based on voluntary contributions, it is imperative that those contributors can also have access to the published results and therefore they should be published with open access. Beyond that, there is a second aspect you should think about: volunteers may have put considerable effort into making a research project possible. Frequently, volunteers are only mentioned in publications that emerge from citizen science projects, but you should consider whether volunteers might be eligible for authorship, especially when they have been heavily involved in many different aspects of the project.

4 The benefits of university libraries in promoting and organizing Participatory Science activities

Involving librarians in participatory science activities brings multiple benefits to them, contributing to their professional development and broadening their skills. By working with researchers and the community, librarians improve their knowledge of scientific methods and become facilitators of research processes. Such involvement also gives them the opportunity to build interdisciplinary networks and strengthen their role in promoting education and innovation. Moreover, active participation in citizen science projects enables librarians to contribute directly to the creation and dissemination of knowledge, adding value to the institutions in which they work.

The authors, Dolores Mumelaš and Alisa Martek, counselors of the National and University Library of Zagreb, Croatia, categorized the benefits of participatory/citizen science for libraries into two categories: external benefits and internal benefits. External benefits refer to the library's impact on the wider community, including partnerships with other organizations, attracting new users, and creating visibility in the media. Internal benefits, on the other hand, focus on improving the library's internal processes and capabilities, such as collection development, capitalizing on staff expertise and personal development.

External benefits:

- Developing partnerships
- Recognition as partners in various scientific fields
- Training citizens in participatory/citizen science

- Advocacy
- Attract new library users
- Media recognition

Internal benefits:

- Staff personal and professional development
- Service development
- Building on existing staff skills
- Material benefits

Thanks to their considerable contributions in providing resources and support for learning and research, academic libraries are recognized as collaborative **partners in various scientific fields**, contributing to the development of education in different scientific fields. By supporting this model, libraries put themselves forwards as promoters of inclusion in the knowledge creation process, thus strengthening their role as relevant and innovative institutions in society. This approach encourages the active participation of citizens in research, which not only increases the accessibility of data, but also develops a shared responsibility for scientific subjects. By supporting citizen science, libraries promote the idea that the public can make a significant contribution to the research of scientific content. In addition, the creation of a dedicated function, such as Open Science staff, within the library can become a new library service that will add value to academic libraries.

Involvement in participatory research initiatives enables university libraries to **develop partnerships** both within their internal organizational structure and with external entities. Internally, libraries can establish collaborations between different departments, promoting a multidisciplinary approach to citizen science projects. Trine Kaarsted, who is known for her contributions to the field of citizen science and libraries, and is involved in initiatives aimed at using the existing skills of library staff to support and promote open science research, recommends that academic libraries actively seek partnerships by getting involved in working groups of their university's research projects, networks or consortia of existing projects. Alternatively, they can initiate new collaborations to expand the impact and resources available, which may be other universities, civil society, government entities, the education sector, the private sector, etc. These collaborative efforts contribute to the library's ability to support and enhance citizen science activities, expand its network, and create a more robust ecosystem of shared knowledge and resources.

Oftentimes, citizen science projects engage the community in research, giving libraries an excellent opportunity to **attract new users** who would not normally use library services. In this way, libraries have the opportunity to expand their user base, attracting people interested not only in scientific exploration, but also in various services and resources they offer. The participation of librarians in participatory science initiatives helps to promote the image of libraries and their role in society.

University librarians have a diverse range of skills and competences essential for supporting participatory/citizen science, having already experience of implementing and promoting open access in academia. By integrating these competences into participatory/citizen science initiatives, academic libraries can make a significant contribution to the success of scientific projects, maximizing their impact and effectiveness.

The active participation of librarians in participatory science projects **contributes to the development of their skills**, such as project coordination and management, analyzing and interpreting research data. This involvement gives them the opportunity to get acquainted with new

methods and techniques, thus fostering a deeper understanding of collaborative research and contributing to their professional and personal growth. In addition, the experience gained can add value to library services, strengthening the library's role in the community and in academia.

Involving librarians in participatory projects offers them various material benefits. Participants in these projects have access to state-of-the-art research infrastructure and specialized materials needed to conduct research. In addition, some projects financially compensate participants' contributions and labor, covering travel and other associated costs. Material benefits may also include recognition opportunities such as prizes and diplomas for contributions made. In addition, participants have the opportunity to attend free courses and workshops that support professional development and further knowledge in the field.

5 Conclusions

Academic libraries can redefine participatory science and strengthen their role as centers of innovation and research collaboration, as they can facilitate interaction between researchers, students and communities, supporting and promoting the development of a more inclusive and accessible scientific ecosystem, thus contributing to the advancement of scientific knowledge.

Through academic libraries, participatory science benefits from an ideal setting to develop and contribute to the advancement of scientific knowledge in an inclusive and accessible way. The resources and infrastructure of these libraries, such as open spaces, technical equipment and databases, can support participatory science projects and diverse research activities.

Close connections between libraries and academic communities also facilitate the integration of researchers and students in citizen science projects. By organizing educational events, workshops and training sessions, libraries can mobilize and educate communities in participatory science, thus contributing to democratizing and expanding access to scientific knowledge.

Participatory science projects bring significant benefits to academic libraries. Externally, they become valued partners in the scientific community, strengthening their role and developing new partnerships. Internally, these initiatives stimulate staff professional development, improve services and leverage expertise. By engaging in such projects, libraries extend their user network and assert their importance in supporting research.

Looking to the future: In a context where open and participatory science are increasingly valued, academic libraries are well positioned to continue to play a decisive role in facilitating these initiatives. They have the opportunity to develop and implement innovative strategies to support and extend community engagement in research:

- Academic libraries can embrace emerging technologies such as artificial intelligence and big data to support the analysis of data collected in participatory science projects, facilitating their interpretation and use in innovative ways.
- Academic libraries can become Hubs of Innovation, providing spaces for interdisciplinary collaboration where researchers, students and community members can develop new projects together, stimulating creativity and the exchange of ideas.
- Through educational programs and workshops, libraries can contribute to increasing scientific literacy among the general public, thus encouraging more active involvement in participatory science projects.

- University libraries can create and manage digital platforms to facilitate access to participatory research data and results, ensuring that they are available and accessible to all interested parties.
- By strengthening partnerships and creating new collaborations with research institutions, non-governmental organizations and local communities, libraries can extend collaborative networks, bringing a greater diversity of perspectives and contributions to participatory science projects.
- University libraries can support interdisciplinary projects that integrate different fields of knowledge, promoting a holistic approach to complex problems and encouraging synergy between different scientific disciplines.
- Libraries can play a key role in promoting sustainable practices in research, ensuring that participatory science projects are both innovative and environmentally and socially responsible.

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THE EVOLUTION OF THE DIGITAL PARADIGM IN LIBRARIES: TRANSFORMATIONS AND PERSPECTIVES

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Abstract. The rapid advancement of digital technologies has profoundly transformed the field of librarianship, reshaped traditional practices and redefined the role of libraries in contemporary society. This article explores the evolution of the digital paradigm in libraries, examining the significant transformations and emerging perspectives that have arisen in response to the digital age. Beginning with an overview of the initial stages of digital integration, including the transition from physical to digital collections and the adoption of electronic cataloging systems, the study highlights how libraries have adapted to meet the changing information needs of users. It delves into the major shifts in library services, such as the expansion of online resources, the development of virtual libraries, and the enhancement of user engagement through digital platforms.

The article also addresses the challenges encountered during this digital transformation, including technological disparities, and legal and ethical considerations related to information access and data privacy. Concurrently, it discusses the opportunities presented by digitalization, such as increased accessibility to information, innovative service delivery models, and the potential for libraries to serve as dynamic hubs of knowledge and learning in the digital era.

Looking towards the future, the study considers prospective advancements in technology and underscores the importance of continuous adaptation and strategic planning to ensure the sustainability and relevance of libraries in an increasingly digitalized socio-economic context. Ultimately, this article provides a comprehensive analysis of the digital paradigm's evolution in librarianship, offering valuable insights into the ongoing transformation and future direction of library services.

Keywords: Digital paradigm, Digital collections, Library Digitalization, Information Access, Digital Services, Technological Evolution

JEL Classification: D83; I23; L86

1. Introduction

This article examines the digital transformation of libraries, highlighting how digital technologies have reshaped traditional practices and their role in society. The primary goal is to analyze the integration of digital solutions, from the digitization of physical collections and the implementation

of electronic cataloging systems to the development of innovative services for users. The article addresses associated challenges, such as inequalities in access to technology and ethical dilemmas regarding privacy, alongside the benefits offered by digitization, including global access and the expansion of library functions.

The rapid technological progress has revolutionized access to and interaction with information, radically changing how users access information and prioritizing flexibility and quick access to updated resources. This digital paradigm has also influenced libraries, transforming them from simple physical spaces for storing book collections into dynamic hubs of knowledge and innovation, adapted to new socio-economic demands. To remain competitive in the information market, libraries must redefine their priorities and modernize their services, radically transforming the processes of creating, managing, and accessing information.

We will examine the digital transformation of libraries, focusing on the impact of digital technologies on traditional practices and the role libraries play in society. The main goal is to explore the integration of technological solutions, from converting physical collections into digital formats to implementing electronic cataloging systems. We will analyze challenges such as inequalities in technology access and the advantages of digitization, such as expanding accessibility on a global scale and introducing innovative services. In conclusion, the article discusses the developmental directions of libraries and the necessity for continuous strategic adaptation in the context of the digital era.

2. The Historical Evolution of the Digital Paradigm

2.1 The Early Stages of Digitization: Online Catalogs and Initial Databases

Digitization in libraries began in the 1990s with the development of online catalogs and electronic databases. The use of electronic platforms had a significant impact on users, offering them the possibility to remotely access information about available collections, greatly simplifying the search process and making it faster and more efficient.

We suggest some electronic cataloging systems that formed the foundation for the evolution of the Digital Paradigm in libraries.

Table 1 The First and Most Important Electronic Catalog Systems

Name:	Year Introduced:	Location:	Details:
NOTIS (Northwestern Online Total Integrated System) (<i>Specht, Jerry,</i> <i>2017</i>)	1980s	Northwestern University, Evanston, Illinois, USA	NOTIS was one of the first integrated cataloging systems combining cataloging functionalities with lending and resource management. It pioneered academic library automation, offering a unified system for managing all library operations.
GEAC (General Electric Automated Catalog) (<i>A Brief History of Geac, 1998</i>)	1980s	National Library of Canada and others	GEAC was an important system for automating public and academic libraries, offering advanced cataloging and lending functionalities. It was widely used in Canada and other countries,

			contributing to resource digitalization and improved access to information.
TLC (The Library Corporation) (<i>Breeding, Marshall, 2022</i>)	1980s	Various US and international Libraries.	TLC developed integrated management systems adopted by many libraries, offering flexible solutions for cataloging, lending, and resource management. Their systems were among the first to integrate automation functionalities into a unified platform.
SIRSI (Sirsi Corporation) – Unicorn (<i>Symphony, 2024</i>)	1980s	Univeristy of Texas and other Academic Libraries	SIRSI was known for its innovative library automation solutions, including the development of software for cataloging and resource management. SIRSI systems were widely adopted in academic and public libraries.
Ex Libris ALEPH (<i>Ex Libris, 2024</i>)	1980s	Tel Aviv University and others	ALEPH was one of the first internationally used Integrated Library Systems (ILS), offering a complete solution for cataloging, lending, and resource management. It was adopted by libraries worldwide and was crucial in developing integrated management systems.

Source: Authors development

The first online databases (Table 2) appeared in the 1960s and 1970s, alongside the development of computing and communication technologies. These databases represented a significant change in how information was organized and accessed, enabling rapid access to informational resources through network-connected terminals.

Table 2 Early Online Databases

Name:	Year Introduced:	Location:	Details:
ERIC (Education Resources Information Center) (<i>What is ERIC?, 2024</i>)	1966	USA, Department of Education	ERIC is one of the most widely used databases dedicated to educational literature. Initially launched as an offline resource, it became accessible online in the 1970s, allowing researchers, teachers, and decision-makers to access articles, studies, and reports on educational practices and policies.

DIALOG (<i>ProQuest Dialog, 2024</i>)	1967	USA, Lockheed Corporation	Through the DIALOG platform, users could quickly find books, scientific articles, and other important materials without having to visit a physical library. It was like a central connection point to many databases, where everything was constantly updated.
INSPEC (Information Service in Physics, Electronics, and Computing) (<i>About Inspec Direct, 2024</i>)	1969	UK, Institution of Electrical Engineers (IEE)	INSPEC is a specialized database in physics, electronics, engineering, and computer science. It is available online through platforms such as EBSCOhost and Web of Science.
MEDLINE (Medical Literature Analysis and Retrieval System Online) (<i>A Brief History of NLM, 2024</i>)	1971	USA, National Library of Medicine (NLM)	MEDLINE is one of the first bibliographic databases in the medical field. By providing easy and quick access to relevant articles, it has helped spread knowledge and improve medical practice.

Source: Authors development

2.2 Automation of library processes: integrated management systems

The use of information technology to streamline and organize library activities has become possible through the introduction of **Integrated Library Systems (ILS)**. These systems are software composed of modules that manage various library processes, such as cataloging, circulation, user management, and digital resource administration, integrating all core functions into a unified platform. These systems are essential for modern libraries, reducing manual labor and improving user access to information.

Among the first libraries to implement these systems was the Boston Public Library (United States), which began using an ILS in the 1980s. Other notable examples include the University of Illinois Library, which adopted the NOTIS system in 1987, and the National Library of Canada, which implemented the GEAC system in 1991. These initiatives marked the beginning of a significant transition from manual resource management to fully automated operations.

The functionalities of an ILS include automatic cataloging of materials, management of electronic and physical resources, processing of loans and reservations, as well as the generation of statistical reports. For instance, ILS systems allow users to access resources and check material availability through online portals, enhancing service accessibility and efficiency. Recent statistics show that the use of ILS systems has significantly reduced the time required for loan processing and decreased administrative errors. In a study conducted by the American Library Association in 2019, it was estimated that libraries utilizing ILS reported increased efficiency in their internal operations. This

report highlights libraries’ ongoing investments in strategic technological products, such as ILS and library service platforms.

Although the study does not provide an exact percentage regarding efficiency gains, it emphasizes that libraries adopting these technological solutions have made significant progress in managing and accessing resources—an essential aspect given the growth of digital collections and the need for integrated services.

2.3 The Initial Impact on Traditional Libraries.

The initial impact of digitization on traditional libraries was profound, leading to significant changes in the way collections were managed. The transition from physical to digital resources required a modernization of cataloging and storage processes. Libraries had to adopt electronic systems and online databases to organize and access resources more efficiently. This eliminated the limitations imposed by physical space, allowing access to information from anywhere. However, this shift came with serious challenges. Implementing new technologies demanded significant investments in infrastructure and equipment upgrades.

Staff training was another essential aspect. Librarians had to learn new skills to manage and utilize digital resources effectively. This transformation was challenging for some, involving both a shift in traditional responsibilities and the development of new technical skills. In the past, librarians focused on caring for and organizing physical collections, but they have now become “mediators” of digital resources, providing technical support to users and helping them navigate databases efficiently.

Moreover, this digitization process created greater accessibility and flexibility for users. However, the transition was not without resistance from some staff members, who perceived new technologies as a threat to their job stability and routine. An adaptive leadership approach was required to address these challenges and ensure a smooth transition.

3. Transformations Brought by Digital Technologies in Libraries

Digitization of Collections and Access to Digital Resources. Digital technologies have brought major changes to the way libraries operate, with the digitization of collections being a central element of this process. Converting books, manuscripts, and other physical materials into digital formats not only protects these resources from deterioration but also expands access to them. Rare and valuable collections thus become available to users worldwide, eliminating physical barriers and democratizing access to information. Moreover, digitization aids in preserving cultural heritage by providing a secure method of safeguarding these resources for future generations. Access to digital resources has significantly transformed due to modern technologies. Libraries now offer a wide range of materials—from e-books and journal articles to databases and multimedia resources—available online. This enhances the efficiency of information searches and improves equality of opportunity in education and research. Digital platforms facilitate the management of these resources but also pose challenges related to copyright and data security. Libraries navigate these obstacles and new opportunities to ensure safe and equitable access to digital information.

Institutional Repositories and Their Impact on Academic Research. Some universities and research institutions have begun developing digital platforms called institutional repositories, designed for collecting, archiving, preserving, and distributing the scholarly works and other research materials of their members. These repositories have reshaped the academic research landscape by facilitating open access to knowledge, increasing the visibility of research outcomes, and promoting

global collaboration among researchers. These platforms contribute to democratizing access to information and accelerating scientific progress by removing cost-related barriers. The impact of institutional repositories on academic research includes:

- Accessibility and visibility;
- Preservation and archiving;
- Support for research evaluation and reporting.
- New Digital Services: Virtual Libraries, Digital Lending, Online Consultation

Digital technologies have significantly expanded the range of services offered by libraries, adapting to the modern needs of users. Among the most notable innovations (Table 3) are virtual libraries, digital lending, and online consultation services, which enhance the accessibility and efficiency of library services in the digital era.

Table 3 Advantages of New Digital Services

DEFINITION AND FUNCTIONALITY	ADVANTAGES
Virtual Libraries Virtual libraries are digital platforms that allow users to access collections of books, articles, manuscripts, and other informational resources via the internet. These libraries are not limited by physical space, offering access to a wide variety of resources that can be consulted from anywhere, at any time.	• Extended Accessibility: Users can access resources from around the world without needing to visit a physical library. • Continuous Updates: Collections can be constantly updated and expanded, offering the latest resources and publications. • Interoperability: Integration with other platforms and databases can facilitate the search for and access to diverse resources.
Digital Lending Digital lending refers to systems that enable users to borrow books and other electronic resources, such as e-books and audiobooks, through online libraries. This service operates similarly to traditional borrowing but does not require physical interaction.	• Convenience: Users can borrow and read books from anywhere without needing to travel to the library. • Immediate Availability: Digital lending eliminates issues related to the physical availability of resources and allows instant access to desired materials. • Simplified Management: Users can manage loans and returns through online platforms, with access to borrowing history and options for extending deadlines.
Online Consultation Online consultation provides assistance to users through digital communication platforms, such as chats, emails, or video conferences. Librarians and other specialists can answer questions, offer recommendations, and guide users in finding and using resources.	• Immediate Assistance: Users can receive real-time help without waiting for physical appointments or library opening hours. • Global Accessibility: Online consultation allows users from different locations to benefit from librarians' expertise. • Flexibility: Consultation services can be tailored to users' needs and preferences, offering various communication options.

Source: Authors development

4. The Future Perspective: Libraries in the Digital Era

In the future, libraries will continue to adapt to new requirements and the emerging needs of the community. The integration of advanced technologies, the expansion of digital services, and the development of innovative strategies will be essential for their relevance and efficiency.

To enhance user experience and expand the variety of services, libraries will adopt new technologies such as artificial intelligence (AI), augmented reality (AR), and virtual reality (VR). These technologies will transform how information is presented and accessed through personalized recommendations and searches, interactive experiences, innovative educational resources, and virtual consultancy. This will contribute to the democratization of information and improved accessibility for all user categories.

The relevance of libraries will depend on:

- strategic planning and constant adaptability;
- identifying and responding to the community's ongoing needs;
- integrating flexible technologies;
- modernizing services and collections.

Through a proactive approach, libraries can ensure their sustainability and importance.

5. Conclusions

Libraries have evolved from simple information storage centers to active digital hubs. The digitization of collections has enabled access to global resources and reduced the physical barriers to information, facilitating the democratization of knowledge. Users can now access information from anywhere, significantly improving how knowledge is distributed and explored.

At the same time, the transition to a digital environment has brought significant challenges, including disparities in technology access and issues related to data confidentiality. Resistance to change, both from staff and users, must be addressed through training, support, and efficient communication. Looking forward, libraries must continue to innovate and integrate emerging technologies while remaining essential to the education and cultural heritage of the community.

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ARTIFICIAL INTELLIGENCE AS AN INNOVATIVE TECHNOLOGY IN THE ACTIVITIES OF UNIVERSITY LIBRARIES

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Abstract: The university library is an important component of the educational process, so all changes occurring in society and the education system, new technologies, and Internet applications find their application in the library as well. As society changes, libraries change as well. They cease to be merely collections of various publications and become platforms for individual and collective work, known as intellectual and creative hubs.

Technologies of Artificial Intelligence (AI), with their great potential, are capable of modernizing the internal structure of libraries and changing the approach to the very process of library activities. For most libraries worldwide, the use of this technology is still in its early stages. Artificial intelligence in libraries could be used to structure information and link materials together to automatically generate curated collections of educational materials on specific topics for students and teachers. However, implementing this technology would require significant time and financial investment for training the artificial intelligence system, resources that libraries often do not have.

AI can be used for semantic analysis of digital archives and collections of cultural heritage. The efficiency of discovering new literature through automated indexing will help users conduct searches more quickly and visualize their navigation across various subject headings. AI services enable active utilization of new capabilities for informing, educating, and clearly structuring information, which is beneficial for various user groups both individually and at the institutional level.

Keywords: Artificial Intelligence, university libraries, new technologies, information user, library services

JEL Classification: D83; I23; L86

1 Introduction

The university library is an important component of the educational process, so all changes occurring in society and the education system, new technologies, and internet applications find their application in the library as well.

As society changes, libraries change as well. They cease to be merely collections of various publications and become platforms for individual and collective work, known as intellectual and creative hubs (Lund, Brady, 2021).

Technologies of Artificial Intelligence (AI), with their great potential, are capable of modernizing the internal structure of libraries and changing the approach to the very process of library activities.

2 Methodology and results of the study

On the basis of desk research, were investigated the phenomenon of Artificial Intelligence and its most popular products used in the libraries.

The concept of artificial intelligence was first discussed following Alan Turing's 1950 work, “Computing Machinery and Intelligence”. In this article, Turing posed the question, “Can machines think”? Six years later, in 1956, John McCarthy introduced the term “artificial intelligence” at the first-ever AI conference at Dartmouth College (Боженко, Ярослав, 2024).

The technology named Artificial Intelligence, as proposed by American computer scientist John McCarthy, refers to a set of technological solutions that enable the imitation of human cognitive functions (including self-learning and problem-solving without a predefined algorithm) and achieve results in specific tasks that are comparable to those of human intellectual activity (Stolyarov, Yu. N., 2022).

In addition to supporting the educational process, the modern university library performs informational, educational, and training functions. Libraries also help to engage the general population in using information technologies in everyday life, including accessing government and municipal services online, among other things. Thus, through the use of marketing, libraries harmonize the relationship between government authorities and society.

Architects and designers can modernize the external appearance of a library, while the internal processes of the library can be transformed by artificial intelligence (Искусственный интеллект в библиотеке, 2023).

Artificial intelligence is characterized by fundamental properties (Figure 1).

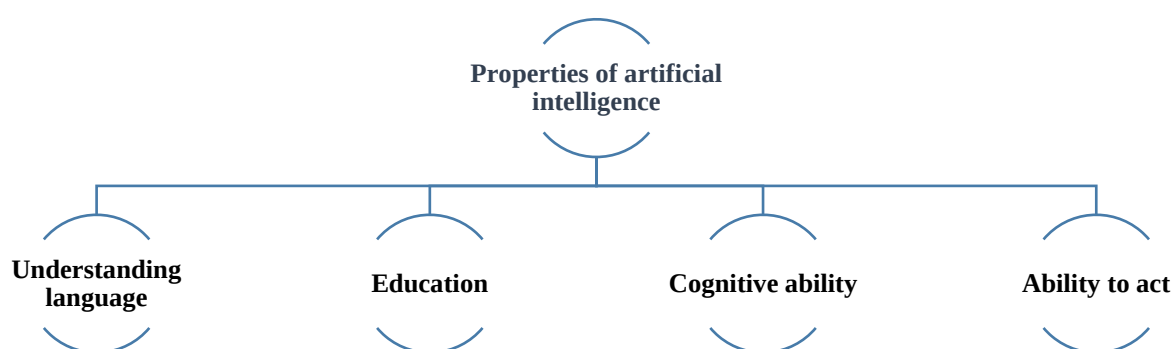


Figure 1 Key properties of artificial intelligence

Source: elaborated by authors

Artificial intelligence technologies find successful applications in fields with large volumes of information, statistical and scientific data.

AI is widely used in legal practice (DoNotPay) for drafting legal documents, in banking activities (Contract Intelligence), in education, and other domains (Степанов, Вадим, 2018).

The use of these technologies in medical purposes, construction, military affairs, and other fields should be approached with a high degree of caution and deliberation. The human, as an expert and

mediator between technology and its outcomes, becomes the essential controlling element that ultimately ensures the successful execution of AI-driven tasks.

3 Artificial Intelligence in Libraries

Artificial intelligence is one of the fastest-developing technologies globally, yet its application in many fields is currently limited to utilizing certain elements of it. For most libraries worldwide, the use of this technology is still in its early stages.

Thus, specialists at the Library of Congress in America developed an artificial intelligence-based tool called the **“Newspaper Navigator”** as part of a project (Lee, Benjamin Charles Germain et al, 2020). The innovative “Newspaper Navigator” system is based on optical character recognition (OCR), which enables the identification of printed and handwritten characters, including scanned documents. This technology was also utilized in the creation of **“Google Books”**.

The “Newspaper Navigator” system simplifies information retrieval based on correctly formulated queries using keywords or sentences. It recognizes and retrieves all relevant documents. This advanced technology also allows for object detection and classification into various types, such as headlines, photographs, maps, advertisements, and more.

To implement the project, the library initially engaged volunteers who uploaded initial data into the system and described them, enabling artificial intelligence to understand the essence of the task. The results of the “Newspaper Navigator” project are quite impressive: within 19 days, the system processed and classified all newspaper pages available to the library, totaling over 16 million pages. Moreover, the proportion of problematic pages was minimal, with only 383 identified as such (Искусственный интеллект в библиотеке, 2023).

Additionally, in libraries, there has been the application of an artificial intelligence development called **Chronicling America**. However, unlike the “Newspaper Navigator”, this application lacks self-learning capabilities and the ability to accumulate data volumes to enhance its operational quality.

The experience of the Hillsboro Public Library in Oregon is noteworthy. It was the first library in the Pacific Northwest region of the USA to adopt the **Book-O-Mat** technology, a self-service kiosk installed in the city center and operated from the main library. This book vending machine allows patrons to borrow and return publications, assists library staff in tracking demand trends, and can provide users with personalized book recommendations (Параскив, Петра, 2023).

According to the American Library Association, **IoT technology** offers a wide range of “possibilities for library applications, from tracking room usage and event attendance to monitoring humidity levels for special collections and much more”. Thus, libraries in the future will be able to significantly enhance the user experience by expanding their services and collections (Whitehair, Kristin, 2016).

Libraries can utilize analogs of virtual assistants like **Alexa and Siri**, developed by Apple Computer and Amazon, which handle natural language processing, speech synthesis, and create algorithms that provide users with new capabilities. Today, Siri and Alexa are accessible to anyone on their devices. Artificial intelligence, once a technology of the future, is gaining popularity in the present. Voice-activated systems can be used for providing information about library services and products, reserving publications, and more.

Artificial intelligence in libraries could be used to structure information and link materials together to automatically generate curated collections of educational materials on specific topics for students

and teachers. However, implementing this technology would require significant time and financial investment for training the artificial intelligence system, resources that libraries often do not have. In museum and exhibition activities, there are already intellectual developments that could find application in libraries as well. For instance, multimedia equipment is used to attract visitors' attention during exhibitions. By interacting with interactive screens, visitors can obtain comprehensive information about exhibits and the history behind them. AI is employed here for organizing and structuring large volumes of data, identifying relationships between them, and optimizing search queries based on previous retrospective searches.

Additionally, AI can be used for semantic analysis of digital archives and collections of cultural heritage (Степанов, Вадим, 2018).

The efficiency of discovering new literature through automated indexing will help users conduct searches more quickly and visualize their navigation across various subject headings, which is not feasible with manual indexing. This type of AI tool will surpass the capabilities of library specialists by providing readers with more specific and accurate materials. Indexing is based on the factual content of documents rather than the subjective assessment of a classifier, enabling comparison of large document sets relevant to the query topic (Каптерев. А. И., 2023).

The application of AI algorithms to optimize information retrieval in libraries will help to quickly and accurately identify user queries and provide more relevant results. AI can also analyze the history of queries or views and offer readers personalized data on monographs, articles, films, and other sources of information.

AI services enable active utilization of new capabilities for informing, educating, and clearly structuring information, which is beneficial for various user groups both individually and at the institutional level.

4 Leading Tools and Uses

In universities and colleges, to optimize the educational and scientific processes, educators, researchers, and students are recommended to use the following AI services:

- *ChatGPT* – allows obtaining factual information, hypotheses, ideas, recommendations, and structured texts;
- *Deepl* – best translator;
- *Bearly* – text summarizer on the website (theses and antitheses);
- *Elghtlfy* – YouTube summarizer;
- *ChatGPT Plugins* – these are commonly referred to as optional add-ons or extensions that users can integrate with their AI chatbot to enhance the capabilities of the GPT-4 model;
- *MldJourney, DALLE* – image generation;
- *Perplexity* – answers to questions with links;
- *Consensus, Elcit, Research Rabbit* – working with scientific articles (Кунев, Вячеслав, 2024).

The proposed services are capable of providing prompt assistance, answering questions, clarifying queries, suggesting concepts, finding relevant information, and developing individual plans based on users' capabilities and skills 24/7.

Studying AI tools should be integrated into the University Curriculum under the discipline of “Information Literacy”. Librarians can educate users on using these tools in academic and scientific activities. It is particularly important to teach users how to formulate prompts correctly. It's essential

to understand that the AI toolkit requires both theoretical understanding and practical skills in the field of study. Without sufficient subject-specific theoretical knowledge, it is impossible to formulate prompts correctly and consequently obtain complete and accurate results.

In the near future, AI will be widely used in the analytical and predictive activities of libraries, which will contribute to optimizing library operations, better allocation of human and financial resources, and improving the quality of library services provided.

5 Prospects and Challenges of AI Implementation in Libraries

Today, many universities are increasingly in need of specialists – analysts who collect and summarize the results of scientific achievements of institutions using various methods of data processing. Scientific libraries, equipped with specific knowledge and skills in handling large volumes of information, are poised to lead communities of data scientists in the near future, leveraging AI tools. Therefore, it can be argued that the use of AI offers libraries new opportunities, yet there are also several challenges that libraries may face (Table 1).

Table 1 Opportunities and Threats of AI Usage in Libraries

№	Opportunities	Threats
1.	Time-saving in query implementation	Funding. Costs associated with implementing AI tools
2.	Improvement of control over library plans implementation	Concerns regarding the accuracy and reliability of AI algorithms
3.	Improving the quality of library services	Reduction of library staff
4.	Increasing importance of the scientific library	Privacy and security
5.	Enhancing the intellectualization of library services	Readiness for digital changes. Lack of relevant skills among library staff
6.	Strengthening engagement within the serviced community	Generation of fakes
7.	The ability to better study the information behaviour of serviced segments	Integration with existing systems

Source: Authors development based on (Картев. А. И., 2023).

In her article, Kristin Whitehair notes: “Since many AI applications are oriented towards providing information to the user, it may seem that AI technologies pose a challenge to libraries”. However, “this intelligence is still artificial, not human. Libraries can connect people with information and, more importantly, with other people, which AI cannot do”. Adding an intelligent component to all applications available in the library is a real opportunity to better understand user behaviour patterns and adapt to their needs (Whitehair, Kristin, 2016).

Today, scientists, teachers, students, and postgraduates already use some AI tools. However, due to limited time resources and insufficient skills in using these tools, serviced segments increasingly seek help from the library.

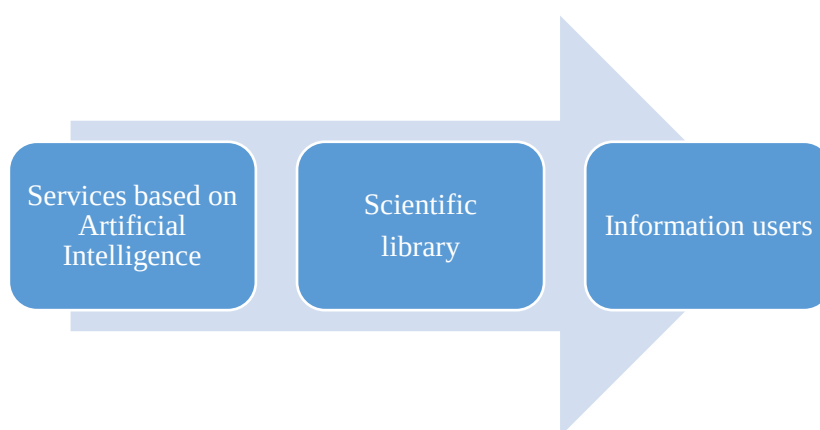


Figure 2 The library as an intermediary between the challenges of the digital society and library users

Source: elaborated by authors

The new roles of modern libraries only strengthen their classical intermediary function between governmental, educational, scientific organizations, and end-users. Thus, it can be noted that the communicative function of university libraries is increasingly reinforced.

6 Conclusions

Thus, the task of modern libraries becomes the adaptation of all segments of society to rapidly changing demands of the digital lifestyle: from developing educational skills in children and the elderly to servicing professionals using AI tools.

The gradual shift from textual to audio-visual ways of understanding the world is changing communication and information exchange methods. The model of the classical library is becoming less in demand, making way for the modern library, transforming from a place of information storage into a laboratory for creating new knowledge based on AI.

Today, scientific libraries are transforming into hubs for various forms of intellectual interaction, laboratories that facilitate scholarly activities for their serviced segments based on digital technologies.

The task of libraries to adapt citizens to the requirements of the digital lifestyle will be solved through extensive retraining of library personnel, supported by the government and the entire scientific and educational system of the country.

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MODERN UNIVERSITY LIBRARY: EXPANDING SPHERES OF INFLUENCE

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Abstract: University libraries are social structures that experience information-revolutionary changes. This is due to their simultaneous involvement in two spheres of spiritual production – librarianship and education. The article examines the role of the university library in the educational process and the expansion of its spheres of influence at the present stage. Changing conditions of the educational environment, informatization of society, increasing importance of the information factor, revealed the need to modernize library processes, introduce innovative technologies in library and information activities.

The developing information space is pushing libraries to new roles: from storing knowledge and supporting the modern educational process to the latest forms of learning and the introduction of new educational technologies – distance learning methods and multimedia tools.

The potential of a modern library is assessed not only by the volume and completeness of its book collection, but also by its relevance and the library's ability to provide the latest information in the shortest possible time for all its users. Traditional forms of service to users of university libraries are being transformed and actively transferred to the Internet. The article presents the experience of the Scientific Library of the Moldovan Academy of Economic Studies as an integral part of the unified information and educational space of the university, and examines the process of servicing users of the university library in a new format. The key and characteristic tasks that the library is guided by are highlighted, taking into account modern requirements for information support of the educational process of the university. As an information centre, the Scientific Library strives to meet the needs of scientists for information as much as possible, improving and using new opportunities for information support of research activities.

The article represents the author's understanding of the ongoing transformation of the activities of university libraries. The article outlines the tasks and problems facing the library, and concludes that the university library has been and remains the main information centre in the system of higher professional education.

Keywords: university library, educational process, library modernization, electronic resources, information technology, information services

JEL Classification: D83, I23, L86

1 Introduction

The modern library today is going through one of the most interesting periods of its development, which is characterized by the increasing importance of the information factor. And if earlier the main goal of the library was to satisfy the users' needs for books, now it is to satisfy the users' needs for information, regardless of whether it is in the form of traditional or electronic publication. The development of information technologies, replacement of paper document circulation with electronic one, mastery of information technologies are no longer surprising and become a common thing for every person who uses a computer as a communicator of communication in the modern information space.

A distinctive feature of the modern library is that today the library is not perceived as a book depository, this approach contradicts the objective reality. To speak about the formation of new approaches to the consideration of the place of the library in the information space, allow the changes that are taking place, such as:

- the process of automation and robotization of all spheres and branches of production and management;
- availability of developed infrastructure for creation of national information resources;
- availability of modern information technologies;
- availability of information to any member of society, group of persons, organization;
- expansion of the sphere of information activities and services.

The university library, being a structural subdivision of the university, does not stay away from the trends in the development of higher education and due to them plays an increasingly important role in the activities of modern educational institution. And the successful activity of university libraries depends on the requirements of higher education as an important sphere of human activity in modern society.

The relevance of the topic of this article is due to the changing role and importance of the modern university library and the expansion of its spheres of influence, which poses new challenges for it. The methodological basis of the research was made up of general logical methods: analysis, generalization, systematization.

2 The role and significance of the modern university library

The library is a complex self-developing system that does not oppose the new, which arises as a result of changes in all major types of library and information activities (Дворкина, М. Я., 2017).

The transition of society to the digital economy gave a start to the introduction of information technology in all spheres of life, including the national educational system. The need to adapt to the impact of a rapidly changing external environment, the activity of transformations in the field of education, the intensifying competition in the market of educational services form a new model of functioning of libraries of higher education institutions. Such changes lead libraries to constant updating and improvement of their activities (Мазурицкий, А. М., Кузичкина, Г. А. 2019).

The library and the university function in a single information space and is a single source of knowledge for students. They are united by one strategic task - training of specialists who meet modern requirements. Effective realization of this task is possible if there is consistency, coordination of joint actions. “Library is an integral part of any higher education institution. Today it should be not only a source of knowledge and information and document component of the educational process,

but also a strategic partner of the university. At the present stage, the library of the university should constantly prove its necessity and, therefore, take on new functions” (Шаматонова, Г. Л., 2017).

The modern university library is an open system that is actively developing both horizontally, expanding its sphere of influence, and vertically, increasing the pace of new information technologies. In this regard, the main task of the modern university library is to strengthen its importance as an integral educational element in the learning process by moving from the routine functions that have developed over the previous period of time to new services that could meet the real needs of consumers in educational and scientific information. Such modernization of the library should be carried out on the basis of its transformation into a hybrid library, which makes it necessary to formulate new goals. The scientific library of the university should become a developing and teaching flexible structure, designed to assist the educational process by delivering knowledge at any time to any user, regardless of his location and providing him with guarantees of the quality of knowledge. Today the educational role of the library cannot be limited to the functions of information storage, it should become an active partner of the teaching staff and other specialists responsible for the development, quality improvement and implementation of educational programs (Шогенова, И. А., Ольмезова, Л. Т. 2014).

Thus, university libraries today are not only the main repositories of information resources of the educational environment, but also an integral subsystem of the informatization process. The processes of collecting, storing and using information in print and electronic form are organized here. And the future of these libraries depends on how quickly and organically they can be integrated into the university information and educational environment.

Let us consider further how the ASEM Scientific Library is developing under these conditions.

3 Experience of the Scientific Library of the Academy of Economics Studies of Moldova as an integral part of the unified information and educational space of the university

ASEM is a nationally and internationally recognized university, which provides training of qualified specialists in business, economics, law, finance, accounting, marketing, trade, information technology, international relations, catering, tourism, public administration, social security, having an extensive system of relations with both domestic and foreign partners. The state educational standards impose special requirements to the creation and functioning of modern information and educational environment, in particular, including the mandatory availability of electronic information and educational resources, the use of information and telecommunication technologies, appropriate technical means to ensure that each student achieves the maximum possible learning outcomes of the curriculum.

The Scientific Library of the Academy of Economic Studies of Moldova is an integral part of the unified information and educational space of the university. In accordance with the high requirements at the present stage of development, the scientific library ASEM is characterized by a change in the priorities of its activity, developing and improving the availability of educational and scientific electronic resources, taking into account the interests of users.

One of the important indicators of the educational process is the book supply of disciplines studied at the university. The level of disciplinary teaching material supply is assessed in the process of accreditation of master's programs and specialties. In order to ensure the reliability of data related to the educational process, the library interacts with the faculties with the Doctoral School and the

Master's School. This allows to objectively study the compliance of the educational collection with the university profile and to forecast its filling, to maintain communication with departments, guaranteeing the timeliness of reliable information. In this context, one of the main strategic directions in the formation of the library collection is the formation of its electronic documents of remote access. Network remote documents serve as a significant addition to the main collection, and some of them are unique due to the lack of printed analogs.

Modernization of higher education focused on training competitive specialists capable of continuous professional self-development presupposes a high level of student autonomy (Осипов, П. Н., Зиятдинова, Ю. Н., 2015). In this regard, the importance of effective information support of the educational process and the role of the university library increases. Under these conditions, the activity of the AESM Scientific Library is aimed at creating the most favorable conditions for students to engage in independent work with information.

Information support of independent work of students, masters, doctoral students is based on free access to printed and electronic resources of the library, as well as the organisation of remote access to external resources. Specialists in library marketing say that if the sphere of service changes, the library must change as well. So in the reading rooms of the library is organized open access to educational and scientific literature, as well as periodicals and continuing editions. It should be noted that all the departments of the library are equipped with Wi-Fi and students can use free access to the network from their mobile devices. Within the Multimedia Centre, users have the opportunity to use electronic publications of the university teachers to prepare for classes.

The Library's electronic catalog provides users with information on bibliographic descriptions of books, periodical articles, dissertations, standards, and electronic teaching materials available in the library collection. The catalog can be accessed not only on the premises of the institution but also online, allowing users, without coming to the library premises, to understand what they can find in the library on the issue of interest (Cheradi, N., 2014).

The website of the library also presents the Institutional Repository of IREK - AESM: Institutional Repository of Economic Knowledge, which presents scientific articles of university teachers, their speeches at scientific conferences.

One of the tasks of higher education is the formation of a person with an appropriate level of information literacy and information culture (Гендина, Н. И., 2005). The ability to promptly find information, evaluate it and effectively use it is a necessary skill for a professional in any field. Correctly selected and organized information becomes the most important force determining the development of society. In this context, a direction of activity of the ASEM Scientific Library should be - the formation of students' information literacy.

The Library has developed a course "Fundamentals of Information Literacy" for first-year undergraduate students of all specialties. In the course, librarians inform students about the structure of the library and the information content of the collection; open-access resources; present methods of searching for information in traditional and electronic catalogs; familiarize them with electronic information resources to which the university has access. Students also receive individual consultation on the use of electronic resources in all divisions of the library. Widespread introduction of computer technologies into library practice allows to significantly increase the efficiency of user service.

In order to help first year students adjust to their new environment and the large amount of information at their disposal, the rules for using the library are explained to them. In addition, first-year students receive from the Loan department a minimum set of textbooks needed for the first semester of study. From the second semester until the end of their studies, students choose and request the required literature themselves. For third year undergraduate students, master's and postgraduate students at the request of the departments Antiplagiarism course is organized.

The ASEM Science Library is an important resource center for teachers and researchers, They turn to the library primarily for assistance in literature selection. One of the new activities assigned to the university library today is the determination of scientific citation rates of academic researchers.

Librarians use both traditional and new methods to inform users: traditional and electronic exhibitions, website, social networks. The Facebook page publishes information about new acquisitions (Book of the Week), dedications addressed to the professors of the university, announcements about various events: seminars, workshops, webinars, which teach future economists and researchers to find the information they need through the large volume of information.

Thus, the ASEM Scientific Library, as one of the departments of the university, occupies an important place in the formation of a competitive specialist, in the creation of information tools necessary for the study and research process of all categories of users, actively interacting with all departments and units of the university.

Users of the ASEM Scientific Library can use of traditional (printed) publications, as well as electronic information distributed online through databases. Our user can work in the library at a desk, at a computer, use Internet resources or create in a text editor. A modern university library cannot ignore the changes taking place in the information technology sector.

The success of any library is largely determined by the professional level of its staff. Library staff must not only know the methods of searching and analyzing documents, creating their own information products, presenting the results of science in the information space, but they must also possess explanatory and educational competence in the process of communication with the user.

4 Tasks of a librarian of a modern university library

The university library plays an important role in the training of specialists who would be able to cope with the growing amount of information and the means to promote it. And the key figure in implementing library services is the library employee.

Today, an academic librarian is primarily a specialist. As a rule, is an educated person with many skills and competencies to meet the demands of the modern information society. At the same time, the person requires skills in related fields such as information technology, multimedia, pedagogy, psychology and communication. The skills of the modern academic librarian are tolerance to stress, quick engagement in different activities and getting back to the daily routine work. It is important to get involved in long-term project teams in the library field, but also in projects initiated by other departments of the university. Maintaining emotional balance is also important.

The librarian cooperates on a daily basis with various participants in the educational process: teachers, students, university staff, fulfilling a clearly defined role. Thus, having a good knowledge of the methods and technology of searching, collecting and processing information, the librarian becomes an assistant to the professor in preparing lectures, writing research papers and articles, and for the student, master's, doctoral - an instructor in finding the necessary information. In this context, the

library should pay special attention to staff training, organizing various training courses, seminars, training courses, preparing informational and methodological materials.

We consider that librarians should:

- possess methods for solving psychological, informational, managerial, economic problems;
- use information and telecommunication technologies;
- have pedagogical training as they have to deal with a variety of people.

Professionalism of a librarian is the main component of the quality of library and information services. Therefore, professional development should be systematic and cover all categories of librarians.

With the advent of the Internet, society is sure that the Internet has everything, and there is no need for a library and librarians. But, this is not always true and the information that users find there is not always of high quality. The library, on the other hand, continues to store and work with quality information material. And only when society ceases to be omnivorous and works only with verified information, it will cease to classify the profession of librarian as extinct.

With the advent of the Internet, society is sure that the Internet has everything, and there is no need for a library and librarians. But, this is not always true and the information that users find there is not always of high quality. The library, on the other hand, continues to store and work with quality information material. And only when society will work only with verified information, it will cease to classify the profession of librarian as extinct.

At the present stage the university library must constantly prove its necessity to take on new functions (Шаматюнова, Г. Л., 2017). The task of the library employee to make it so that no one has a question why the library is needed, and the librarian should become not just necessary, but indispensable. It is an arduous task, but librarians must try to do it. In other words, the librarian must be able to inspire, energize, persuade. The library is the link that contributes to the development of the university.

5 Conclusions

Thus, we can safely say that the university library has been and remains the main information centre in the system of higher education. The potential of a modern library is assessed not only by the volume and completeness of the book collection, but also by its relevance and the library's ability to provide the latest information in the shortest possible time for all its users. The scientific library, as an information center of the university, today has a leading role in the formation, development and promotion of the online environment, and this work should be carried out in traditional (creation of its own resources, acquisition of collections, providing access through partnership systems) and new directions.

The modern university library is characterized by the following trends. Firstly, the library is a guide. However, before guiding its users somewhere, it is necessary to create a collection that will be reliable and relevant to the subject matter and correspond to the profile of the university. The second important trend is to create a convenient service. The third direction is promotion.

The support of new learning and teaching methods, the orientation towards new technologies, make it necessary for the university library to choose a new approach in the organization of its activity. In our opinion, it is particularly important to establish partnership relations between the library and the university in areas such as:

- solving the problem of training information and documentation resources;

- cooperation between the library and the departments in the formation of the book stock according to the profile;
- formation of information culture.

Another priority in recent years has been the development of creative industries. Scientific development and research, artificial intelligence, innovative technologies and the globalization of products are all linked to modern universities. But these trends rely on ensuring that participants have access to reliable and up-to-date information, and this is where university libraries can become a resource center for the development of the region's creative economy.

At present, the main focus is on developing the library's image, introducing and mastering modern information technologies and, consequently - on improving the services offered to readers. In order to maintain and increase the number of users, it is necessary to search for new forms and methods of work that respond to the peculiarities of our times. In order to expand the scope of library activity it is necessary to study the demand for library services, to organize publicity for these services, to search for new effective forms of reader services, etc.

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SESSION X.

**Conference panel: "REVOLUTIONIZING WORK IN THE
PLATFORM ECONOMY: CHALLENGES, RIGHTS, AND
FUTURE PERSPECTIVES"**

EXPLORING THE NEXUS BETWEEN THE CIRCULAR AND THE COLLABORATIVE ECONOMY: THEORETICAL-CONCEPTUAL APPROACHES AND INTERNATIONAL PERSPECTIVES

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Abstract: The article explores the connection between the circular economy and the collaborative economy, focusing on their mutual integration through theoretical-conceptual approaches and international practices. The purpose of our research is to examine how the two paradigms – circularity, which emphasizes resource efficiency and waste minimization, and collaboration, which promotes shared ownership and peer-to-peer services – can complement each other in promoting sustainability. A multifaceted methodology, including a comprehensive literature review and comparative analysis, is used to explore the similarities and differences between the two models, as well as their practical applications and impact on sustainability. Data sources include academic literature, policy reports and case studies from world regions. The latter highlight specific implementations such as the European Union's Circular Economy Action Plan, China's Circular Economy Promotion Law, and Japan's Basic Act on Establishing a Sound Material-Cycle Society. We also analysed community-driven initiatives, including Kenya's Circular Food System and Brazil's Catadores recycling program, alongside collaborative consumption platforms offered by private companies, such as Alibaba's Idle Fish (Xianyu). Our findings suggest that fostering the convergence of the circular and collaborative economy can lead to significant environmental and economic benefits, including extended product life cycles, waste reduction and community engagement. Concurrently, international policy frameworks, grassroots initiatives and digital platforms are key factors in driving this convergence. The research illustrates the value of integrating the circular and collaborative economy in addressing global sustainability challenges and emphasizes the need for further research and policy development to expand these models worldwide.

Keywords: circular economy, collaborative economy, sharing platforms, peer-to-peer services, resource loops, waste minimization, community engagement, trust-based systems, open access to resources, nodes of circularity.

JEL Classification: Q01, Q32, Q53, Q56, D16

1 Introduction

The circular economy is an economic model designed to minimize waste and make optimal use of resources. This model competes with the traditional linear economy, which follows a *take-make-dispose* approach. In a circular economy, the goal is to close the loop by maintaining the value of products, materials and resources for as long as possible, thereby reducing the impact on the environment. Key tenets of the circular economy include designing for *reuse, recycling, remanufacturing* and the use of *renewable energy sources*.

The circular economy paradigm originates from concepts such as *industrial ecology* and *cradle-to-cradle design* developed in the 1980s and 1990s. Scholars including M. Braungart and W. McDonough (Braungart and McDonough 2002) pointed out the potential of systems thinking where waste from one process becomes input for another, leading to a regenerative and restorative economy. Over time, the circular economy paradigm has been fostered by global policy initiatives, including the European Union's Circular Economy Action Plan (European Commission, 2020) and China's Circular Economy Promotion Law (Chen Ru, 2023).

The collaborative economy, also known as the sharing or peer-to-peer economy, is a socio-economic paradigm based on shared access to goods, services and resources, often enabled by digital platforms. This paradigm encourages the use of underutilized assets, whether they are physical goods such as cars and houses or services such as labour and expertise. Key tenets include *trust-based systems, open access to resources*, and *decentralization* of production and consumption.

Whilst the collaborative economy has historical roots in community-based sharing and cooperatives, its modern rise has certainly been facilitated by the development of the Internet and digital platforms since the beginning of the 21st century. Companies like Airbnb, Uber and TaskRabbit have become leaders in the field and are expanding globally.

The collaborative economy engenders democratized access to resources, their more efficient use, and minimization of environmental impact through shared ownership (Botsman & Rogers, 2010).

Concurrently, this is a revolutionary paradigm that radically transforms the legal and economic approach including property rights, labour law, and disrupts traditional markets. Therefore, its potential to provide more sustainable alternatives has stimulated both academic and political debate (Schor, 2016)

However, it is clear that increasingly acute environmental challenges, including resource depletion, climate change and waste management crises, are pressing for sustainable economic models such as the circular economy and the collaborative economy. Growing global population and demand for resources discredit traditional linear models as unsustainable. The circular economy is able to reduce resource exploitation and emissions, while the collaborative economy leverages shared access to minimize overproduction and waste.

Both models align with global sustainability goals such as the United Nations' Sustainable Development Goals (SDGs), particularly SDG 12: Responsible Consumption and Production. Correlating these economic models with digital transformation also opens up new perspectives for innovation and scalability, which in turn can refine sustainable economic models and their application on the ground.

Exploring the nexus between the circular and collaborative economy is crucial for several reasons. Above all, both models are fundamentally interconnected in their pursuit of sustainability and resource efficiency. The circular economy aims to minimize waste and maximize the lifecycle of materials, while the collaborative economy promotes sharing and access to ownership. Integrating

these two paradigms would allow us a holistic approach to sustainability that not only reduces environmental impact but also encourages social innovation and economic resilience.

Next, there is a pressing need for innovative economic models that provide solutions to intensifying global challenges such as climate change, resource scarcity and social inequality. Integrating the circular and collaborative economy can increase resource efficiency, encourage sustainable practices and democratize access to goods and services. Moreover, we can expect the further convergence of these two paradigms, a process supported by emerging technologies, with the potential to facilitate collaborative consumption, while promoting circular practices. Inter alia digital platforms can enable shared access to products and services that are designed for reuse and recycling, thus creating synergies between the two economic paradigms.

Furthermore, exploring the nexus between the circular and collaborative economy provides valuable information for policy makers and businesses. Understanding how the circular and collaborative economy can complement each other enables stakeholders to develop strategies to capitalize on the opportunities, thus stimulating sustainable development and promoting a circular ecosystem. Integrating these two paradigms can lead to innovative business models that not only meet consumer demands for sustainability, but also enhance competitiveness in a rapidly changing market (Bocken *et al.*, 2014).

2 Methodology

This article adopts a multi-faceted methodology to explore the nexus between the circular and the collaborative economy. A comprehensive review of existing literature is conducted to identify key concepts, frameworks, and empirical studies related to the circular and the collaborative economy.

Furthermore, a comparative analysis is employed to evaluate the similarities and differences between the circular and the collaborative economic models. This analysis considers various dimensions, including theoretical underpinnings, practical applications, and impacts on sustainability. By juxtaposing these models, the research seeks to highlight potential synergies and areas for integration. The data sources of the article include key academic journals in the fields of sustainability, economics, and management. Specialized reports from organizations such as the United Nations Organization, World Economic Forum, and Ellen MacArthur Foundation provided us with valuable insights into global trends, challenges, and best practices in the circular and the collaborative economy.

3 Theoretical-conceptual approaches to the nexus between the circular and the collaborative economy

The circular economy is an innovative economic model that aims to create a regenerative system by designing out waste, keeping products and materials in use, and regenerating natural systems.

One of the key concepts in the circular economy is *resource efficiency* which aims to optimize the use of resources to reduce consumption and minimize environmental impact. This involves using renewable resources, reducing energy consumption and implementing *closed-loop production processes* (Korhonen *et al.*, 2018).

Waste minimization is another major concept, which usually refers to strategies aimed at reducing waste at each stage of the product's life cycle. This includes designing products for *durability*, *repairability* and *recyclability*, as well as promoting practices such as *remanufacturing* and *upcycling* (Geissdoerfer *et al.*, 2017).

Several theories provide a basis for understanding the circular economy.

Cradle-to-Cradle theory, developed by William McDonough and Michael Braungart, is actually a design philosophy advocating the creation of products with a life cycle that allows for complete recycling or biodegradability, thus eliminating waste (McDonough & Braungart, 2002).

Industrial Ecology theory examines the flow of materials and energy in industrial systems and promotes the idea of viewing industrial processes in relation to ecological systems. It encourages the design of processes that mimic natural cycles, facilitating waste reduction and resource efficiency (Frosch and Gallopoulos, 1989).

Ultimately *Systems thinking* is a holistic approach that emphasizes understanding the interconnections and interdependencies within systems. In the context of the circular economy, systems thinking encourages stakeholders to consider the wider impact of their actions on social, economic and environmental dimensions (Berkel, 2009).

Conversely, the collaborative economy, often referred to as the sharing economy, is a socio-economic model that capitalizes on the sharing of resources, goods, and services among individuals and communities.

In the context of the collaborative economy, the concept of *sharing platforms* is a pivotal one, which refers to digital platforms that facilitate the exchange of goods and services, allowing people to share resources (e.g. Airbnb company for accommodation, Uber company for transport). These platforms use technology to connect users and promote peer-to-peer interactions (Schor, 2016).

Also gaining primary importance is the concept of *peer-to-peer services*, that is, services provided directly between individuals without intermediaries. This approach not only democratizes access to goods and services, but also encourages *community engagement* and *trust building* among participants (Böcker and Meelen, 2017).

The collaborative economy is supported by several theoretical frameworks.

Social Exchange theory assumes that social behaviour is the result of an exchange process aimed at maximizing benefits and minimizing costs. In the context of the collaborative economy, it helps explain how individuals engage in sharing behaviours based on perceived benefits, such as cost savings or social connections (Blau, 1964).

The Trust-Based Systems approach focuses on trust as a critical element in collaborative economies, as successful peer-to-peer transactions rely on participants feeling secure in their exchanges. This theory highlights the importance of building trust through reputation systems, reviews and community engagement to facilitate participation in sharing platforms (Möhlmann, 2015).

The Open Innovation Theory proposed by Henry Chesbrough (Chesbrough, 2003) emphasizes the importance of collaboration with external partners to stimulate innovation. In the context of the collaborative economy, open innovation encourages businesses to use shared resources and ideas to create new products and services, enhancing sustainability and encouraging economic growth.

The intersection of the circular and the collaborative economy reveals how these two models can complement each other in fostering sustainability. This is also achieved through the concept of *shared resources*. Thus, collaborative platforms facilitate access to shared resources, enabling individuals and businesses to participate in circular production processes. For example, a peer-to-peer tool sharing platform allows users to rent tools instead of buying them, reducing the demand for new products and minimizing waste (Heinrichs, 2013).

The concept of *extended product life cycles* is also synergistic. The collaborative economy encourages the sharing and repurposing of products, extending their life cycles. For instance, clothing rental services not only promote the reuse of clothing items, but also align with circular economy principles by reducing textile waste and promoting more sustainable consumption patterns.

In terms of *community engagement*, both the circular and the collaborative economy promote community engagement and social connections, which are essential for fostering trust and collaboration. This social dimension can enhance the effectiveness of circular practices as communities work together to create sustainable systems and share knowledge about resource management.

We believe that by exploring the intersection of the circular and the collaborative economy, we can identify multiple synergies that drive innovation, improve resource efficiency and promote sustainable development across all sectors.

4 International Perspectives of the nexus between the circular and the collaborative economy

The convergence of the circular and the collaborative economy has shown significant promise in several regions worldwide. By integrating circular economy principles with collaborative practices, innovative solutions emerge to address sustainability challenges.

The European Union has been at the forefront of promoting the circular and the collaborative economy through its Circular Economy Action Plan (CEAP) adopted in 2020 (European Commission, 2020). The CEAP emphasizes resource efficiency, waste reduction, and recycling across member states, while also encouraging collaborative consumption through sharing platforms and repair initiatives. It promotes policies to extend the lifecycle of products and reduce waste streams, particularly in sectors like electronics, textiles, and construction.

Local collaborative initiatives have flourished under this framework, with cities like Amsterdam pioneering "sharing cities" projects that blend circular economy principles with collaborative services. Amsterdam's Circular Strategy promotes business models based on the reuse of materials while fostering collaboration between companies, governments, and residents (Calisto F. *et al.*, 2023). In China a circular economy policy framework was legally proposed in 2005 by releasing the "Opinions on accelerating the development of the circular economy". Subsequently, the 11th Five-Year Development Plan (FYDP) was initiated, including the implementation of the circular economy. The "Circular Economy Promotion Law" (CEPL) came into force in 2008. Policies based on the CEPL (2008) focused on improving resource productivity, especially energy use efficiency. Later on, the 18th National Congress of the Chinese Communist Party updated the circular economy strategy, making the establishment of a *full-fledged resource recycling system* part of building a *moderately prosperous society* by 2020. The review of CEPL indicators in 2017 brought greater emphasis on the circularity of industrial systems. The 13th FYDP (2016-2020) has further validated the importance of the circular economy as a national policy and fundamental economic paradigm. The Circular Development Leading Action Plan, launched in 2016, aimed to address drivers of social and environmental externalities, while pointing to the opportunity for new digital solutions. It also holistically approaches the value chain in order to integrate the principles of the circular economy at the design stage of products and business models. "Dual circulation" (international-domestic circulation) was proposed in 2020 as a national strategy to reorient the economy, to give priority to domestic circulation. The 14th FYDP (2021-2025) continued to promote national resource

conservation, recycling and security. It clearly stated the importance of the circular economy as an approach to combating climate change and achieving carbon neutrality by 2060 (Chen Ru, 2023). More recently, collaborative platforms are emerging as an essential part of this transition (Liu Z. *et al.*, 2021). For instance, Alibaba's Idle Fish (Xianyu) is a collaborative consumption platform that enables peer-to-peer sharing of second-hand goods. It reduces waste while promoting circularity by extending the lifecycle of items. As specified on its official portal, Idle Fish (Xianyu) "is a consumer-to-consumer community and marketplace in China, where consumers can find a variety of second-hand, recycled, refurbished, for-rent and other long-tail products" (Alibaba Group, 2024).

Japan was one of the pioneering countries in the implementation of the circular economy, being among the first countries in the world to start developing circular economy policies. In 2000, through its Basic Act on Establishing a Sound Material-Cycle Society (SMCS), Japan began to incorporate the concept of SMCS into legislation. This concept is considered an early precursor to the circular economy concept and is defined as a society "where the consumption of natural resources is reduced and the environmental load is minimized to the fullest extent possible". The Basic Act on Establishing a SMCS aims to reduce and phase out the existing linear economic system and invest in a sustainable circular system by ensuring the effective implementation of the 3Rs (reduce, reuse and recycle) as well as ecological waste management practices (Arai *et al.*, 2024).

Japan's approach of combining the circular and collaborative economy is evident in initiatives such as the Circular Yokohama Project, where all stakeholders (citizens, local government, businesses, etc.) collaborate to reduce waste and improve sustainability. This project invests in the creation of a circular society that operates on the basis of the synergy between the reuse of materials and the sharing of resources (Circular Yokohama, 2024).

In regions with limited financial resources, such as Africa and Latin America, the nexus and interplay between the circular and collaborative economy is emerging more out of necessity than politics. Consequently, these regions provide some of the most innovative examples of collaborative circular practices.

For instance, a Circular Food System has been developed in Kenya. Thus, with the support of FAO and the Italian Agency for Development Cooperation, sustainable food systems were developed in 2 megacities in Kenya - Nairobi and Kisumu. Within these systems, local organizations have established food-sharing platforms to reduce food waste while ensuring equitable distribution. Collaborative networks ensure the redistribution of food resources from areas of surplus to areas of need, minimizing waste and maintaining a circular system (FAO, Urban Food Agenda, 2024).

In Colombia and Brazil, the Catadores Program has been developed for several decades, through which informal waste collectors (catadores) work in a circular economy framework by collecting, recycling and selling materials. They have organized themselves into cooperatives, creating collaborative networks that integrate marginalized workers into a circular economy. These activities reduce waste but also encourage the social inclusion of vulnerable people. (Medina, 2007; Medina, 2008; Zisopoulos *et al.*, 2023).

Conversely, international bodies, governments and non-governmental organizations have a key role in supporting the interplay between the circular and collaborative economy by creating regulatory frameworks and encouraging cooperation. In particular, the United Nations Environment Program (UNEP) has actively promoted circular economy principles at regional and global levels. UNEP initiatives such as the International Resource Panel clearly illustrate the potential of circular models to

reduce resource waste and pollution. UNEP also testifies how important collaboration between governments, private enterprises and civil society is to implement the circular economy (UNEP, 2018). The European Commission supports the development of both the circular economy and the collaborative economy, by elaborating and implementing related policies, but also by funding research and innovation programs that promote the two paradigms. Thus, the Horizon 2020 and Horizon Europe programs have funded projects that explore the integration of circular economy principles with collaborative consumption practices, inter alia in the context of the digital economy. Non-Governmental Organizations such as the Ellen MacArthur Foundation have been instrumental in promoting the circular economy paradigm and practices worldwide. In particular, the Circular Cities project developed by the foundation revealed how the integration of collaboration platforms can stimulate urban sustainability, while reaffirming that cities can be *nodes of circularity* through shared mobility, resource exchanges and peer-to-peer networks (Ellen MacArthur Foundation, 2016).

5 Conclusion

This article explored the nexus between circular and collaborative economies through theoretical-conceptual approaches and international perspectives. The integration of these two models presents an innovative path to solving the pressing environmental challenges of our time, including resource depletion, climate change and waste management.

By combining the tenets of the circular economy, such as resource efficiency, waste minimization, with the tenets of the collaborative economy, such as shared ownership, peer-to-peer services, and trust-based systems, we conclude that these paradigms can complement and reinforce each other.

Case studies from Europe, Asia, Africa and Latin America demonstrate how the nexus between circular and collaborative economy is implemented in various cultural and economic contexts, providing both economic and environmental benefits. The EU's Circular Economy Action Plan and China's Circular Economy Promotion Law provide examples of large-scale policy initiatives, while grassroots efforts such as tool libraries and food-sharing platforms illustrate the power of collaborative to stimulate circularity at the local level. These case studies highlight the importance of adapting circular and collaborative principles to the specific needs of different regions, with international bodies, governments and NGOs having crucial roles in supporting the convergence of the circular and collaborative economy.

Looking ahead, further research is needed to explore the full potential of the intersection of circular and collaborative economies. There is a growing need for policy frameworks that support not only circularity and collaboration, but also equity and inclusion in these models. As digital platforms continue to expand and environmental pressures increase, the role of collaborative consumption in extending product life cycles and reducing waste will become increasingly critical. Future studies should also focus on measuring the combined impact of these two economic models on sustainability and identifying the most effective policy tools for scaling them up globally.

In conclusion, exploring the nexus between circular and collaborative economies offers a promising framework for building more sustainable, resource-efficient and equitable societies. As these models continue to evolve and intersect, they are likely to play an increasingly vital role in shaping future economic development at local, regional and global levels.

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