

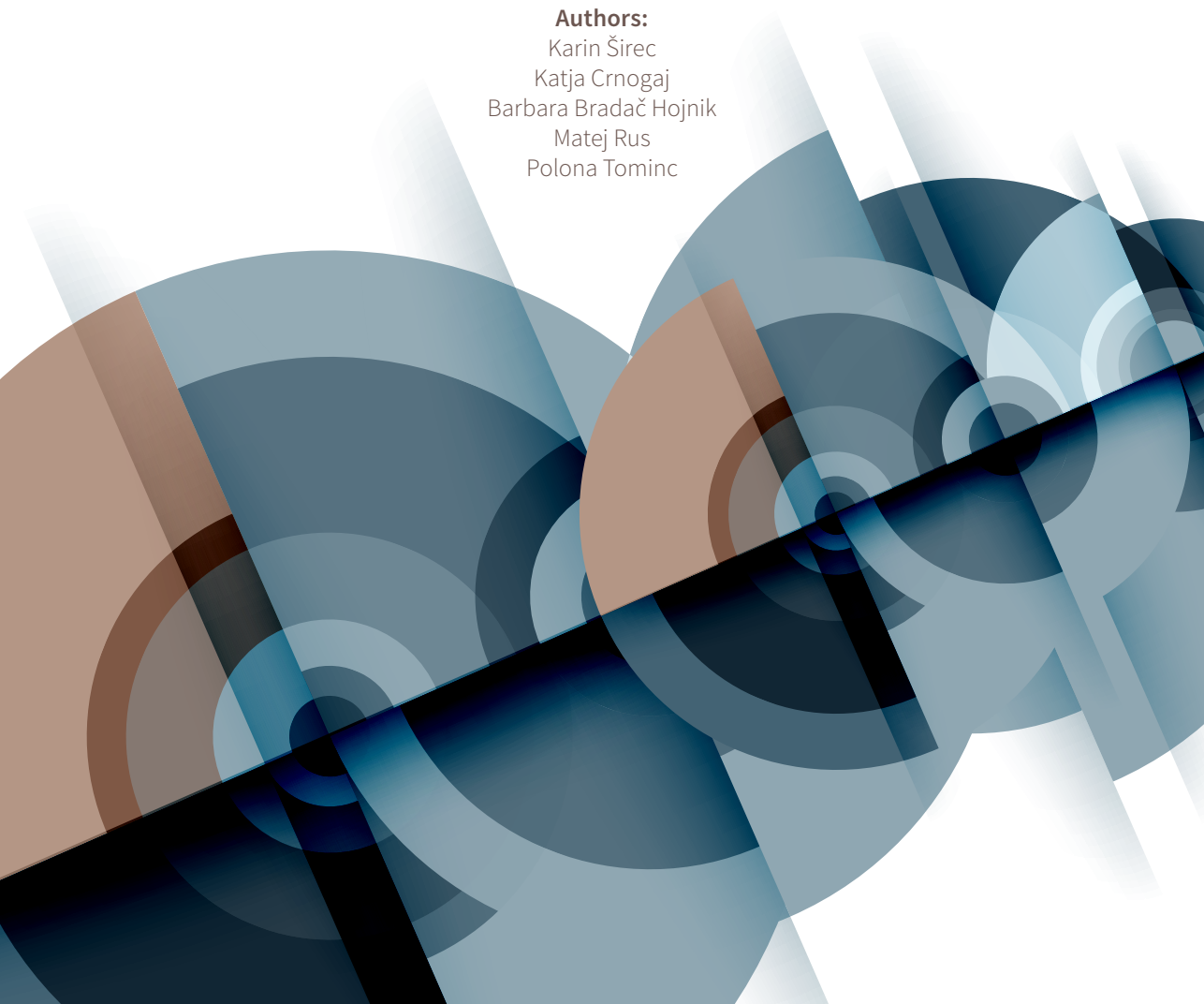
# Entrepreneurship at the Advancement of Digitalization and Artificial Intelligence

GEM Slovenia 2024

Executive Summary

**Authors:**

Karin Širec  
Katja Crnogaj  
Barbara Bradač Hojnik  
Matej Rus  
Polona Tominc







University of Maribor

Faculty of Economics and Business

**Series**

Globalni podjetniški monitor Slovenija / Global Entrepreneurship Monitor Slovenia

**Series editors:**

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May 2025

**Title:** Entrepreneurship at the Advancement of Digitalization and Artificial Intelligence

**Subtitle:** GEM Slovenia 2024, Executive Summary

**Authors:** Karin Širec, Katja Crnogaj, Barbara Bradač Hojnik, Matej Rus, Polona Tominc  
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**Series:** Globalni podjetniški monitor Slovenija / Global Entrepreneurship Monitor Slovenia

**ISSN:** 3023-9877 (online) 3023-9869 (print)

**Series editors:** Karin Širec (University of Maribor, Faculty of Economics and Business)  
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**Language editing:** Alenka Plos (University of Maribor, Faculty of Economics and Business)

**Grafic material:** Sources are own unless otherwise noted. Ivona Huđek (tables and graphs design), Širec, Crnogaj, Bradač Hojnik, Rus, Tominc (authors), 2025

**Design and layout:** Nebia, d.o.o.

**Cover graphics:** iStock.com, 2025

**Publisher:** University of Maribor, University Press, Slomškov trg 15, 2000 Maribor, Slovenia  
<https://press.um.si>, [zalozba@um.si](mailto:zalozba@um.si)

**Issued by:** University of Maribor, Faculty of Economics and Business, Razlagova ulica 14, 2000 Maribor, Slovenia,  
<https://www.epf.um.si>, [epf@um.si](mailto:epf@um.si)

**Edition:** 1<sup>st</sup>

**Publication type:** E-book

**Available on:** <https://press.um.si/index.php/ump/catalog/book/973>

**Published:** Maribor, May 2025

© University of Maribor, University Press / Univerza v Mariboru, Univerzitetna založba



Besedilo / Text © Širec, Crnogaj, Bradač Hojnik, Rus, Tominc (authors), 2025

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Whilst this work is based on data collected by the GEM consortium, responsibility for analysis and interpretation of those data is the sole responsibility of the authors. Global Entrepreneurship Monitor Slovenia is funded by the SPIRIT Slovenia – Business Development Agency and Ministry of the Economy, Tourism and Sport. The authors also acknowledge the financial support from the Slovenian Research and Innovation Agency (research core funding No. P5 0023)

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CIP - Kataložni zapis o publikaciji

Univerzitetna knjižnica Maribor

334.7:004.8(048.3)(0.034.2)

ENTREPRENEURSHIP at the advancement of digitalization and artificial intelligence  
[Elektronski vir] : GEM Slovenia 2024 : executive summary / authors Karin Širec ... [et al.]. - 1st ed. - E-knjiga. - Maribor : University of Maribor, University Press, 2025. - (Globalni podjetniški monitor Slovenija (Online), ISSN 3023-9877)

Način dostopa (URL): <https://press.um.si/index.php/ump/catalog/book/973>

ISBN 978-961-286-983-0 (PDF)

doi: 10.18690/um.epf.4.2025

COBISS.SI-ID 234280451

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**ISBN:** 978-961-286-983-0 (pdf)

**DOI:** <https://doi.org/10.18690/um.epf.4.2025>

**Price:** Free copy

**For publisher:** Prof. Dr. Zdravko Kačič, Rector of University of Maribor

**Citiranje:** Širec, K., Crnogaj, K., Bradač Hojnik, B., Rus, M., Tominc, P. (2025). *Entrepreneurship at the Advancement of Digitalization and Artificial Intelligence: GEM Slovenia 2024, Executive Summary*. University of Maribor, University Press. doi: 10.18690/um.epf.4.2025



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# Key thoughts from the authors of the national report GEM Slovenia 2024 for policymakers



Prof. Karin Širec, PhD  
GEM Team Leader Slovenia

"In Slovenia, we have seen an increase in early-stage entrepreneurial activity in 2024, but the transition of companies to the growth phase remains a challenge, mainly due to limited access to financing and administrative barriers. At the same time, the high stability of established companies indicates a strong entrepreneurial ecosystem, which, however, needs more incentives for innovation and dynamic development. At the same time, pronounced demographic differences remain - women are still underrepresented in entrepreneurship, younger entrepreneurs face challenges and limitations, and older entrepreneurs often end their business careers without appropriate mechanisms for transferring their businesses. With targeted measures in the field of digital transformation, sustainable strategies and the inclusion of different demographic groups, Slovenia can increase competitiveness and create a dynamic and inclusive entrepreneurial environment."



Prof. Polona Tominc, PhD

"Slovenia ranks above the European average in the perception of entrepreneurship as an attractive career choice, respect for successful entrepreneurs and media support for entrepreneurship. Despite improving the perception of entrepreneurial opportunities and competencies and increasing recognition of the importance of artificial intelligence in business, entrepreneurial activity remains lower than expected.

Fear of failure and economic uncertainty continue to represent significant obstacles, while entrepreneurs express concerns about the ethical and security aspects of the use of artificial intelligence. Further promotion of entrepreneurial education, support for young entrepreneurs and raising awareness of the opportunities brought by digital transformation are key measures to strengthen the entrepreneurial environment and the long-term competitiveness of Slovenia."



Prof. Barbara Bradač Hojnik, PhD

"Entrepreneurs increasingly recognize the importance of digital transformation as a key factor for competitiveness and growth. Digital tools enable business process optimization, marketing personalization, and more efficient business models, with Slovenian companies ranking above the European average in the use of data analytics and cloud services. Despite the high level of digitalization, challenges remain, such as access to appropriate digital competencies, adapting organizational culture to technological changes, and comprehensive use of digital tools throughout the entire life cycle of a company. Companies also show a gap between digital awareness and the actual implementation of advanced technologies, such as artificial intelligence and process automation. The key to further developing digital entrepreneurship in Slovenia is to promote investments in digital infrastructure, develop digital competencies, and better integrate digital strategies into business models."



Matej Rus, MSc

"Slovenia is among the countries in which entrepreneurs often see their business as a means of social change, which reflects the strong value orientation of the entrepreneurial ecosystem. Slovenia needs to strengthen measures to accelerate the growth of innovative companies, as the ecosystem still lags behind leading innovation countries. The key to this is the comprehensive and rapid implementation of the Slovenian Startup Strategy, which envisages the introduction of a lean society, the digitalization of startup visa procedures, the development of stock options for employees, the introduction of tax incentives for investing in venture capital and the strengthening of the support environment. Furthermore, it is necessary to focus on highly productive and innovative sectors, such as advanced technologies, biotechnology and digital services, where Slovenian companies demonstrate the potential for global breakthrough. Targeted policies must include incentives for the development of advanced business models and the internationalization of fast-growing companies, which will contribute to the long-term competitiveness and resilience of the economy."



Prof. Katja Crnogaj, PhD

"According to national experts, the entrepreneurial ecosystem in Slovenia remains unbalanced. Despite good physical infrastructure and a dynamic internal market, the key obstacles remain excessive bureaucracy, unpredictable legislation and limited access to financing, which make it difficult for entrepreneurs to transition from the initial stages to stable growth and international competitiveness. At the same time, Slovenia must strengthen investments in digital knowledge and enable a faster transfer of innovations from the research sector to the economy, as current systemic shortcomings are hindering the development of new technologies and business models. Without rapid and decisive measures, Slovenia will continue to lose innovative companies and talents that seek their opportunities in more competitive business environments."



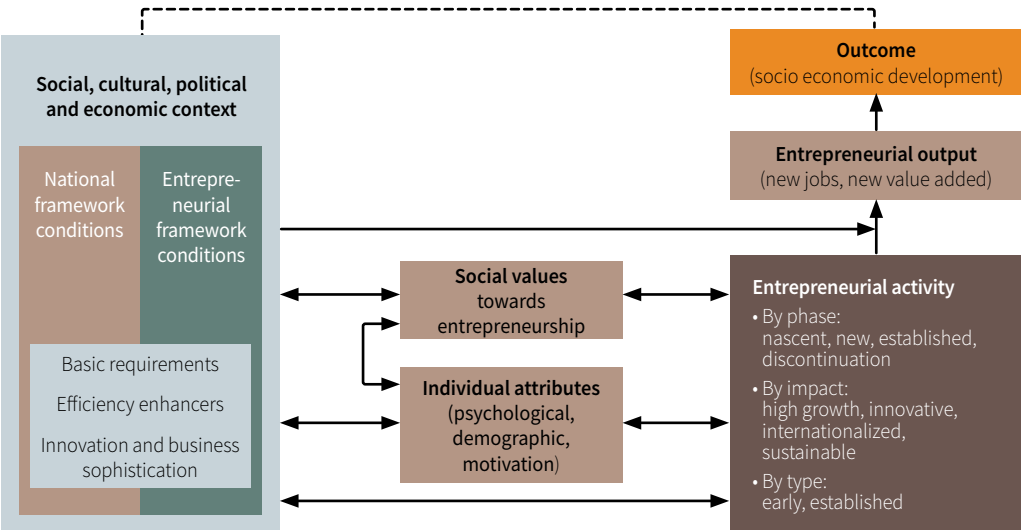
# Executive summary

## Monitoring entrepreneurship using the GEM methodology

Entrepreneurship plays a central role in economic development by stimulating innovation, creating jobs and increasing the competitiveness of the economy. The Global Entrepreneurship Monitor (GEM) is one of the most important sources of data on entrepreneurial activity, providing comprehensive and internationally comparable data. Thanks to its uniform methodology, it allows for the analysis of the entrepreneurial ecosystem in different countries and the identification of long-term trends, which is valuable for policy makers and support institutions.

The GEM survey tracks entrepreneurial activity at different stages - from the intention to start a business to its growth and eventual exit from the market. The research model also incorporates the broader social, cultural, political and economic influences that shape entrepreneurial dynamics. In addition to analysing structural conditions such as the regulatory framework, access to finance and support for innovation, GEM also explores individuals - their self-confidence, motivation and risk propensity. This makes it possible to identify different types of entrepreneurial activity, including innovative and sustainable businesses, as well as those targeting global markets. Their contribution is reflected in economic growth, job creation and broader social progress. One of the key indicators used by GEM is the early-stage entrepreneurial activity rate, which measures the proportion of the adult population involved in starting or running a new business.

Figure 1: The GEM conceptual framework



GEM 2024

GEM data are based on two key surveys: the Adult Population Survey (APS) and the National Expert Survey (NES). The APS provides data on the entrepreneurial activity of the population and their attitudes towards entrepreneurship, while the NES assesses the quality of the supportive environment for entrepreneurship in each country. The results enable the design of effective measures to improve the entrepreneurial ecosystem.

GEM is not just a database, but a key tool for understanding entrepreneurship trends and challenges. This year, for the first time, it includes an analysis of the impact of artificial intelligence on entrepreneurship, which is an important innovation in the survey. In addition, data on digitalisation is presented in much greater detail than in previous years, providing a more detailed insight into technological change and its impact on the entrepreneurial environment.

## Social and technological perspectives on entrepreneurship

Perceptions of the social status of entrepreneurs and general attitudes towards entrepreneurship in society have a significant impact on an individual's decision to pursue an entrepreneurial career. The GEM survey analyses three aspects of the social perception of entrepreneurship: entrepreneurship as a career path, the reputation of successful entrepreneurs and media support for entrepreneurship. According to GEM data, Slovenia has a relatively positive attitude towards entrepreneurship. As much as 66.06% of the adult population perceives entrepreneurship as an attractive career choice, which is above the European average but slightly below the global average. Respect for successful entrepreneurs is very high in Slovenia (87.53%), which means that Slovenian society perceives entrepreneurs as valued and respected individuals. Media support for entrepreneurship is also high (84.23%), which exceeds both the European and global average and indicates a strong presence of entrepreneurial stories in the Slovenian media space. Despite the positive social perceptions, a smaller proportion of the population in Slovenia is choosing entrepreneurship than would be expected. This suggests the presence of barriers such as perceived risk and economic insecurity.



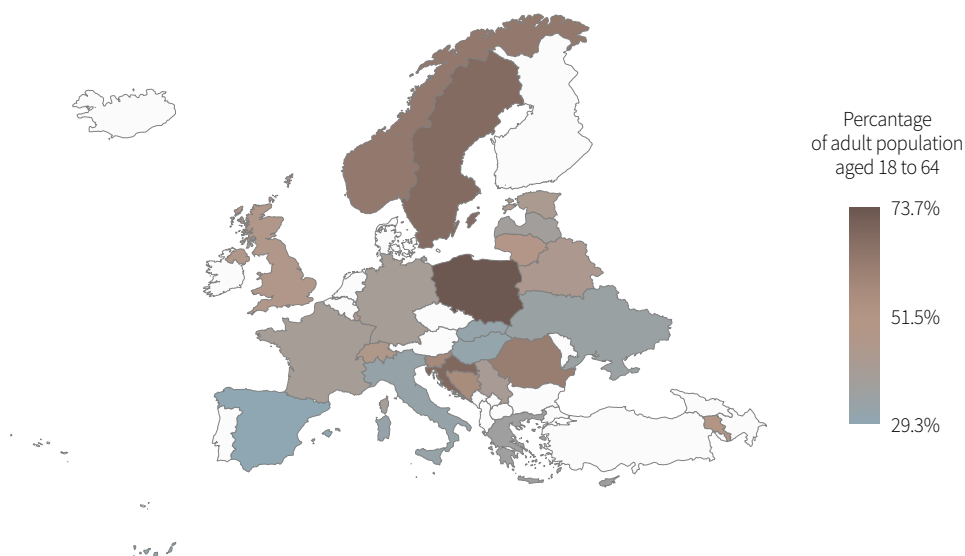
Table 1: Elements of the perception of social values regarding entrepreneurship in society by group of countries, GEM Slovenia 2024, APS

	Percentage of adult population*		
	Slovenia	GEM	European countries
Entrepreneurship as a career path	66.06	68.61	63.17
Respect for successful entrepreneurs in society	87.53	75.36	71.13
Media support for entrepreneurship	84.23	69.63	64.34

\*Unweighted averages are calculated.

Entrepreneurial competences, which include the knowledge, experience and skills to identify and exploit business opportunities, also play a key role in entrepreneurial activity. The GEM 2024 results show that the perception of business opportunities in Slovenia has improved to 56.16%, which exceeds both the European and global average. Perceptions of the ease of starting a business have also increased, reaching 71.56%, indicating that the Slovenian business ecosystem is becoming more supportive for new entrepreneurs. The perception of entrepreneurial competences in Slovenia (66.64%) is also above the European and global average, reflecting the high self-confidence of entrepreneurs in their competences. Despite these positive trends, the fear of failure remains a high barrier, increasing to 46.11% in Slovenia, following similar trends in Europe and globally. Although perceptions of entrepreneurial opportunities and competences have improved, there are still barriers that limit entrepreneurial activity and call for additional measures to reduce uncertainty in entrepreneurial decisions.

Figure 2: Percentage of people who perceive good business opportunities in the area where they live (in European GEM countries)



\* Average of European countries 47.8%

GEM Slovenia 2024, APS

The GEM 2024 survey asked early-stage and established entrepreneurs to assess the expected role of Artificial Intelligence (AI) in the implementation of their business model and strategy over the next three years. The results show that the level of perceived importance of AI in Slovenia is relatively high compared to the European average, but slightly lower than the global trend. Among early-stage entrepreneurs, 27.24% consider that AI will be very important, which is above the European average (22.58%) but slightly below the global average (28.74%). Among established entrepreneurs in Slovenia, the share is 26.68%, which is above the European average (18.81%) and almost the same as the global average (26.19%). Slovenian early-stage entrepreneurs are thus slightly more optimistic about the future of AI than established entrepreneurs. However, there is a high proportion of entrepreneurs who are unable to assess the importance of AI, which reflects a lack of awareness and understanding of the potential of this technology.

*Table 2: Perception of the potential impact of the introduction of AI in business among early-stage entrepreneurs, GEM Slovenia 2024, APS*

		Percentage of early-stage entrepreneurs*		
		Slovenia	GEM	European countries
Positive influences	Improved personalization for customers	36.80	48.90	42.50
	Productivity and efficiency of operations	53.30	52.30	47.50
	Development of innovative products and services	39.20	49.30	43.40
	Better risk management and compliance	26.80	42.80	37.10
	Increase revenue and business growth	36.90	48.70	41.30
Negative influences	Data security and privacy	45.20	44.70	43.60
	Implementation cost and challenges	15.80	37.20	32.50
	Employee resistance to artificial intelligence	14.80	28.70	26.10
	Ethical dilemmas in artificial intelligence decision making	33.20	32.10	30.30
	Customer trust and resistance to artificial intelligence	25.90	33.50	31.40

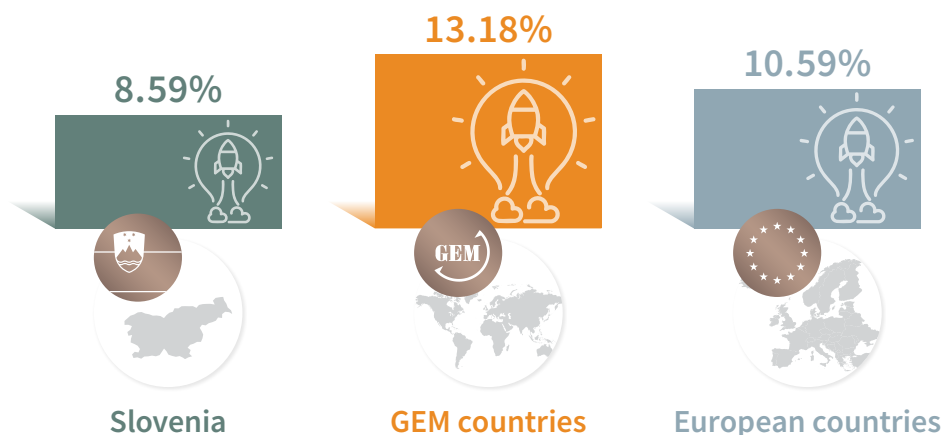
\*Unweighted averages are calculated.

The perception of the positive impacts of AI among entrepreneurs focuses mainly on productivity and operational efficiency, with 53.3% of early-stage entrepreneurs and 44.8% of established entrepreneurs in Slovenia believing that AI improves these aspects of business. However, compared to global and European averages, Slovenian entrepreneurs are less confident about the impact of AI on innovation, personalisation of services and business growth. In addition, they express strong concerns about data security and privacy (45.2% of early-stage and 45.5% of established entrepreneurs), indicating that data protection is a key challenge in the Slovenian business environment. According to the survey, the costs and challenges of implementing AI are less of an issue in Slovenia than elsewhere, as entrepreneurs place more emphasis on ethical and security issues than on financial challenges. The survey results highlight the need for additional awareness raising and support programmes to enable entrepreneurs to better understand AI and to harness its benefits for long-term growth and innovation.

## Entrepreneur profile and diversity

Data for 2024 show that Total Early-stage Entrepreneurial Activity (TEA) in Slovenia has increased from 7.07% to 8.59%, showing a gradual strengthening in the early stages of the entrepreneurial journey. TEA includes nascent entrepreneurs (those who are just starting a business) and new entrepreneurs (those who have started a business less than 42 months ago). Despite the growth, Slovenia still lags behind the average of all GEM countries (13.18%) and European GEM countries (10.59%). The share of nascent entrepreneurs increased to 5.24% (4.44% the year before), but remains lower than the international averages (8.81% in GEM and 7.55% in Europe), underlining the need for additional support in the transition from idea to successful business start-up. The share of new entrepreneurs (3.42%) also remains below the global (5.43%) and European (3.84%) averages, suggesting structural barriers to starting and consolidating a business.

Figure 3: Total early-stage Entrepreneurial Activity (TEA) in selected groups of countries

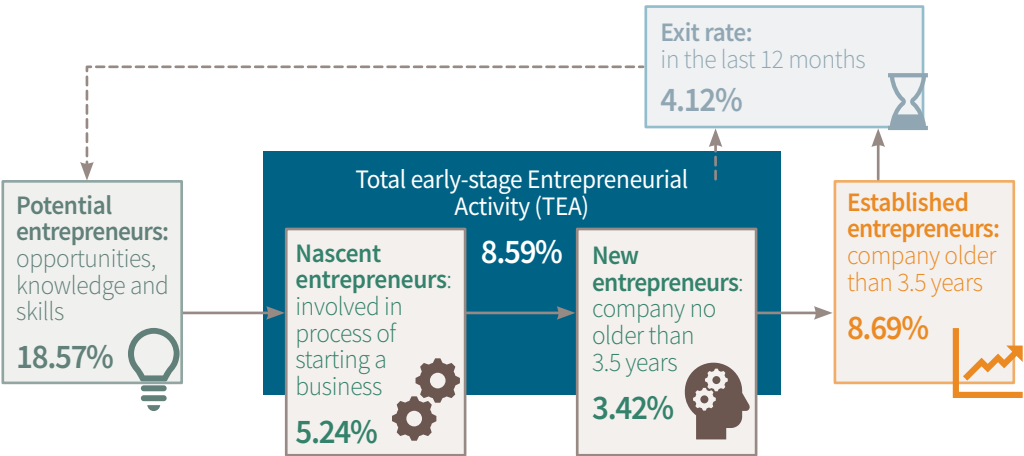


GEM Slovenia 2024, APS

On the other hand, Slovenia, at 8.69%, significantly exceeds the GEM (7.03%) and European GEM (6.89%) averages for established entrepreneurial activity, which includes entrepreneurs whose businesses have been in operation for more than 42 months. This indicates a relatively robust and stable entrepreneurial ecosystem. However, this raises the question of whether the high level of established entrepreneurial activity may reflect a more cautious entrepreneurial approach and less involvement in risky, innovative ventures where there is a higher chance of failure, but at the same time a greater potential for disruptive breakthroughs. Furthermore, the 4.12% exit rate remains below the global average (5.68%) but slightly above the European average (4.65%), reflecting the complexity and diversity of reasons for leaving entrepreneurship. Finally, the ratio of TEA to established entrepreneurial activity, which is less than 1, reveals that the share of established firms in Slovenia far exceeds the share of new and emerging firms. While this may indicate a stable entrepreneurial base, it also points to the need for more incentives for the creation of young, innovative firms that could improve the competitiveness of the economy in the long term. A key challenge here remains the low availability of venture capital, with Slovenia recording the lowest level of such resources per million inhabitants among the European GEM countries. This may hinder young entrepreneurs from moving more quickly into the growth phase, force them to look for alternative sources of finance, or even lead them to relocate their business to more supportive environments.

The analysis of the entrepreneurial process reveals how individuals move from perceiving an opportunity and starting a business to further developing or exiting it. In Slovenia, both positive and negative reasons stand out for the latter. Among the positive reasons, the high share of entrepreneurs who have retired (15.16%), which exceeds the average of GEM and European countries, or found new business opportunities (22.95%) stands out. This confirms that entrepreneurs in Slovenia often decide to end their entrepreneurial journey when they perceive more profitable or interesting alternatives or reach a stage in their life when transferring their business or exiting becomes a natural choice. On the negative side, the high proportion of entrepreneurs who quit because of unfavourable governmental and administrative measures (17.01%) is particularly striking. Compared to the European average (10.2%), this is quite high, indicating the need for reforms to simplify the business environment. In addition, personal reasons (12.48%) and insufficient profitability (13.65%) are mentioned among the negative reasons, the latter being lower in Slovenia than in most of the other countries observed. At the same time, the low exit rate may also be a sign that companies in Slovenia are slower to exit the market, which may inhibit the dynamism of the entrepreneurial environment and reduce the space for the entry of new, innovative companies. In conclusion, exit from entrepreneurship in Slovenia is often linked either to a change in personal or business priorities or to administrative and systemic constraints, which are still perceived by many entrepreneurs as a key problem.

Figure 4: Indicators of the entrepreneurial process in Slovenia



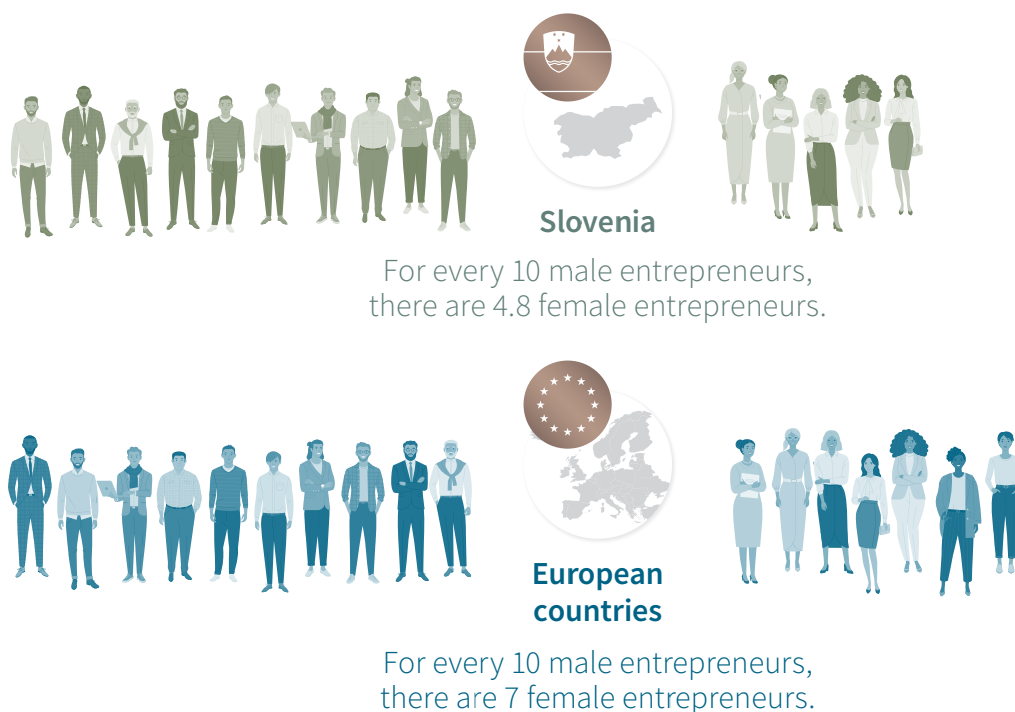
GEM Slovenia 2024, APS

It is therefore crucial for policy makers to pay particular attention to improving conditions for those who find themselves at the turning point between continuing, transferring or abandoning their business, in addition to encouraging innovation and facilitating financing in the early stages of entrepreneurship. In this context, strengthening the ecosystem for venture capital and other forms of financing for growth is also crucial, as a lack of these resources can slow down the development of high-tech and innovative companies that could be the engine of future economic competitiveness. This would reduce forced or unwanted exits in the Slovenian entrepreneurial environment, while preserving the positive effects such as knowledge and capital transfer where an entrepreneur's exit is the result of personal choice or new opportunities.

An analysis of demographic factors reveals that most entrepreneurial activity in Slovenia occurs in middle adulthood (35-44 years), where individuals combine work experience, social capital and relative risk propensity. In established businesses, however, older entrepreneurs (over 45 years) are more likely to emerge, who, thanks to a longer professional or entrepreneurial history, are more likely to successfully navigate the more challenging phases of the business. This age distribution of entrepreneurial activity suggests the need for targeted support policies to foster innovation among younger groups and to facilitate the transfer or upgrading of businesses among older entrepreneurs. At the same time, it is also important to improve access to finance for young entrepreneurs, as this is the age group where most start-up initiatives take place, but which often face a lack of capital for growth and expansion.

Gender differences are pronounced at both ends of the entrepreneurial spectrum - in both early-stage (nascent and new) and established businesses, where female participation rates are generally lower than male. In Slovenia, this gap is reflected in early-stage entrepreneurial activity (around 5.5% of women vs. 11.4% of men) and in the share of established women entrepreneurs (around 5.69% vs. 11.42% of men). Although there have been occasional moves towards narrowing the gender gap in the past, these have not been sustained, as the gap is widening again. This reflects the volatility of women's representation in entrepreneurship and the limited tailoring of existing support mechanisms. Targeted measures such as easier access to finance, mentoring networks and better reconciliation of work and family life are needed to improve women's participation in entrepreneurship.

*Figure 5: Gender ratio in early-stage entrepreneurial activity*



As regards education, it is clear that at least secondary education is almost a prerequisite for entry into entrepreneurship in the Slovenian context, especially as the share of people with primary education or less remains extremely low among entrepreneurs. Established entrepreneurs are even slightly more likely to have a college or university degree, suggesting that longer and more complex business phases increase the need for advanced skills. In addition, younger entrepreneurs (up to 34 years old) often find that a college or university degree is sufficient to launch innovative projects, while older entrepreneurs are more likely to run successful businesses with their experience and secondary education.

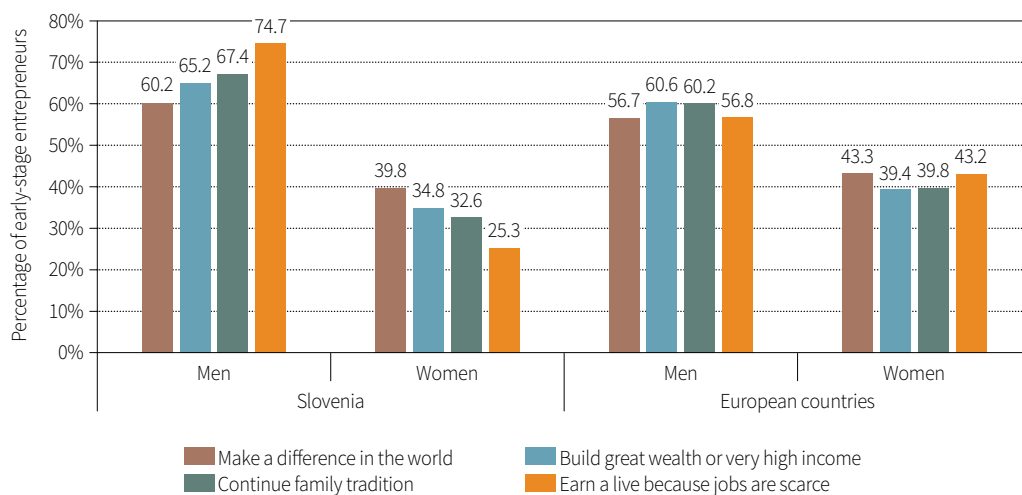
In terms of income, the top third of income brackets stand out for both groups of entrepreneurs (early-stage and established). The fluctuations between years reflect both the (failure of) successful business models and wider economic influences. The high share of entrepreneurs in the higher income brackets confirms that successful entrepreneurial activity can yield relatively high incomes but also reveals the risk of rapid polarisation: less successful entrepreneurs are more likely to close down before reaching a stable middle income level.

## Entrepreneurial motivation shapes growth, innovation and global orientation

The data shows that Slovenian early-stage entrepreneurs are highly motivated to create social change, with 49.86% of early-stage entrepreneurs being motivated to do so, which is higher than the global average (45.95%) and the European GEM average (40.82%). This places Slovenia among the countries where entrepreneurs are more likely than others to see their business as a vehicle for wider social impact. Slovenia is also among the countries where entrepreneurs are more likely to see their business as a vehicle for wider social impact. On the other hand, the motivation for financial success is slightly lower in Slovenia, with 51.42% of entrepreneurs citing wealth creation as a key driver, which is lower than the average of all GEM countries (59.18%) and slightly below the European average (52.04%). This suggests that Slovenian entrepreneurs perceive entrepreneurship more to achieve non-financial goals compared to global trends. In Slovenia, the share of early-stage entrepreneurs who choose entrepreneurship out of necessity is 51.13%, which is significantly lower than the global average (67.03%) and lower than the average of European GEM countries (59.75%). It can be concluded that entrepreneurship in Slovenia is less often linked to survival reasons and more to the search for market opportunities. Nevertheless, entrepreneurs in Slovenia still report challenges in accessing finance, bureaucratic procedures and adapting business models to the sustainability objectives dictated by European legislation.

Entrepreneurial aspirations have a significant impact on expected employment growth. In Slovenia, 25.49% of early-stage entrepreneurs expect their business to employ more than five people within five years. This share exceeds the European average (23.95%) and is only slightly below the global average (27.66%), indicating a relatively positive outlook on business growth in the Slovenian environment. Previous research confirms that an appropriately designed business support environment is key to fostering the aspirations of entrepreneurs. Access to finance, mentoring networks and tax breaks for innovative companies can have a significant impact on entrepreneurs' willingness to expand their business. In this context, it is crucial to improve support mechanisms in Slovenia, for young people and women (as noted in the previous section), as these groups often face additional barriers to entry and scaling up.

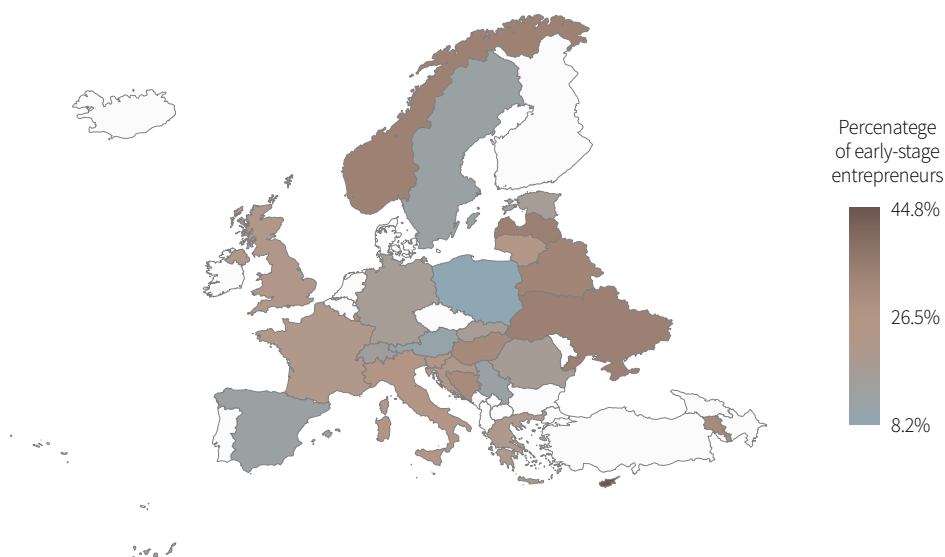
Figure 6: Motivations of early-stage entrepreneurs by gender in Slovenia and European countries



Note: Percentage of early-stage entrepreneurs who agree or strongly agree with the statement.

GEM Slovenija 2024, APS

Figure 7: Employment aspirations of early-stage entrepreneurs (in European GEM countries)



\*The unweighted average in European countries is 23.95%.

GEM Slovenia 2024, APS

Furthermore, the analysis of GEM data shows that Slovenian companies are more globally oriented than average, with 46.68% of Slovenian companies doing business with foreign countries. This percentage exceeds the average of all GEM countries (29.02%) and European GEM countries (38.30%). At the same time, the share of companies with customers exclusively

on the domestic market is lower in Slovenia (53.32%) than in GEM countries (70.98%) and European GEM countries (61.70%). Early-stage entrepreneurs stand out, with 11.39% of enterprises generating 75-100% of their revenues abroad, which is significantly above the average of all GEM countries (6.00%) and European GEM countries (8.11%). Similarly, in Slovenia 21.89% of enterprises generate at least a quarter of their revenues from foreign markets. This percentage is also above the average of all GEM countries (15.00%) and European GEM countries (19.71%). It is also significant that 37.93% of Slovenian enterprises generate at least one percent of their revenues from abroad, which is also above both comparison groups. These figures show that Slovenian companies are competing successfully in international markets, but this is not necessarily an indicator of their long-term success - it is also crucial that companies focus on increasing the added value and profitability of their operating revenues. There are significant differences between European countries in the degree of internationalisation of early-stage entrepreneurs. Countries such as Poland (88.26%), Romania (85.34%) and Serbia (82.32%) have high percentages of entrepreneurs with no foreign income, indicating the low internationalisation of these economies. On the other hand, Luxembourg, Estonia and Latvia are among the most internationalised, reflecting their strategic orientation towards global markets.

In addition to internationalisation, the innovation orientation of companies is also crucial. The GEM survey shows that Slovenian entrepreneurs are slightly behind the European average in selling innovative products or processes at national level (Slovenia: 1.57%, Europe: 1.70%). However, Slovenian companies show a stronger presence on the international innovation market - 0.84% of early-stage entrepreneurs successfully market innovations abroad, which is higher than the European average (0.50%). This suggests that Slovenian companies have the potential to expand globally with innovative products, but they need to further strengthen the development of their innovation ecosystem, increase investment in R&D and improve their integration into international innovation networks.

## Digitalisation and sustainability are transforming entrepreneurship

Digital transformation has become a key factor in reshaping business processes, with digital communication tools playing a central role in marketing, customer interaction and the internal organisation of companies. Digital marketing enables faster branding and global expansion, where companies take advantage of email communication, email marketing, websites and social networks. Advanced technologies such as artificial intelligence, cloud solutions and big data analytics enable automation of processes, improved customer segmentation and more effective personalisation of messages. However, digitisation also brings challenges such as digital inequalities, data protection and lack of relevant digital competences.

Analysis of the 2024 data shows that Slovenian entrepreneurs trust email communication the most, with 68.41% of early-stage and 73.42% of established entrepreneurs using it, which is higher than the European average. The website is an important communication tool especially for early-stage entrepreneurs (56.20%), but its use among established entrepreneurs is decreasing (40.65%), indicating a shift towards other communication channels.

Social networks play an important role in the initial development of a business (48.06%), but are still only used in later stages by 30.58% of established entrepreneurs, who are more likely



to opt for more direct and stable forms of communication. Email marketing remains the least popular (31.38% of early-stage and 21.83% of established entrepreneurs), with entrepreneurs placing more importance on personal contacts and traditional marketing approaches than on mass digital campaigns.

*Table 3: Importance of digital marketing tools among entrepreneurs, GEM Slovenia 2024, APS*

	Percentage of early-stage entrepreneurs			Percentage of established entrepreneurs		
	Slovenia	GEM	European countries	Slovenia	GEM	European countries
Email communication with customer and/or employees	68.41	51.41	54.26	73.42	52.52	54.88
Company website for information/communication	56.2	52.46	50.81	40.65	43.69	37.6
Social media	48.06	60.65	52.58	30.58	47.06	34.32
Email marketing	31.38	35.5	31.94	21.83	31.17	25.76

Email remains a key business communication tool as it allows entrepreneurs to exchange information with customers and employees in a formal and reliable way. Email marketing is less widespread, which may be due to strict regulation (GDPR) and a business culture that prioritises personal contact. While websites make an important contribution to the visibility of early-stage entrepreneurs, established businesses are more likely to switch to other communication channels. The relatively low use of social media compared to other European countries points to opportunities to improve digital strategies. In the future, the key challenges will be to invest more in digital competences, improve digital infrastructure and integrate digital tools more effectively into the business models of Slovenian entrepreneurs.

Digital tools are key to the successful implementation of business models and strategies, as they enable greater flexibility, innovation and process optimization. Their effectiveness depends on a comprehensive digital transformation that includes automation, data analysis and improved user experience. Companies with higher digital maturity adapt faster to market changes and achieve better results, with cloud computing, data analytics and online sales becoming indispensable building blocks of modern business. Slovenian entrepreneurs use digital tools more intensively than their European counterparts. Among early-stage entrepreneurs, 43.61% consider setting up their own online store to be crucial, 56.33% use data analysis tools, which exceeds the European and global average, and 57.79% see cloud services as indispensable support for business. Although this share is slightly lower for established companies, it remains above the European average, which confirms that Slovenian companies recognize the importance of digital solutions already in the early stages of their business and actively include them later. Slovenian companies demonstrate a high level of digital awareness, which is reflected in the above-average use of data analytics and cloud services. These approaches enable better strategic decision-making, process optimization and faster adaptation to market changes. For established entrepreneurs, the importance of their own online stores is decreasing, which may indicate a shift to other sales models, such as third-party platforms or the expansion of physical sales channels.

Table 4: Importance of digital tools for implementing a business model and strategy among early-stage and established entrepreneurs, GEM Slovenia 2024, APS

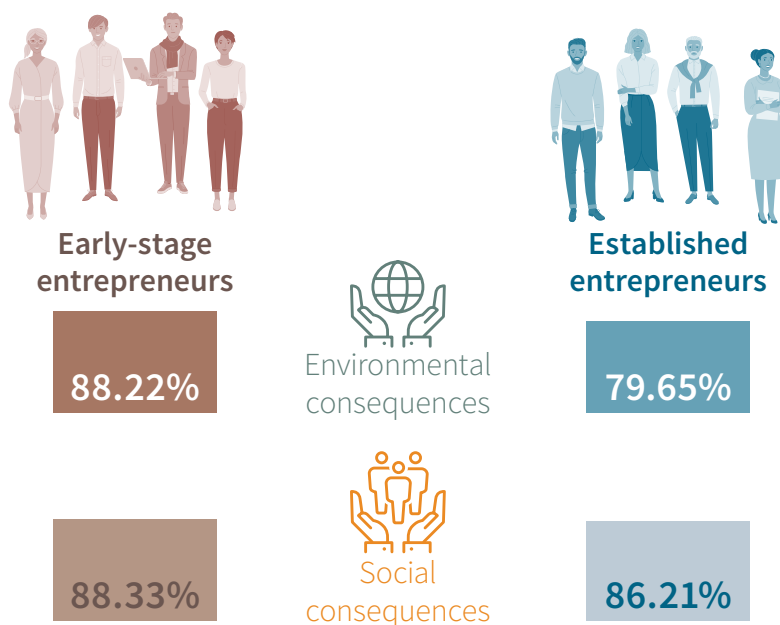
	Percentage of early-stage entrepreneurs			Percentage of established entrepreneurs		
	Slovenia	GEM	European countries	Slovenia	GEM	European countries
The company's own online store	43.61	45	40.15	29.31	37.45	27.98
Data analysis tools	56.33	40.06	37.16	44.79	35.76	29.87
Cloud services for business needs	57.79	37.32	34.28	53.82	36.02	30.66

The high level of digitalization represents a competitive advantage for Slovenian companies, but challenges remain, such as access to appropriate digital competencies, adapting organizational culture to technological changes and comprehensive use of digital tools throughout the entire life cycle of the company. For long-term success, further investment in digital infrastructure and development of competencies will be key, which will enable even more efficient implementation of digital strategies.

In the modern business environment, entrepreneurship is increasingly focused on creating shared value, where economic success is not the only goal, but social and environmental aspects are also considered in business models. Sustainable entrepreneurship is becoming a central concept that connects innovation with responsibility towards communities and natural resources. Entrepreneurs are implementing various sustainable approaches, from the circular economy to social enterprises, further encouraged by the sustainable development goals adopted under the 2030 Agenda. Despite the increasing recognition of the importance of sustainability by companies, the level of integration of sustainable practices varies between countries and entrepreneurs depending on economic conditions, legislative support and entrepreneurial culture.

Slovenian entrepreneurs take the social and environmental consequences of their business into account to a large extent. As many as 88.33% of early-stage and 86.21% of established entrepreneurs in Slovenia take social consequences into account in their business decisions, which is one of the highest rates in Europe. Similarly, 88.2% of early-stage and 79.65% of established entrepreneurs take environmental consequences into account in their business decisions. However, Slovenia ranks much lower in the actual implementation of sustainable measures – only 27.05% of early-stage and 34.99% of established entrepreneurs take measures to increase social impact, which is one of the lowest values in Europe. Slovenia is also below the European average in environmental measures, as only 37.83% of early-stage and 43.37% of established entrepreneurs implement them. In addition, the survey shows that only 21.52% of early-stage and 27.58% of established entrepreneurs know the Sustainable Development Goals, which indicates the need for better awareness of global sustainability strategies.

Figure 8: Consideration of environmental consequences in doing business among Slovenian entrepreneurs



GEM Slovenia 2024, APS

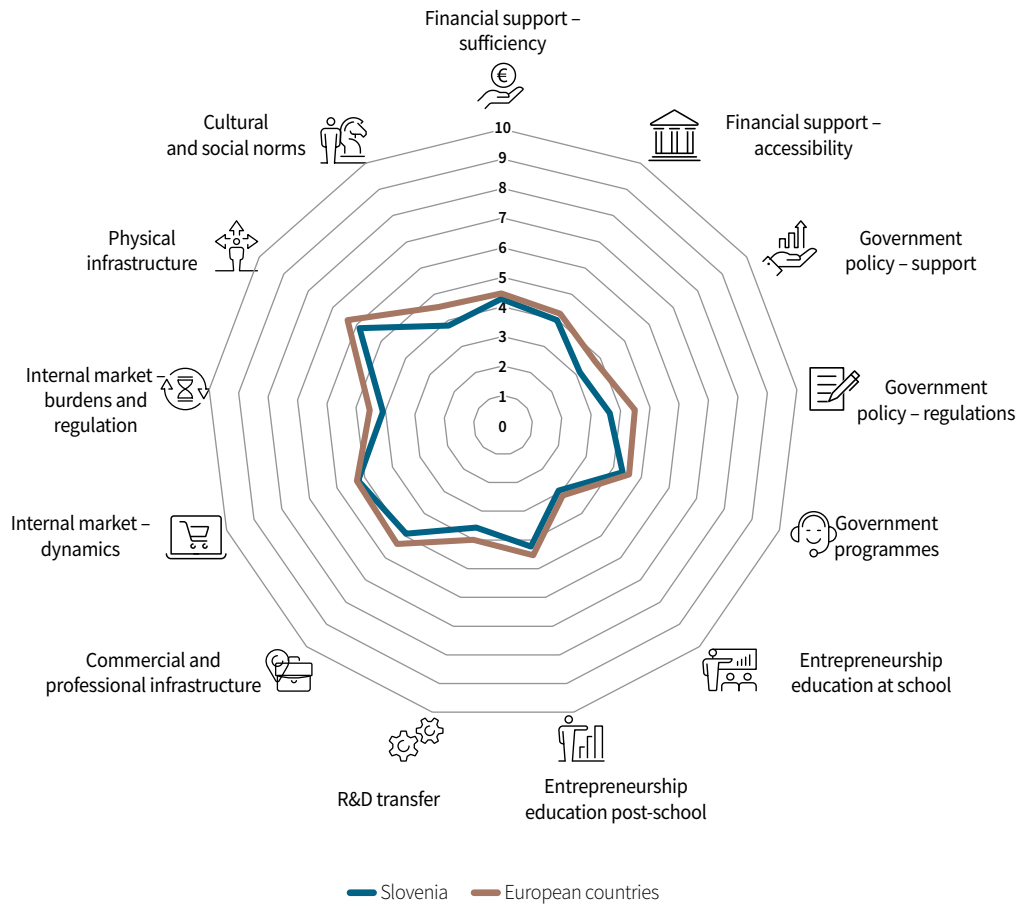
Slovenian entrepreneurs have a high level of sustainability awareness, which is reflected in the broad consideration of social and environmental aspects of business. However, there is a gap between awareness and the actual implementation of sustainable measures. This may be due to limited financial resources, regulatory barriers or a focus on short-term business growth. Entrepreneurs also often implement sustainable measures without direct connection to the Sustainable Development Goals. Further awareness-raising, development of support mechanisms for sustainable initiatives and encouragement of companies to actively implement concrete measures that will contribute to a more sustainable future in the long term will be key to strengthening sustainable entrepreneurship in Slovenia.

## Assessment of the entrepreneurial ecosystem and policies

The last chapter of the monograph presents assessments of the entrepreneurial ecosystem in Slovenia, based on the National Expert Survey (NES). The survey includes expert assessments of key framework conditions for entrepreneurship on a scale from 0 (very unsatisfactory) to 10 (very satisfactory) and sheds light on the strengths and weaknesses of the supportive environment for entrepreneurship. The entrepreneurial ecosystem in Slovenia remains relatively unbalanced. Some framework conditions, such as physical infrastructure (score 5.81) and internal market dynamics (score 5.16), are assessed as satisfactory and enable a stable business environment. On the other hand, there remain significant limitations in entrepreneurship education in primary and secondary schools (2.90) and government support for entrepreneurship (3.21), which indicates a lack of systemic promotion of entrepreneurship in the early stages of education

and inadequate measures to support entrepreneurial initiatives. The transfer of research and development to the economy also remains a key challenge, as experts assessed (3.52) that the ecosystem does not enable effective integration of academic institutions with companies, which inhibits innovation. The regulatory environment is still perceived as an obstacle, as administrative burdens and unpredictable legislative changes inhibit the growth of new companies. Low scores in cultural and social norms indicate weak support for entrepreneurship as a career choice.

Figure 9: Composite indicators of entrepreneurship framework conditions in Slovenia\*, compared with European countries\*\*



\* Average values of individual blocks of variables (principal components method), 0 = very inadequate, 10 = very adequate.

\*\* Unweighted averages of the values (principal components method) of the countries in the group.

Slovenia thus ranked below the European average (4.5) in 2024 with a NECI value of 4.1. Although it exceeds some countries in the region (e.g. Bosnia and Herzegovina, Slovakia and Croatia), the quality of the entrepreneurial ecosystem remains comparable to Poland, Cyprus, Spain and Romania, where the entrepreneurial environment also does not reach the threshold of sufficient support. The most developed entrepreneurial ecosystems in Europe are in Lithuania (6.4), Switzerland (5.7), Estonia (5.4), Latvia (5.1) and Norway (5.0). Globally, the highest NECI value is recorded by the United Arab Emirates (7.1), followed by Lithuania, Taiwan, Saudi Arabia, India and Korea. The data confirms that a higher income of a country often means a better business environment, but this is not always the rule – some lower-income countries have created competitive ecosystems through targeted reforms, while highly developed markets sometimes suffer from rigid bureaucratic obstacles.

The main obstacles to entrepreneurship in Slovenia remain unpredictable legislation, tax burdens and excessive bureaucracy. More than half of the experts' recommendations thus relate to the simplification of legislation, tax breaks for entrepreneurs and a stable regulatory environment that would enable more dynamic entrepreneurial activity. Digital transformation, sustainable development and professional infrastructure were not highlighted as the main challenges, which shows that the experts perceive systemic shortcomings in the regulatory and financial environment as the biggest problem.

Support for female entrepreneurship in Slovenia (3.86) is comparable to the European average (3.84), but lower than the GEM average (4.01), indicating limited systemic support for female entrepreneurs, especially in the provision of support services (e.g. childcare) and policies that would facilitate women's entrepreneurial journey. Access to resources for female entrepreneurs in Slovenia (4.35) remains a challenge, according to experts - women face greater obstacles in obtaining financing, accessing markets and public procurement than male entrepreneurs. The highest score was achieved by the statement that the national culture encourages women to entrepreneurship relatively well (4.73), meaning that entrepreneurship as a career path for women is socially acceptable. The greatest obstacles are related to access to markets (5.27), as according to experts, female entrepreneurs find it more difficult to establish business networks and have limited opportunities to obtain investments compared to their male counterparts. In addition, most women still prefer to work in the public or private sector rather than embarking on an entrepreneurial path. Experts believe that targeted financial incentives, improved access to market opportunities and greater visibility of women's entrepreneurial initiatives should increase women's participation in entrepreneurship.

Slovenia also exceeds the European and global averages in the perception of sustainable practices in new and growing companies, indicating a high level of awareness of sustainable development. The highest scores were achieved by the indicators of good environmental practices (6.52) and sustainable development (6.56), which confirms that, according to experts, Slovenian companies are increasingly integrating energy efficiency and the circular economy into their business models. The perception of the priority importance of social contribution and social responsibility practices (5.47) and economic performance (5.36) also exceed the European average (5.19 and 5.08), indicating a balanced approach to sustainable business. Government policy support for sustainable business (5.02) is slightly higher than the average for European countries (4.62) but nevertheless indicates the need for additional measures to promote sustainability.



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# Entrepreneurship at the Advancement of Digitalization and Artificial Intelligence

GEM Slovenia 2024

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## Abstract:

The GEM survey offers an in-depth analysis of the various social, cultural, political, and economic factors that impact the entrepreneurial landscape and activities, serving as a comprehensive framework for understanding national and entrepreneurial conditions. These factors play a crucial role in shaping individuals' entrepreneurial decisions and the success of starting and operating businesses. Survey delivers unparalleled insights into a nation's entrepreneurial characteristics, surpassing the information available from traditional statistical sources. The study also explores individuals' and societies' attitudes towards entrepreneurship, alongside the aspirations and qualifications of people at different entrepreneurial stages. By examining these aspects across countries, GEM identifies key drivers and obstacles for entrepreneurship, enabling a supportive entrepreneurial ecosystem. Current edition focuses, among others, on digitalization and artificial intelligence and their impact on entrepreneurship. The emphasis is on the challenges and opportunities brought by digitalization and AI, as well as on how companies can leverage these trends for growth and development.

## Keywords:

Global Entrepreneurship Monitor, entrepreneurship, early-stage entrepreneurial activity, economic development, entrepreneurship ecosystem, entrepreneurship policy, sustainable business, digitalization, artificial intelligence

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