BUSINESS DEMOGRAPHY AND COMPETITIVENESS IN THE DIGITAL ECONOMY: EVIDENCE FROM THE REPUBLIC OF MOLDOVA

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Abstract: The digital economy has created new opportunities for entrepreneurship. At the same time, competition has intensified, and only those enterprises that can quickly adapt to new conditions can prevail. To increase their competitiveness, enterprises have to implement digitalization across both production and sales. This study focuses on the Moldovan entrepreneurial sector and aims to analyze the dynamics of business demography and identify barriers to improving competitiveness in the era of digitalization. Official data from the National Bureau of Statistics were used in this study. The results show that small and micro-enterprises predominate in Moldova, which is the main obstacle to the adoption of advanced technologies and increased competitiveness.

Keywords: digital economy, business demography, entrepreneurship, competitiveness.

Introduction

According to classical economic theory, the main factors of production are labor, capital, and land. However, with the Fourth Industrial Revolution, digitalization has been added to these factors. The ranking of production factors by importance has also changed over different historical periods. During feudalism, land was the most significant factor, while during capitalism, capital became the dominant factor. Today, digitalization has become one of the fundamental factors of production and is a determinant of competitiveness.

Digitalization creates new opportunities for any country (Gojayeva et al., 2021). To remain competitive in the international arena, a country must take advantage of these opportunities (Gutium, 2025). The use of digital technologies at the enterprise level increases productivity and enables cost optimization (Gutium, 2023), thereby boosting profitability.

Countries' capabilities for transitioning to a digital economy vary. One obstacle is the large share of small and micro-enterprises, as their access to investment is limited (Gutium & Speian, 2022). These enterprises also face a shortage of skilled labor. Therefore, an analysis of business demographics is becoming important for assessing the ability of the entrepreneurship sector to adapt to new technological paradigms. *The main objective of this study is to analyze the relationship between business demography and competitiveness in the context of the digital economy.*

Although the geographical distribution of scholars in this research area includes researchers from both Western and Asian countries, the number of scientific studies examining the relationship among the entrepreneurial sector, competitiveness, and the digital economy remains limited. Researchers primarily employ conceptual and theoretical analysis. Empirical studies on this topic are rare. *The novelty of this study lies in addressing this gap in the academic literature and in providing empirical research to identify barriers to improving competitiveness.*

M.M. Alibekov and M.A. Gadzhiev argue that digitalization is important for increasing competitiveness by simplifying interactions among the government, businesses, and consumers (Алибеков & Гаджиев, 2024). H. Ruile maintains in his research that the Internet of Things (IoT) is a driving force of business transformation, as it creates conditions for business growth (Ruile, 2021). IoT is our present and our future; its future directions have been described by Australian and Indian scientists (Gubbi et al., 2013). E. Alexandrova noted that when deciding to implement digital technologies, companies consider their financial capabilities, personnel qualifications, and the expected impact of this implementation (Alexandrova, 2020). Digitalization, through the use of elements such as technological, information, communication, and technical, contributes to the growth of enterprise competitiveness (Митрушова, 2020).

Research methodology and data sources

The methodological basis of this study is statistical and structural analysis, as identifying factors influencing competitiveness requires analyzing business demography. The research is based on publicly available, open-access data from the National Bureau of Statistics of the Republic of Moldova (NBSRM). The enterprise activity analysis covers the period 2015-2024. In the analysis, the authors take into account that the statistical data series on enterprise activity by region are continuous, whereas those for enterprise size (micro, small, medium, and large) are interrupted due to a change in classification criteria (Table 1).

Table 1

Classification of enterprises by size, Moldova

Classification criteria	Size of enterprise			
	Micro	**Small**	**Medium**	**Large**
Outdated criteria for classifying				
The average annual number of employees, person	1 – 9	10 – 49	50 – 249	≥ 250
Annual turnover, mil. lei	up to 9	up to 25	up to 50	> 50
Total assets, mil. lei	up to 9	up to 25	up to 50	> 50
The new criteria for classifying				
The average annual number of employees, person	1 – 9	10 – 49	50 – 249	≥ 250
Annual turnover, mil. lei	up to 18	up to 50	up to 100	> 100
Total assets, mil. lei	up to 18	up to 50	up to 100	> 100

Source: Systematized by the authors (Parliament of the Republic of Moldova, 2016).

The business demography analysis covers the period 2015-2023, since there is no data for 2024. It should be noted that there is no data for some indicators for 2015, 2022, and 2023.

Analysis of the business demography of Moldova

According to NBSRM data, the number of active enterprises in 2023 was 41,800, representing a net enterprise birth rate of 0.7% compared to 2022 (Figure 1). It is the lowest increase over the analyzed period.

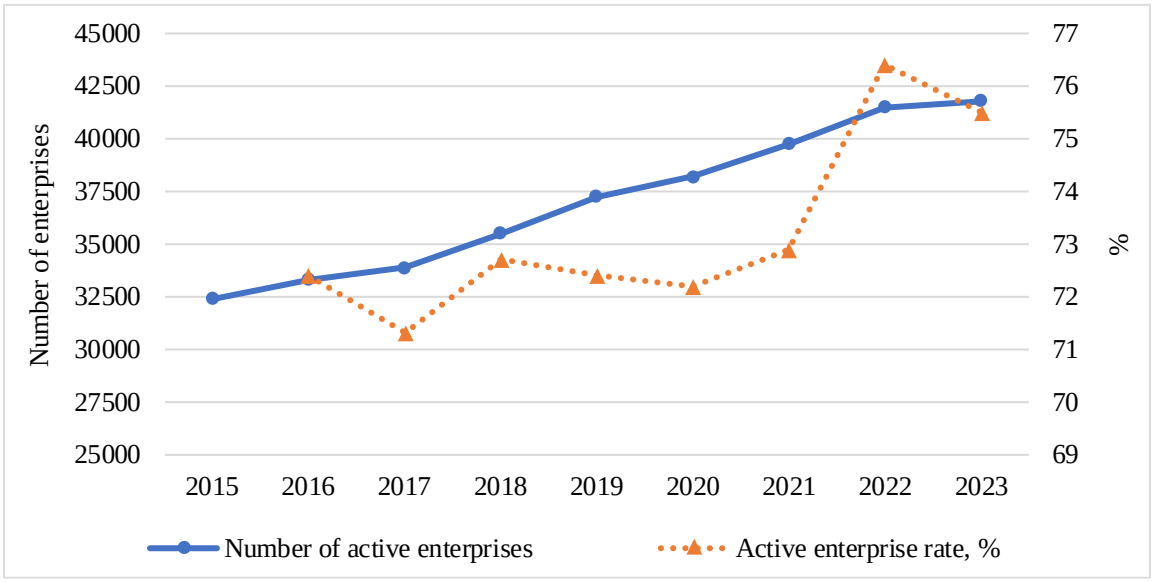

Figure 1. Number of active enterprises and active enterprise rate, Moldova

Source: NBSRM data (National Bureau of Statistics of the Republic of Moldova, n.d.).

The enterprise death rate exceeded the enterprise birth rate in 2017-2020 (Figure 2). However, since most liquidated enterprises were inactive, the total number of active enterprises increased during this period.

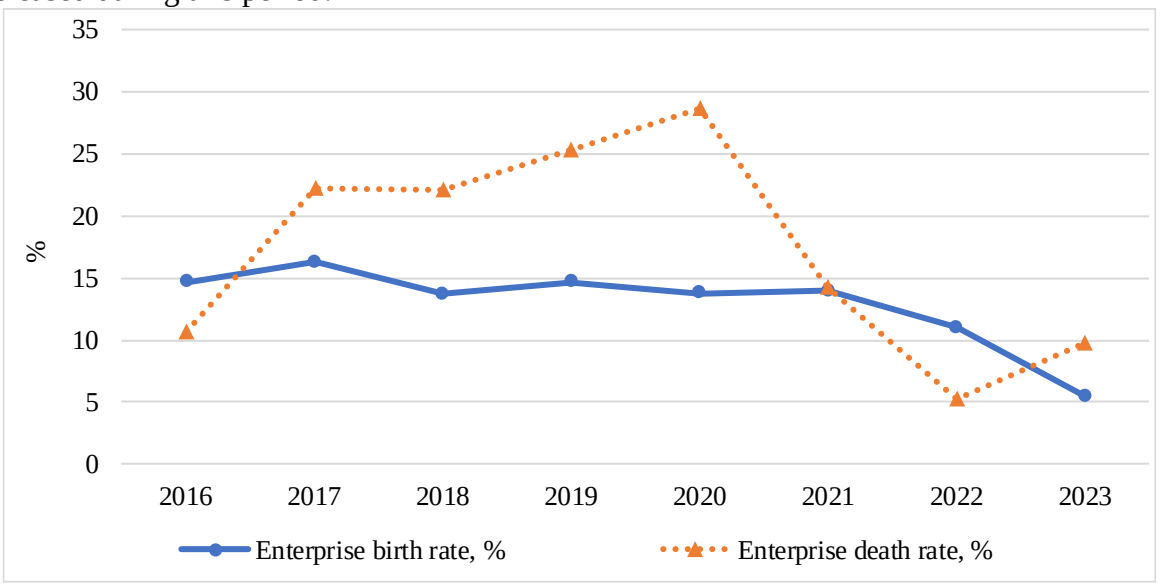

Figure 2. Enterprise birth rate and enterprise death rate, Moldova

Source: NBSRM data (National Bureau of Statistics of the Republic of Moldova, n.d.).

The highest net enterprise birth rate of 4.9% was recorded in 2018-2019, and in 2020 it fell to 2.5% (Figure 1). The enterprise death rate was highest in the pandemic year, reaching 28.7% (Figure 2). An analysis of the structure of active enterprises by type of economic activity revealed that wholesale and retail trade enterprises predominate. Two out of five active enterprises are trading companies (Table 2). Only one in ten active enterprises is a manufacturing industry enterprise. This structure indicates low added value and a high reliance on imports.

Table 2

Structure of active enterprises by type of economic activity, Moldova

	2019	2020	2021	2022	2023
Mining and quarrying	0.23	0.23	0.23	0.21	0.22
Manufacturing	10.12	10.07	9.74	9.49	9.46
Electricity, gas, steam, and air conditioning supply	0.15	0.16	0.20	0.26	0.36
Water supply, sewerage, waste management	0.24	0.25	0.26	0.25	0.26
Construction	6.87	6.84	7.03	7.04	7.10
Wholesale and retail trade	41.94	41.44	40.79	39.64	38.97
Transportation and storage	6.38	6.59	6.57	6.92	7.14
Accommodation and food service activities	4.17	3.99	3.99	4.05	4.06
Information and communication	4.67	4.82	5.46	6.15	6.40
Financial and insurance activities	2.33	2.16	2.04	1.97	1.89
Real estate activities	6.97	7.18	7.01	6.92	6.97
Professional, scientific, and technical activities	8.80	9.03	9.51	9.83	9.74
Administrative and support service activities	3.49	3.46	3.41	3.51	3.61
Education	0.94	1.02	0.99	1.04	1.08
Other service activities	2.71	2.75	2.76	2.73	2.75

Source: Calculated by the authors using NBSRM data (National Bureau of Statistics of the Republic of Moldova, n.d.).

The survival rate of new enterprises one year after establishment is approximately 40-48%, and after two years, it's approximately 36-45%. This is a very low level. Moldovan enterprises face challenges such as limited access to finance, high energy prices, a small domestic market, and intense competition in foreign markets (Гутюм, 2023).

Micro and small enterprises predominate in Moldova, accounting for 97% of all registered economic entities (Figure 3).

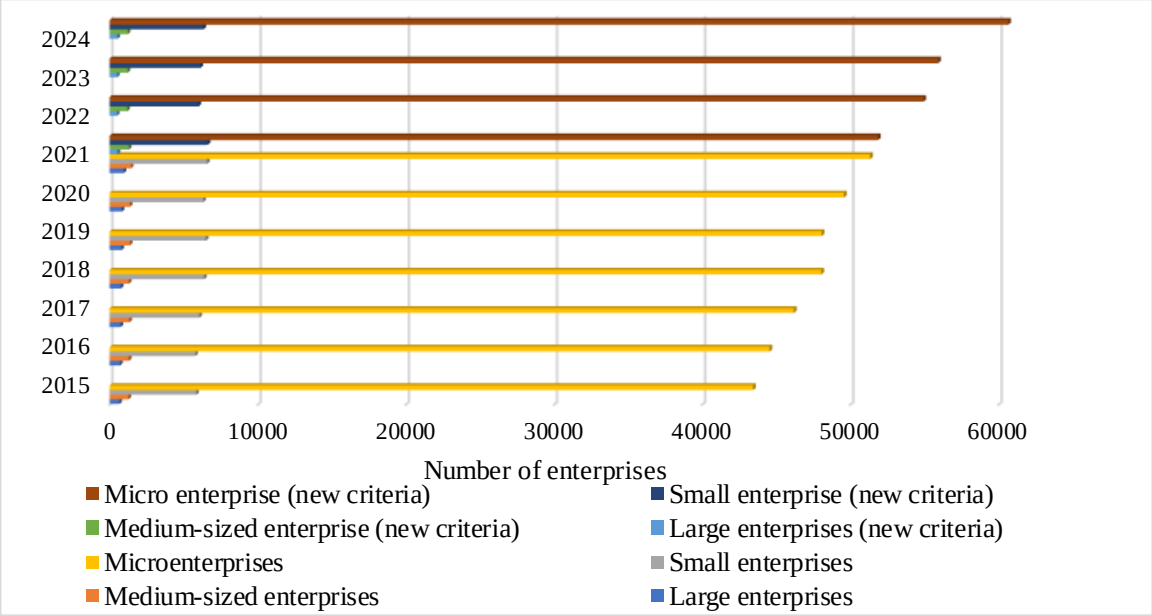

Figure 3. Number of enterprises by size, Moldova

Source: NBSRM data (National Bureau of Statistics of the Republic of Moldova, n.d.).

Every third micro and small enterprise is a trading enterprise (Ganciucov & Gutium, 2021). Although the share of medium and large enterprises is insignificant, they nevertheless generate substantial added value and provide employment in industry and export-oriented sectors. In 2024, these enterprises accounted for 2.6% of all enterprises, 53.7% of employment, and 67.5% of sales revenue. *This structure impacts competitiveness, as micro and small enterprises have limited opportunities not only to access finance but also to implement digital technologies.*

Competitiveness of enterprises in the digital economy

The competitiveness of enterprises in the era of digitalization depends on several factors, including financial performance, personnel qualifications, and the level of digital technology implementation. All three groups of factors are interdependent. Enterprise digitalization requires highly qualified specialists. These specialists can ensure profitable production and high-quality service delivery. At the same time, a profitable enterprise can provide personnel training.

As we have already noted, most enterprises in Moldova are micro or small businesses. These enterprises face a shortage of qualified personnel with digital skills. This reduces the competitiveness of micro and small enterprises compared to medium and large enterprises that can invest in personnel training, advanced technologies, digitalization, and innovation.

The analysis from the previous section demonstrated that another factor influencing competitiveness is the business demography. The competitiveness of the entrepreneurship sector depends on its structure. If the share of enterprises in high-tech sectors and those that have implemented digital technologies increases in the structure of the entrepreneurship sector, then the competitiveness of this sector and the national economy will improve.

Conclusions

The analysis of business demographic dynamics presented in this article revealed barriers to improving competitiveness. *The main barriers to improving the competitiveness of enterprises, the entrepreneurial sector, and the national economy are the shortage of highly qualified personnel, the current structure of the entrepreneurship sector by enterprise size and type of economic activity, limited access to finance, high energy prices, a small domestic market, and strong competition in foreign markets.*

The analysis revealed that the demographic structure of Moldovan enterprises is both a factor of flexibility and a constraint on the development of competitiveness in the digital economy. On the one hand, the dominance of micro and small enterprises contributes to economic flexibility. On the other hand, the limited number of medium and large enterprises reduces the competitiveness of the entrepreneurial sector amid intensifying global digital competition.

To increase competitiveness, it is necessary to transition from micro- to small- and medium-sized enterprises, develop training programs and retrain personnel, and provide government support for enterprise digitalization.

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