

UNSA 2023 Survey of Financial Literacy among MSME Managers in Sarajevo Canton

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University of Sarajevo

UNSA 2023 Survey **of Financial Literacy** **among MSME Managers in** **Sarajevo Canton**

Sarajevo, 2025



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The UNSA 2023 Survey of Financial Literacy among MSME Managers in Sarajevo Canton was conducted as part of the project *Financial Literacy in Bosnia and Herzegovina*, implemented at the University of Sarajevo – Center for Research and Development. The project was supported by the Ministry of Science, Higher Education, and Youth of Sarajevo Canton under the agreement on co-financing scientific research projects and programs from the budget of Sarajevo Canton for the year 2022, contract number 27-02-35-35137-52/22, dated September 28, 2022.

The results of the UNSA 2023 Survey of Financial Literacy among MSME Managers in Sarajevo Canton were compared with the findings of the UNSA 2022 Survey of Adult Financial Literacy in Bosnia and Herzegovina (Zaimović et al., 2025a). Since the same methodology was used, the results of this survey were also compared with the findings of the OECD/INFE 2023 International Survey of Adult Financial Literacy (OECD, 2023), with clear citation of sources.

When referencing the OECD/INFE 2023 International Survey of Adult Financial Literacy (OECD, 2023), it should be noted: ‘This is an adaptation of the original OECD work. The opinions expressed and the arguments employed in this adaptation should not be reported as representing the official views of the OECD or its member countries. In the event of any discrepancy between the original work and the translation, only the text of the original work should be considered valid.’

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UNSA 2023 Anketa o finansijskoj pismenosti MSME menadžera u Kantonu Sarajevo priređena je u okviru projekta *Finansijska pismenost u Bosni i Hercegovini* koji se realizira na Univerzitetu u Sarajevu – Centru za istraživanje i razvoj, uz podršku Ministarstva za nauku, visoko obrazovanje i mlade Kantona Sarajevo prema ugovoru o sufinansiranju naučno-istraživačkih projekata i programa iz budžeta Kantona Sarajevo za 2022. godinu, broj 27-02-35-35137-52/22, od 28.9.2022. godine.

Rezultati UNSA 2023 Ankete o finansijskoj pismenosti MSME menadžera u Kantonu Sarajevo upoređeni su sa rezultatima iz UNSA 2022 Ankete o finansijskoj pismenosti odraslog stanovništva u Bosni i Hercegovini (Zaimović et al., 2025a). S obzirom da je korištena ista metodologija, rezultati ove ankete upoređeni su i sa rezultatima iz OECD/INFE 2023 International Survey of Adult Financial Literacy (OECD, 2023), uz jasno navođenje izvora.

Kod referenciranja OECD/INFE 2023 International Survey of Adult Financial Literacy (OECD, 2023) treba uzeti u obzir: „U nekim slučajevima vršena je obrada podataka iz originalnog rada OECD-a. Mišljenja izražena i argumenti korišteni u prilagodbi ne predstavljaju službene stavove OECD-a ili zemalja članica. U slučaju bilo kakvih neslaganja između originalnog rada i prevoda, važećim se smatra isključivo tekst originalnog rada.“

Stavovi izneseni u ovom tekstu su stavovi autora i ne odražavaju nužno stavove Univerziteta u Sarajevu, Ministarstva za nauku, visoko obrazovanje i mlade Kantona Sarajevo, niti drugih lica i institucija.



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Project *Financial Literacy in Bosnia and Herzegovina*

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Summary

Financial literacy represents a key skill for managers of micro, small, and medium-sized enterprises (MSMEs), as it enables them to more easily identify investment opportunities, optimize operations, and implement innovations, contributing to the growth and stability of their businesses. Empowering financial literacy among MSME managers is crucial for strengthening the competitive capabilities of enterprises. Given the market instabilities caused by the global events, increasing the level of financial and digital literacy equips managers to better manage risks and adapt to dynamic market conditions, thereby enhancing their ability to make informed decisions in times of uncertainty. A financial literacy survey of MSME managers in Sarajevo Canton was conducted using the OECD/INFE methodology (OECD, 2022). The sample adequately reflects the structure of enterprises in Sarajevo Canton in terms of the company size and sectors of activity.

MSME managers in Sarajevo Canton achieve an average financial literacy score of 75.19, which is substantially higher compared to the general adult population in Bosnia and Herzegovina

- The average financial literacy score of surveyed MSME managers in Sarajevo Canton is 75.19 on a scale of 0-100, which is significantly higher compared to the average score of the general adult population in Bosnia and Herzegovina (B&H), which is 63.75 (Zaimović et al., 2024). It also surpasses the Global average of 60.40 and the OECD member countries' average of 62.71 (OECD, 2023). On average, 74% of MSME managers in Sarajevo Canton achieve the target financial literacy level of 70 points.
- An average financial knowledge score of 76 on a scale of 0-100 indicates a high level of understanding of basic financial concepts among MSME managers, such as the time value of money, the concept of inflation, risk and return, and risk diversification. However, there remains significant room for improvement through the development of tailored educational programs aimed at enhancing the financial literacy of managers, thereby contributing to more sustainable management of their enterprises.
- The study results reveal that MSME managers in Sarajevo Canton demonstrate significant strengths in financial behaviour, with an average score of 80 on a scale of 0-100, compared to the general adult population in B&H, which scores an average of 65. MSME managers particularly excel in setting long-term financial goals; however, their preference for holding money in bank accounts and cash, combined with a low rate of investment in financial products and crypto-currencies, reflects a more conservative approach to financial management. These findings provide a foundation for the development of educational programs and initiatives aimed at improving financial knowledge and diversifying investment opportunities, thereby strengthening financial resilience and enhancing the efficiency of managers in making business decisions.
- With average financial attitudes score of 63 on a scale of 0-100, MSME managers exhibit moderately positive financial attitudes. While they show weaker preferences for saving over spending, they stand out in long-term thinking. These findings highlight the potential for improving financial attitudes through targeted educational initiatives.



Challenges of digital financial literacy for MSME managers in Sarajevo Canton: Focus on education, security, and infrastructure development

- The average digital financial literacy score of surveyed MSME managers in Sarajevo Canton is 58.41 on a scale of 0-100. While higher compared to the general adult population in B&H which scores 44.56, it still highlights significant challenges in their digital financial behaviour, attitudes, and knowledge. 38% of MSME managers achieve the target digital financial literacy score of 70 points.
- With an average digital financial knowledge score of 55 on a scale of 0-100, MSME managers demonstrate a solid understanding of the risks associated with publicly sharing personal data, with 67% of managers providing the correct answer. However, they show a weaker understanding of digital financial contracts and crypto-currencies as a legal means of payment, with an accuracy rate of 49%.
- The digital financial behaviour score of MSME managers in Sarajevo Canton is 60 on a scale of 0-100. MSME managers in Sarajevo Canton demonstrate a high awareness of the importance of regularly changing passwords on websites used for online shopping and managing personal finances, as well as awareness of the risks associated with publicly sharing personal financial information. Additionally, 57% of managers check the regulation status of providers before purchasing financial products online.
- The average digital financial attitudes score of MSME managers is 60 on a scale of 0-100, indicating their moderate awareness of the importance of checking website security before online transactions and carefully reading terms and conditions before making a purchase. Further education and strategic initiatives could strengthen these attitudes and improve the digital financial literacy of managers.

Educational approaches for MSME managers to reduce gender gaps and enhance the financial skills of less experienced managers

- Men achieve a higher financial literacy score of 77 compared to women, who score 72, indicating a gender gap in financial literacy among the surveyed MSME managers, favouring men. This highlights the importance of implementing programs aimed at educating women on key financial concepts.
- Due to the low level of financial literacy among managers with less than 10 years of managerial experience and those with only a high school education as their highest level of formal education, it is important to develop specialized educational programs to improve their financial knowledge, attitudes, and behaviour. Such programs can significantly contribute to increasing financial inclusion, enabling managers to make more efficient decisions and gain greater access to financial services, thereby positively impacting the competitiveness and sustainability of the businesses they manage.



Encouraging the expansion of domestic companies into international markets as a factor in enhancing the financial literacy of MSME managers

- Managers of the companies operating in international markets demonstrate higher levels of financial and digital financial literacy compared to managers of companies operating solely in the Bosnian market. Additionally, managers of the companies with majority foreign ownership show superior results in both financial and digital financial literacy compared to managers of domestically owned companies. Encouraging domestic companies to expand into international markets can significantly enhance the financial and digital financial literacy of managers, as exposure to global business practices and financial opportunities contributes to the development of key skills.

Managers of the companies that use loans from related parties as a source of financing demonstrate a higher level of financial and digital financial literacy compared to managers of companies that use bank loans as a source of financing. This highlights the importance of empowering managers by providing access to various financing sources to improve their ability to make informed financial decisions.

Keywords: financial literacy, digital financial literacy, MSME managers, OECD/INFE methodology





1. Introduction

This study presents an analysis of the financial literacy among managers of micro, small, and medium-sized enterprises (MSMEs) in Sarajevo Canton, using a survey questionnaire from the OECD/INFE Toolkit for Measuring Financial Literacy and Financial Inclusion (OECD, 2022). The questionnaire was adapted to the specific context of B&H and supplemented with additional questions of interest, in line with the latest research and a review of relevant literature, as well as expanded to include questions on the demographic profile of managers and the firmographic characteristics of the enterprises. The study presents the main findings on financial and digital financial literacy of MSME managers in Sarajevo Canton.

Micro, small, and medium-sized enterprises represent a key segment of the business sector in B&H, with Sarajevo Canton accounting for 35% of all enterprises in the Federation of B&H and 23% across the country (2022), contributing approximately 30% of total indirect taxes. These figures highlight the economic significance of Sarajevo Canton and its substantial role in public finances. The survey was conducted in 2023 and was directed toward enterprises in Sarajevo Canton with a minimum annual revenue of BAM 1,000, based on official financial statements for 2021, resulting in a population of 7,036 firms. Enterprises were primarily contacted via email, using addresses obtained from official financial reports, with several reminders sent. Out of a total of 249 responses, 172 fully completed questionnaires were received, representing 2.4% of the MSME population in Sarajevo Canton. The sample is representative and adequately reflects the structure of enterprises in terms of size and sectors of activity.

This survey provides an assessment and analysis of the financial literacy and digital financial literacy of MSME managers in Sarajevo Canton, with the aim of improving and strengthening managerial competencies and raise awareness of their importance. Managers' and entrepreneurs' financial knowledge, behaviour, and attitudes are analysed in comparison to the broader population in the country and globally, in order to identify differences and specific educational needs. The study also seeks to identify key aspects of financial knowledge, behaviour, and attitudes among managers that should be improved through specialized training programs, as strengthening these competencies has a positive impact on innovation, profitability, and the competitiveness of enterprises.

The main sections of the study are:

- Measuring financial literacy among MSME managers in Sarajevo Canton
- Measuring digital financial literacy among MSME managers in Sarajevo Canton

Based on the analysis of financial and digital financial literacy of MSME managers in Sarajevo Canton, recommendations have been developed for the improvement of these areas. Implementation of these recommendations would, in the long term, contribute to the enhancement of the financial resilience of MSME enterprises, especially during periods of market uncertainty.

The methodology used (OECD, 2022) enabled the comparison of the survey results on financial literacy of MSME managers in Sarajevo Canton with the results of the general adult population in B&H, globally, and in OECD member countries. Data for B&H are the average results for the adult population, taken from the UNSA 2022 Survey on Adult Financial Literacy in B&H (Zaimović et al., 2025). The Global average and the average for OECD member countries were



taken from the OECD/INFE 2023 International Survey of Adult Financial Literacy (OECD, 2023). This international survey was conducted in 39 countries across Asia, Europe, and Latin America, including 20 OECD members and 8 G20 countries. The maximum number of countries included in the Global average is 39, and in the OECD average, 20. For digital financial literacy, these averages cover a smaller number of countries, in line with the OECD/INFE survey coverage (OECD, 2023). It is important to consider differences in sampling and data collection methodologies when interpreting the results.



2. Survey of Financial Literacy among MSME Managers in Sarajevo Canton

The survey on the financial literacy of managers targets managers of micro, small, and medium-sized enterprises (MSMEs) in Sarajevo Canton. In 2022, a total of 8,792 enterprises operated in Sarajevo Canton, employing 115,802 workers (8,861 enterprises and 112,055 employees in 2021). The revenues of these enterprises ranged from 0 to BAM 1.6 billion. Enterprises from Sarajevo Canton hold significant importance within the business environment of B&H. The Canton accounts for 35% of all enterprises operating in the Federation of B&H and 23% of those operating in B&H overall (2022). With a share of approximately 30% in paid indirect taxes, Sarajevo Canton is the most important administrative unit in the country. This underscores the economic significance of Sarajevo Canton and its role in public finance. The business landscape of B&H is marked by the strong dominance of micro firms, which made up 64.3% of all active enterprises in B&H in 2022.

The data collection instrument used in the financial literacy survey of MSME managers in Sarajevo Canton is a questionnaire based on the OECD/INFE methodology defined in the Toolkit for Measuring Financial Literacy and Financial Inclusion (OECD, 2022). The questionnaire was adapted to the specific context of B&H and expanded with a set of additional questions of interest derived from relevant research, as well as questions related to the demographic characteristics of managers and the firmographic characteristics of enterprises. The questionnaire was tested through interviews with managers on a convenience sample to verify the quality of the adaptations made. This study presents only the basic descriptive results related to the financial literacy and digital financial literacy of MSME managers in Sarajevo Canton. Assessing the statistical significance of differences in indicators across various groups falls outside the scope of this study. The research team is conducting econometric analysis and modelling of the collected data, which will be published in scientific papers that are in preparation or have already been accepted for publication (Zaimović et al., 2025b).

The survey was conducted in 2023. All MSME enterprises in Sarajevo Canton that were actively operating, defined as having a minimum annual revenue of BAM 1,000 in 2021, were contacted, resulting in a target population of 7,036 firms. Enterprises were contacted via email addresses obtained from their official financial statements, with several follow-up reminders sent together with a cover letter. If the email recipient was not the manager/owner, the cover letter instructed the recipient to forward the email to the company's manager/owner.

The web-based platform SurveyMonkey was used for data collection. A total of 249 responses were received, of which 172 fully completed questionnaires by MSME managers were used for further analysis. This study does not include large enterprises. The sample represents 2.4% of the population and, given the two most important population characteristics, firm size and sector of activity, it provides a good representation of the MSME structure in Sarajevo Canton.

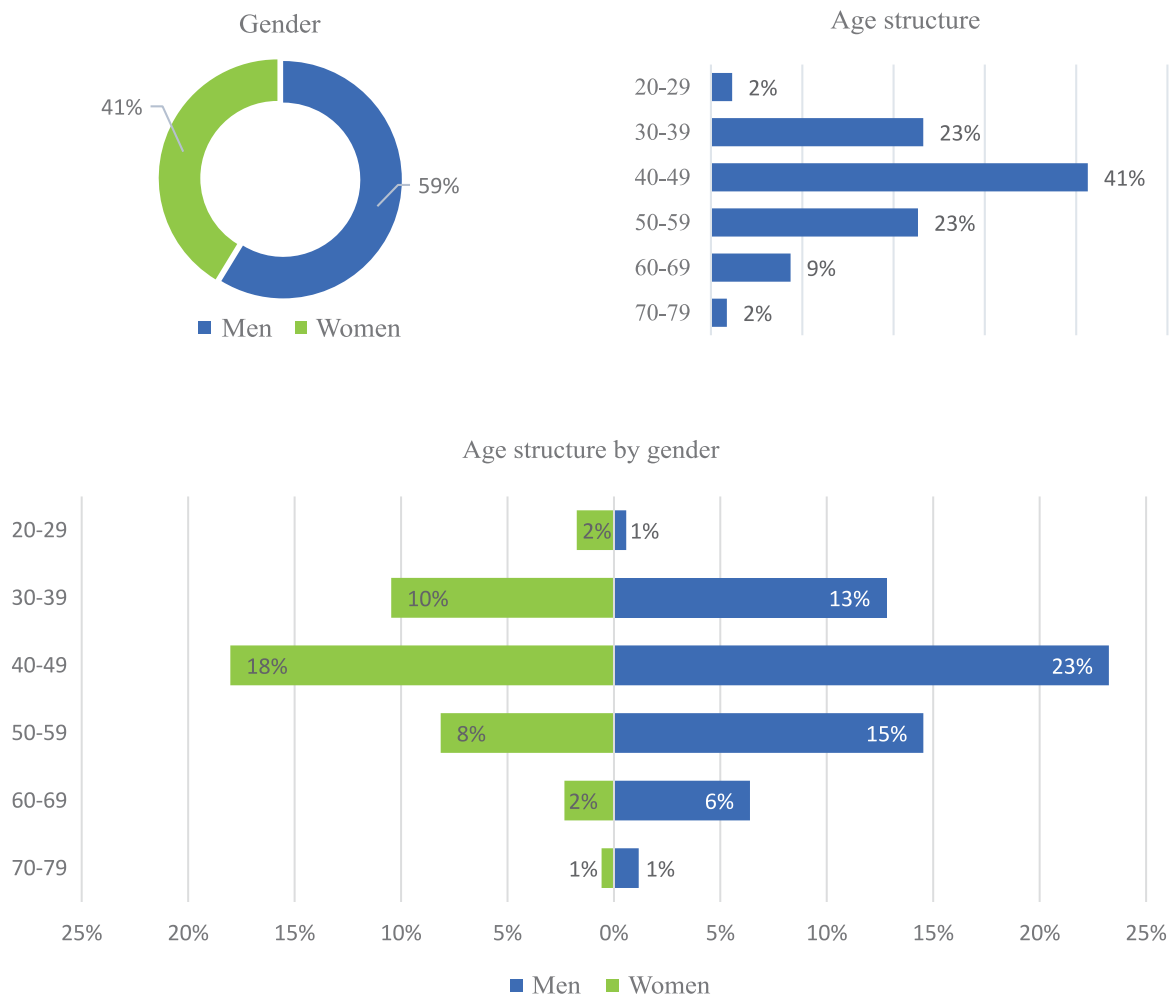
The financial literacy of MSME managers in Sarajevo Canton was measured in accordance with the OECD/INFE methodology (OECD, 2022). This approach enables a comparison of the survey results on the financial literacy among MSME managers with the results of financial literacy surveys of the general adult population: (1) in B&H (Zaimović et al., 2025a), (2) globally (OECD, 2023), and (3) with the average of OECD member countries (OECD, 2023).



2.1. Sample

Within the survey, 172 fully completed questionnaires were collected, of which 59% were completed by male MSME managers and 41% by female MSME managers, Figure 1. By analysing the demographic structure of the sample, it can be observed that the majority of respondents, 41%, falls within the 40-49 age group. The sample shows an equal number of respondents in the 30-39 and 50-59 age groups, with each group accounting for 23% of the total. Furthermore, 9% of respondents are in the 60-69 age category, while 2% of respondents belong to both, the youngest and the oldest age groups.

Figure 1. Gender and age structure of the manager sample

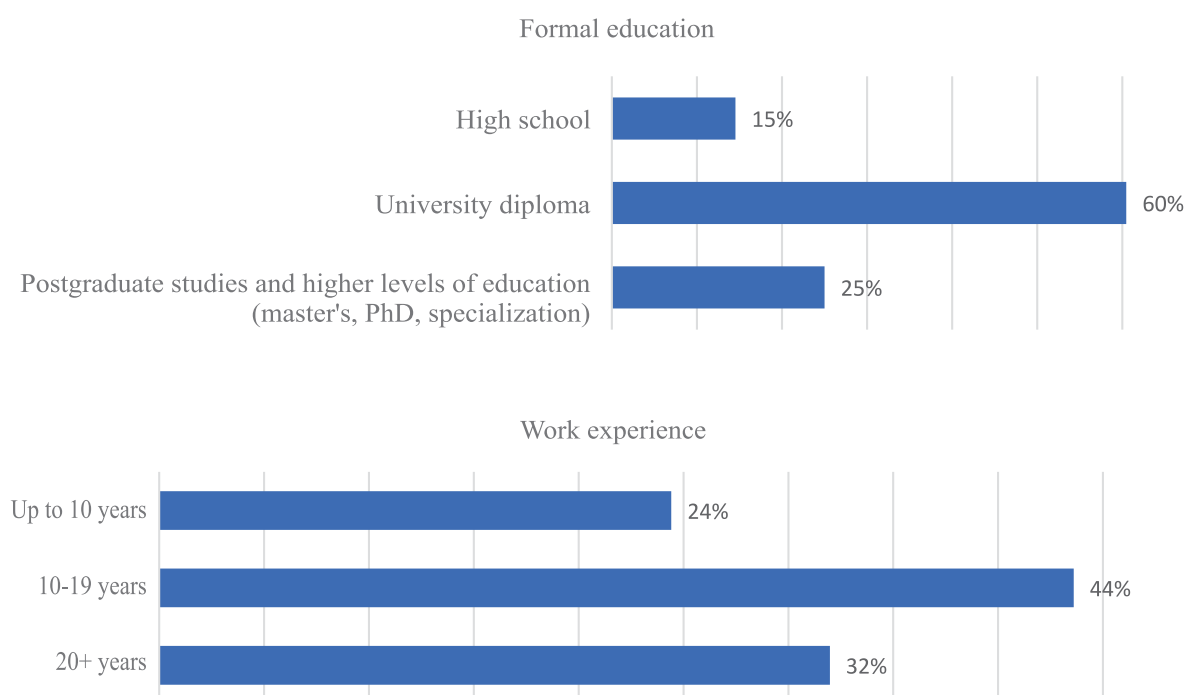


Source: UNSA 2023 Survey of Financial Literacy among MSME Managers in Sarajevo Canton

The educational structure of the respondents shows that 60% have completed higher education, while 25% hold a master's degree, PhD, or specialization, Figure 2. The remaining 15% have completed high school education as their highest level of formal education. An analysis of managerial work experience indicates a dominance of managers with 10 to 19 years of experience, accounting for 44% of the sample. Furthermore, 32% of respondents have more than 20 years of managerial experience, while the smallest share, 24%, consists of managers with less than 10 years of experience.



Figure 2. Managers' formal education and work experience



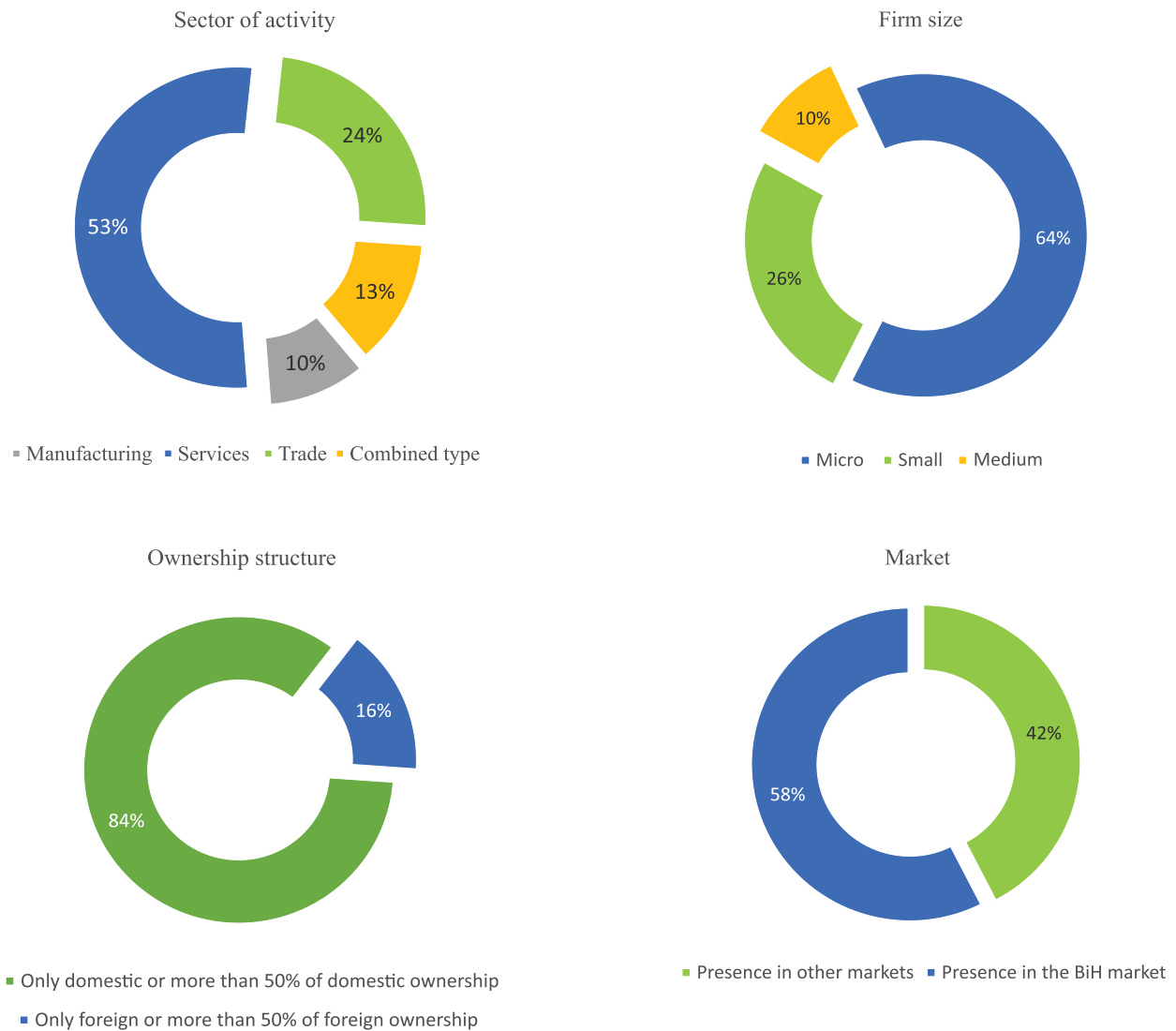
Source: UNSA 2023 Survey of Financial Literacy among MSME Managers in Sarajevo Canton

The sample structure by firm size shows a dominance of micro enterprises, which make up 64% of the sample, while small enterprises account for 26% and medium-sized enterprises for 10%, Figure 3. The structure of firms in Sarajevo Canton, i.e. the population, for 2021 consisted of 95% small (and micro) enterprises, 4% medium-sized, and 1% large enterprises, and for 2022, 76% micro, 19% small, 4% medium, and 1% large enterprises. The population includes all firms, including those with annual revenues below BAM 1,000, which were outside the survey scope (over 1,700 out of 8,861 firms in 2021), and more than 90 large enterprises, resulting in a target population of 7,036 firms. The target population structure is 95% micro and small enterprises and 5% medium-sized enterprises. The sample adequately represents the target population in terms of firm size, with acceptable deviations typical for empirical research.

Regarding the sample firms' main economic activity, 53% are engaged in services, 24% in trade, 10% in manufacturing, and the remaining 13% in combined type of industry. In terms of ownership structure, the majority of firms in the sample are domestically owned, accounting for 84%. The results also show that 42% of the firms in the sample are active in foreign markets.



Figure 3. Industry, firm size, ownership structure, and market presence of the firms in the sample

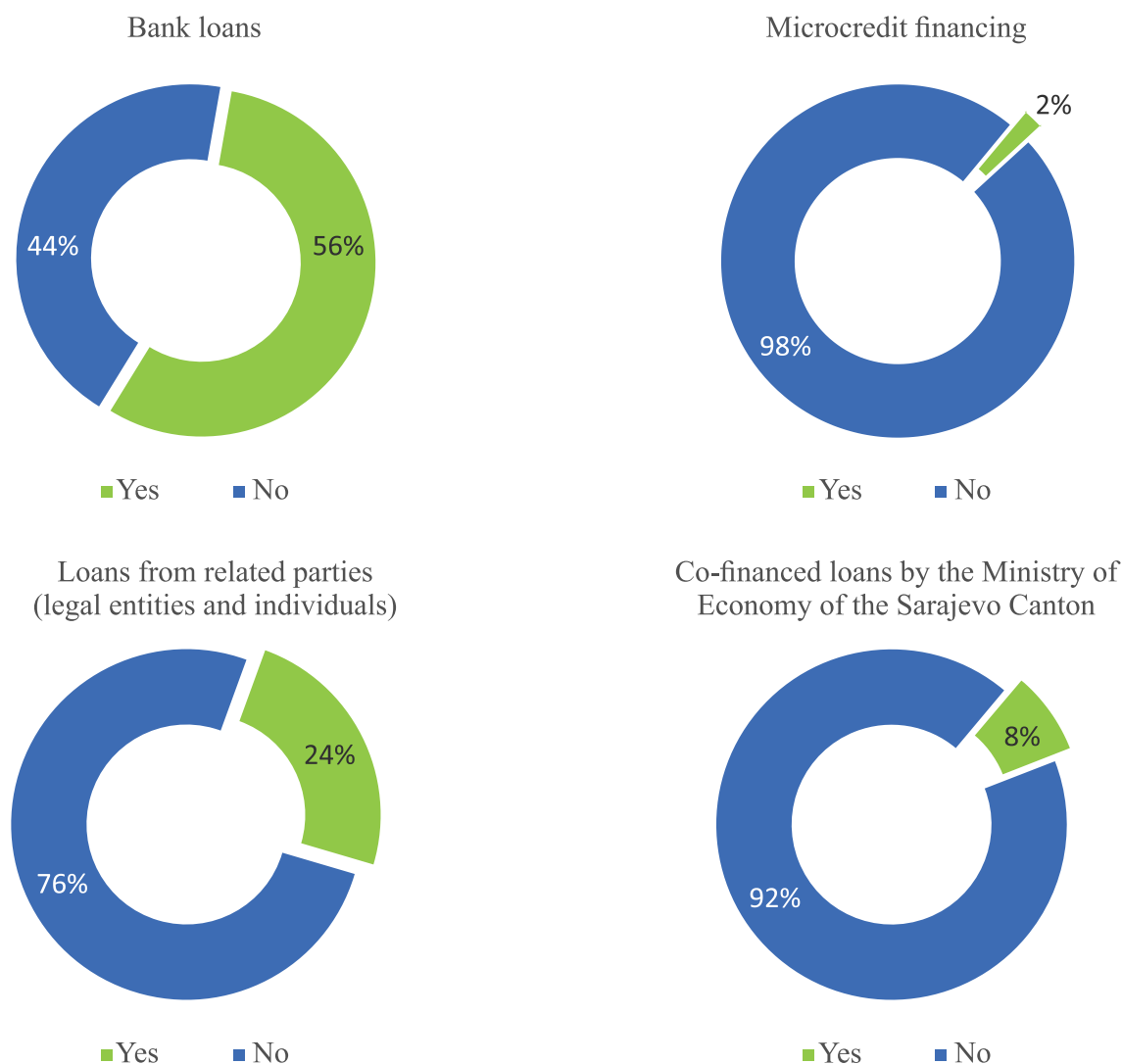


Source: UNSA 2023 Survey of Financial Literacy among MSME Managers in Sarajevo Canton

In addition to their own equity, firms are primarily financed through bank loans, 56%, and loans from related legal entities and individuals, 24%, Figure 4. Additionally, 8% of the firms in the sample have used economic support programs from the Ministry of Economy of Sarajevo Canton, which mainly involve co-financing loan costs. Financing through microcredit institutions is much less common, with only 2% of the firms in the sample using this source, which suggests that these firms may not be adequately financially included.



Figure 4. Sources of financing for the firms in the sample

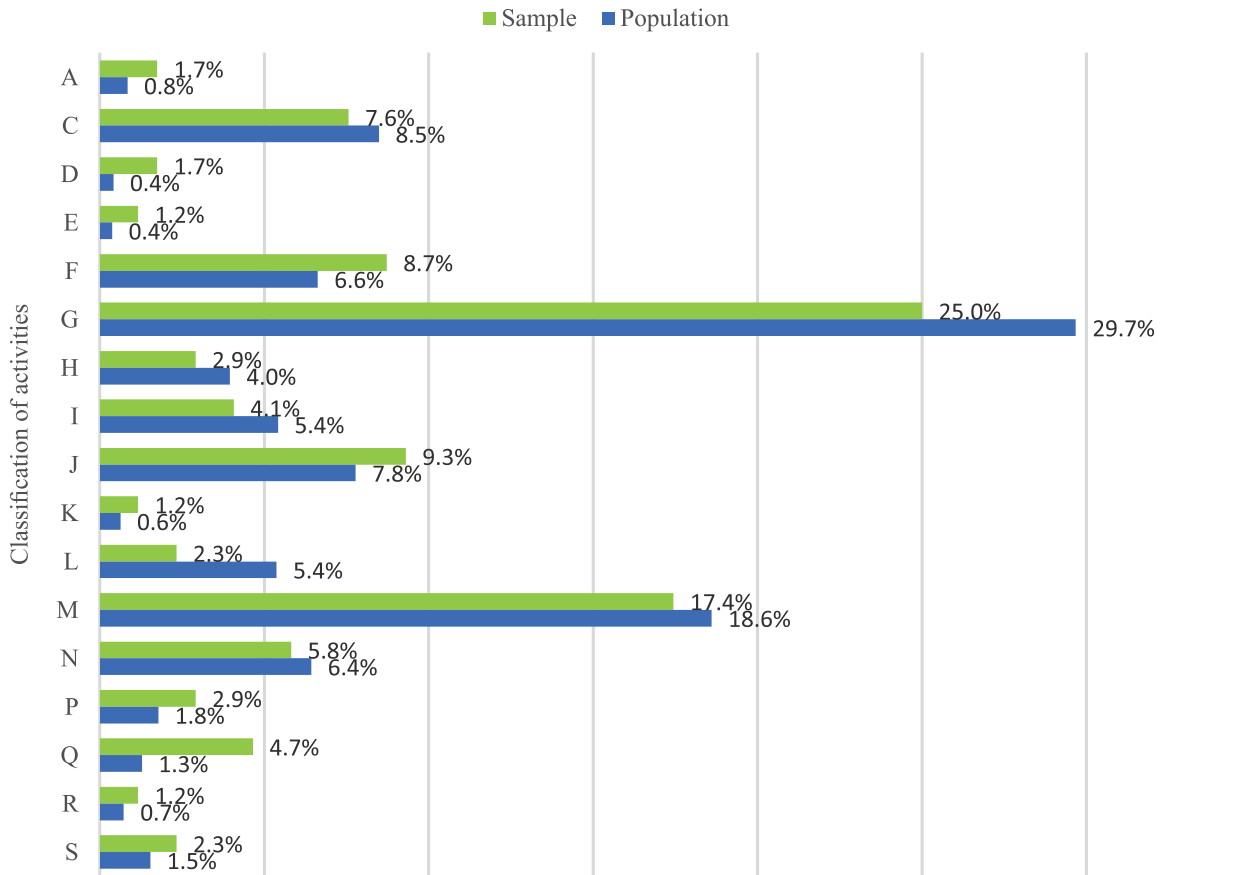


Source: UNSA 2023 Survey of Financial Literacy among MSME Managers in Sarajevo Canton

Figure 5 presents the economic activity distribution for firms in Sarajevo Canton and for the firms covered by the survey, i.e., the target population and the sample. The sample includes 17 out of a total of 21 economic activities according to the Classification of Activities in B&H (2 activities are not represented in Sarajevo Canton, and only 8 firms are registered in the remaining 2 activities). The highest number of firms is registered in the Wholesale and retail trade, both in the population, 29.7%, and in the sample, 25%, as well as in the Professional, scientific, and technical activities, with a share of 18.6% in the population and 17.4% in the sample. Certain sectors have a very small share in both the population and the sample, less than 2% (Arts, entertainment, and recreation; Production and supply of electricity, gas, steam, and air conditioning; Water supply; waste water removal, waste management, and environmental remediation activities; Agriculture, forestry, and fishing; Financial and insurance activities). The sample adequately reflects the actual sectoral structure in Sarajevo Canton for 2021, with acceptable deviations typical in empirical research.



Figure 5. Sample representativeness



Source: UNSA 2023 Survey of Financial Literacy among MSME Managers in Sarajevo Canton

Code	Classification of activities
A	Agriculture, forestry, and fishing
C	Manufacturing industry
D	Production and supply of electricity, gas, steam, and air conditioning
E	Water supply; waste water removal, waste management, and environmental remediation activities
F	Construction
G	Wholesale and retail trade; repair of motor vehicles and motorcycles
H	Transportation and storage
I	Accommodation and food service activities (hospitality and catering)
J	Information and communication
K	Financial and insurance activities
L	Real estate activities
M	Professional, scientific, and technical activities
N	Administrative and support service activities
P	Education
Q	Health and social care activities
R	Arts, entertainment, and recreation
S	Other service activities

The results presented in this study relate to the sample of MSME managers in Sarajevo Canton who were surveyed. The sample can be considered representative with respect to the two most important characteristics: firm size and sector of activity.



2.2. Measuring Financial Literacy among MSME Managers in Sarajevo Canton

- The average financial literacy score of the surveyed MSME managers in Sarajevo Canton is 75.19 on a 0-100 scale.
- The average score for financial knowledge is 26.54 on a 0-35 scale, for financial behaviour 36.13 on a 0-45 scale, and for financial attitudes 12.51 on a 0-20 scale.
- 74% of MSME managers met the minimum target threshold for financial literacy of 70 out of 100 points.
- An analysis of financial attitudes indicates that the surveyed MSME managers in Sarajevo Canton have a stronger tendency toward short-term consumption compared to the average adult in B&H.
- The surveyed MSME managers in Sarajevo Canton achieve significantly better results in money management in short-term, active saving, comparing financial products, seeking financial advice, controlling financial transactions, and setting long-term financial goals compared to other groups (the adult population in B&H, globally, and in OECD member countries).

2.2.1. Financial Literacy

The survey of financial literacy among MSME managers in Sarajevo Canton was conducted in 2023. A total of 172 valid questionnaires, with responses to all questions, were collected. The sample can be considered representative, covering 17 different economic activities and accounting for 2.4% of the population.

Financial literacy includes three components (OECD, 2022):

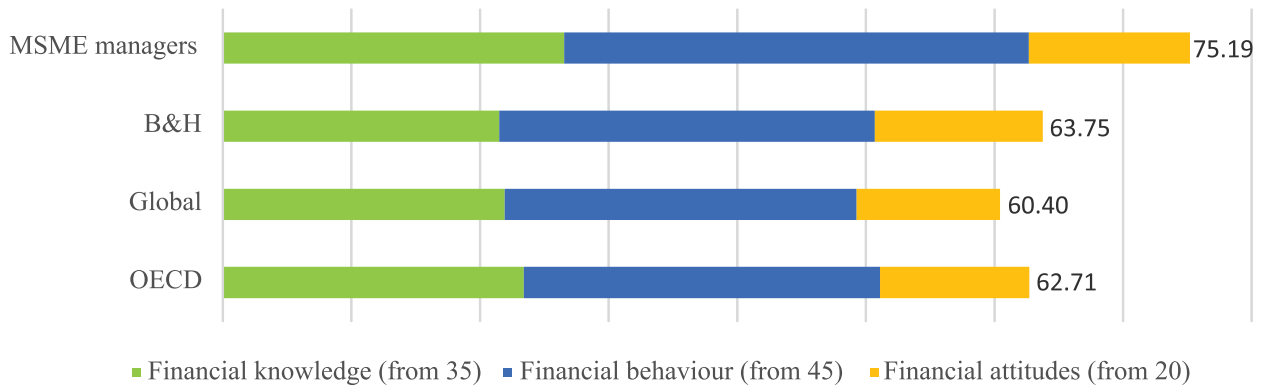
- Financial knowledge (scored from 0 to 7),
- Financial behaviour (scored from 0 to 9),
- Financial attitudes (scored from 0 to 4).

The overall financial literacy score is calculated as the sum of the scores for these three components, financial knowledge, financial behaviour, and financial attitudes, and ranges from 0 to 20. The total financial literacy score is then scaled to a range from 0 to 100.

The results of the financial literacy survey of MSME managers are compared with the results of the general adult population in B&H (Zaimović et al., 2025a), the global average across 39 countries in Europe, Asia, and Latin America (OECD, 2023), and the average of OECD member countries (OECD, 2023), referred to as the B&H, Global, and OECD averages, Figure 6. According to this methodology, the average financial literacy score of the surveyed MSME managers in Sarajevo Canton is 75.19 on a 0-100 scale, significantly exceeding the results achieved by the adult population in B&H, globally, and in OECD countries on average.



Figure 6. Average financial literacy score of MSME managers and general adult population



Source: (1) OECD/INFE 2023 International Survey of Adult Financial Literacy (OECD, 2023); (2) UNSA 2022 Survey of Adult Financial Literacy in Bosnia and Herzegovina (Zaimović et al., 2025a); (3) UNSA 2023 Survey of Financial Literacy among MSME Managers in Sarajevo Canton

MSME managers in Sarajevo Canton achieve, on average, higher results in the overall financial literacy score and all its components compared to the B&H, Global, and OECD averages, except in financial attitudes, where adults in B&H have an advantage, Table 1. The average financial knowledge score of the surveyed MSME managers is 26.54 on a 0-35 scale, financial behaviour 36.13 on a 0-45 scale, and financial attitudes 12.51 on a 0-20 scale.

Table 1. Average financial literacy score by components

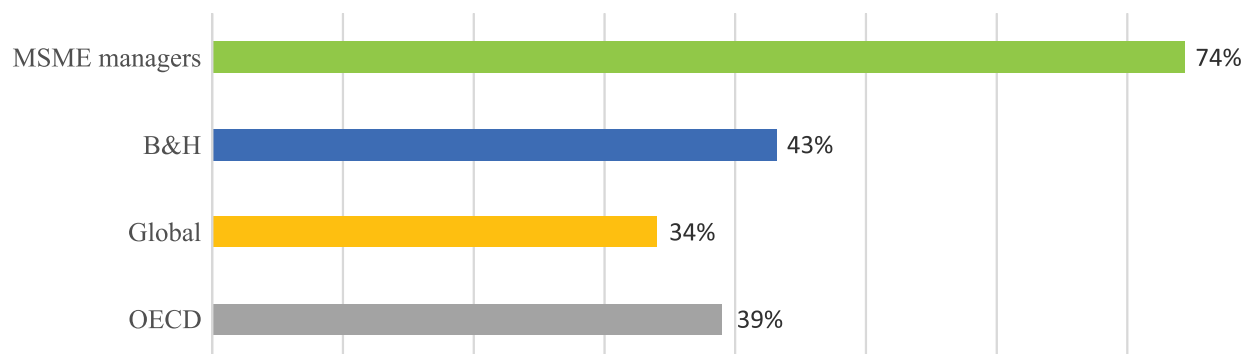
Score	MSME managers in Sarajevo Canton	B&H	Global	OECD
Financial literacy (0-100)	75.19	63.75	60.40	62.71
Financial knowledge (0-35)	26.54	21.49	21.92	23.40
Financial behaviour (0-45)	36.13	29.21	27.37	27.71
Financial attitudes (0-20)	12.51	13.05	11.15	11.60

Source: (1) OECD/INFE 2023 International Survey of Adult Financial Literacy (OECD, 2023); (2) UNSA 2022 Survey of Adult Financial Literacy in Bosnia and Herzegovina (Zaimović et al., 2025a); (3) UNSA 2023 Survey of Financial Literacy among MSME Managers in Sarajevo Canton

The target financial literacy threshold, defined as a minimum of 70 out of 100 points, is achieved by almost three-quarters of the managers in the sample, 74%, Figure 7. This result is significantly higher compared to the achievements of the general adult population in B&H, globally, and in OECD member countries. However, the fact that 26% of managers in Sarajevo Canton did not reach this threshold indicates the need for additional financial education initiatives among the managerial population.



Figure 7. Percentage of MSME managers and adults achieving the target financial literacy score



Source: (1) OECD/INFE 2023 International Survey of Adult Financial Literacy (OECD, 2023); (2) UNSA 2022 Survey of Adult Financial Literacy in Bosnia and Herzegovina (Zaimović et al., 2025a); (3) UNSA 2023 Survey of Financial Literacy among MSME Managers in Sarajevo Canton

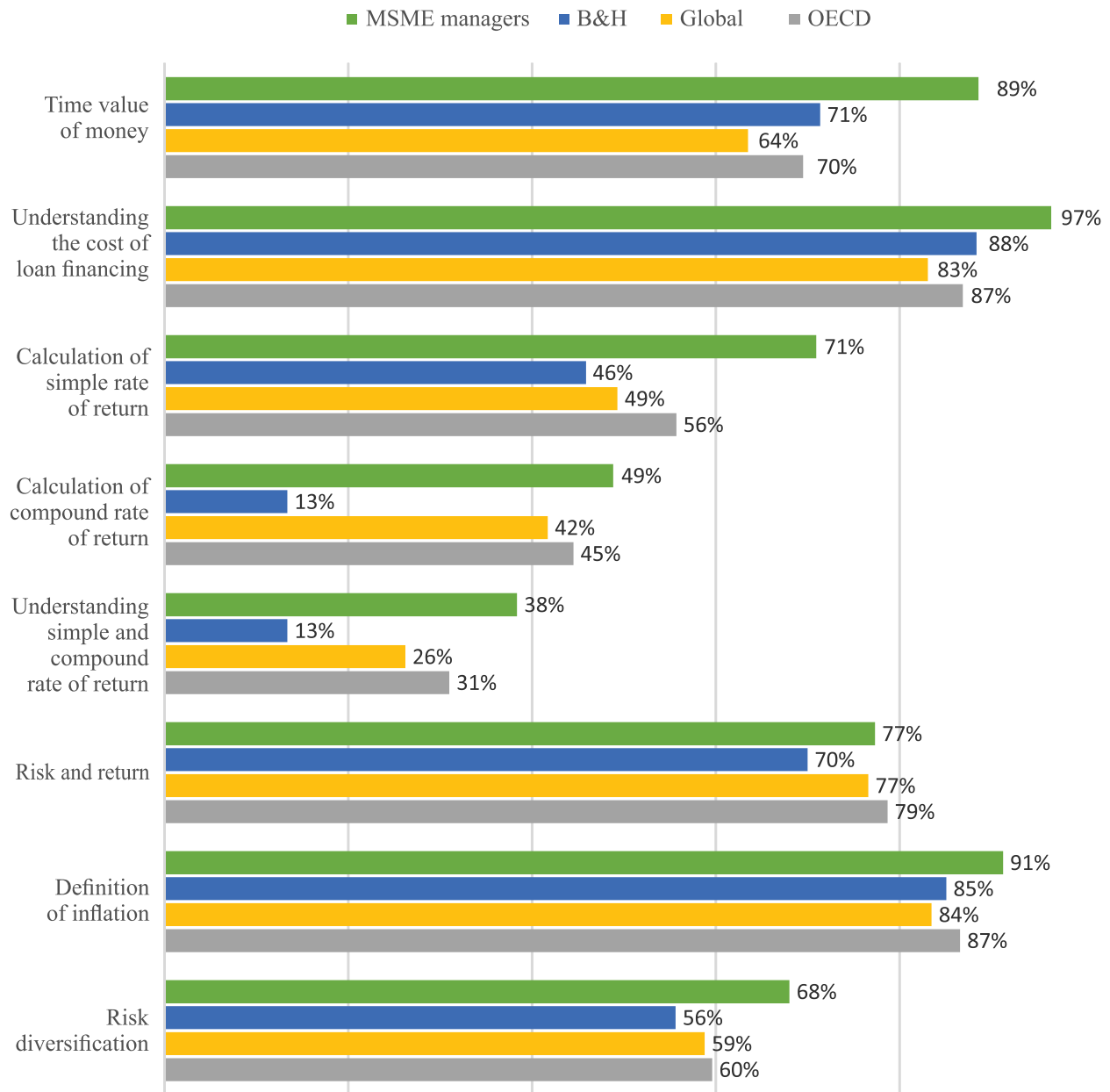
2.2.2. Financial Knowledge

Financial knowledge encompasses the understanding of financial terms and concepts such as the time value of money, inflation, simple and compound rate of return, diversification, and similar. The average financial knowledge score of the surveyed MSME managers in Sarajevo Canton is 76 on a 0-100 scale.

MSME managers perform better in all aspects of financial knowledge compared to the adult population in B&H, Figure 8. Knowledge of the cost of loan financing is, as expected, at the highest level, with 97% of MSME managers demonstrating understanding. Additionally, more than three-quarters of the surveyed MSME managers, on average, are familiar with the definition of inflation, understand risk and return, and the time value of money. The largest gap between these two groups is in understanding and calculating simple and compound rate of return, where MSME managers have an advantage of 25 percentage points or more compared to the adult population in B&H. In the analysis of MSME managers' financial knowledge relative to Global and OECD averages, MSME managers again show superior results, except in one case, knowledge of risk and return, where adults in OECD countries perform slightly better.



Figure 8. Financial knowledge, percentage of MSME managers and adults who gave the correct answer (average)



Source: (1) OECD/INFE 2023 International Survey of Adult Financial Literacy (OECD, 2023); (2) UNSA 2022 Survey of Adult Financial Literacy in Bosnia and Herzegovina (Zaimović et al., 2025a); (3) UNSA 2023 Survey of Financial Literacy among MSME Managers in Sarajevo Canton

2.2.3. Financial Behaviour

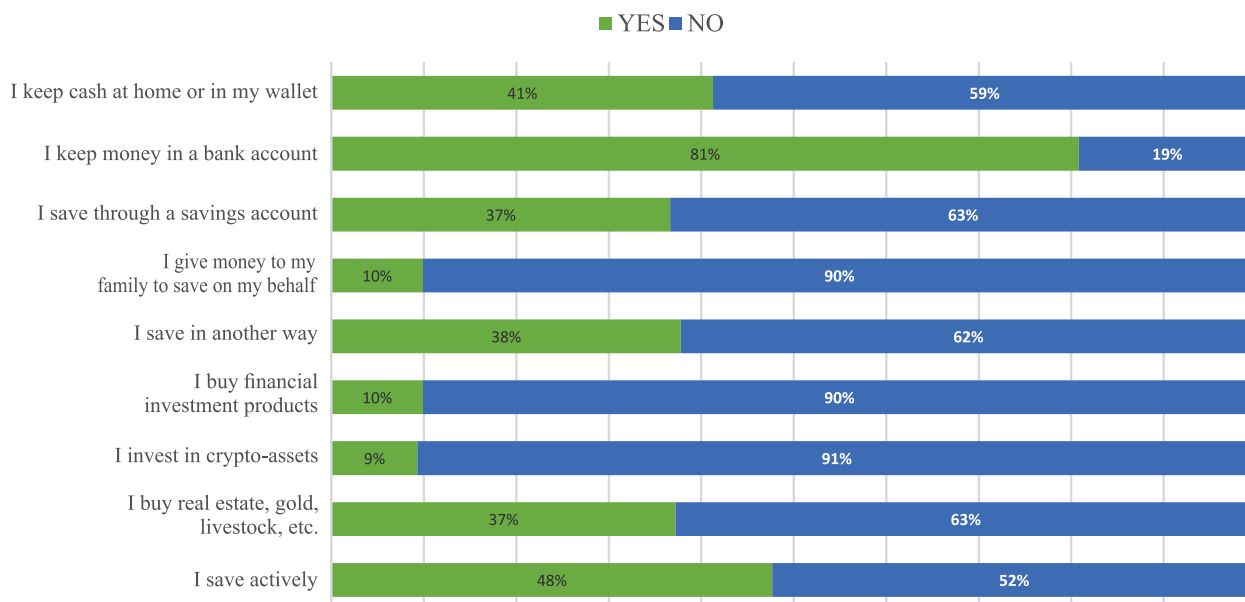
Financial behaviour covers a set of questions related to cash flow management, saving and long-term planning, and thoughtful purchasing (OECD, 2023). The average financial behaviour score of the surveyed MSME managers is 80 on a 0-100 scale.

The survey results show that the surveyed MSME managers prefer to keep their money in a bank account, 81%, and at home or in a wallet, 41%, Figure 9. Additionally, 37% of MSME managers



save through a savings account, 38% invest money in real estate, gold, and similar assets, while 38% choose other forms of saving and investment, such as life insurance. Only 10% of MSME managers purchase financial investment products, and 9% invest in crypto-currencies.

Figure 9. MSME managers' savings

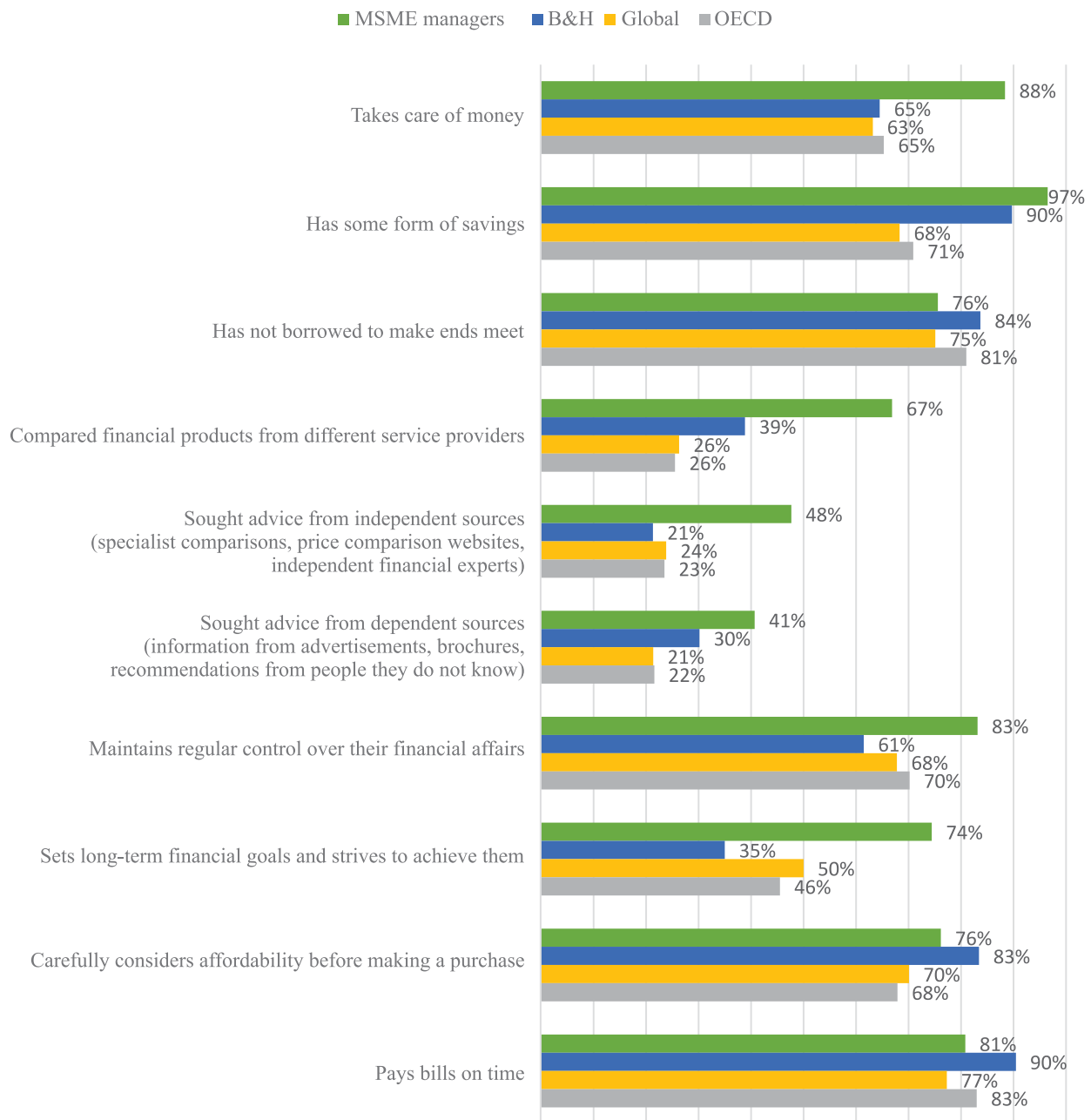


Source: UNSA 2023 Survey of Financial Literacy among MSME Managers in Sarajevo Canton

MSME managers in Sarajevo Canton exhibit significantly better financial behaviour compared to the general adult population in B&H, globally, and in OECD countries, particularly in areas such as short-term money management, active saving, comparing financial products, seeking advice, monitoring financial transactions, and setting long-term financial goals, Figure 10. Their advantage is especially notable in setting long-term financial goals and seeking advice when making decisions about financial products, where their behaviour significantly exceeds, and in some cases even doubles, the performance of other groups. On the other hand, the adult population in B&H has an advantage in thoughtful purchasing, while both the B&H and Global averages perform better in borrowing to make ends meet and paying bills on time.



Figure 10. Reported forms of financial behaviour



Source: (1) OECD/INFE 2023 International Survey of Adult Financial Literacy (OECD, 2023); (2) UNSA 2022 Survey of Adult Financial Literacy in Bosnia and Herzegovina (Zaimović et al., 2025a); (3) UNSA 2023 Survey of Financial Literacy among MSME Managers in Sarajevo Canton

2.2.4. Financial Attitudes

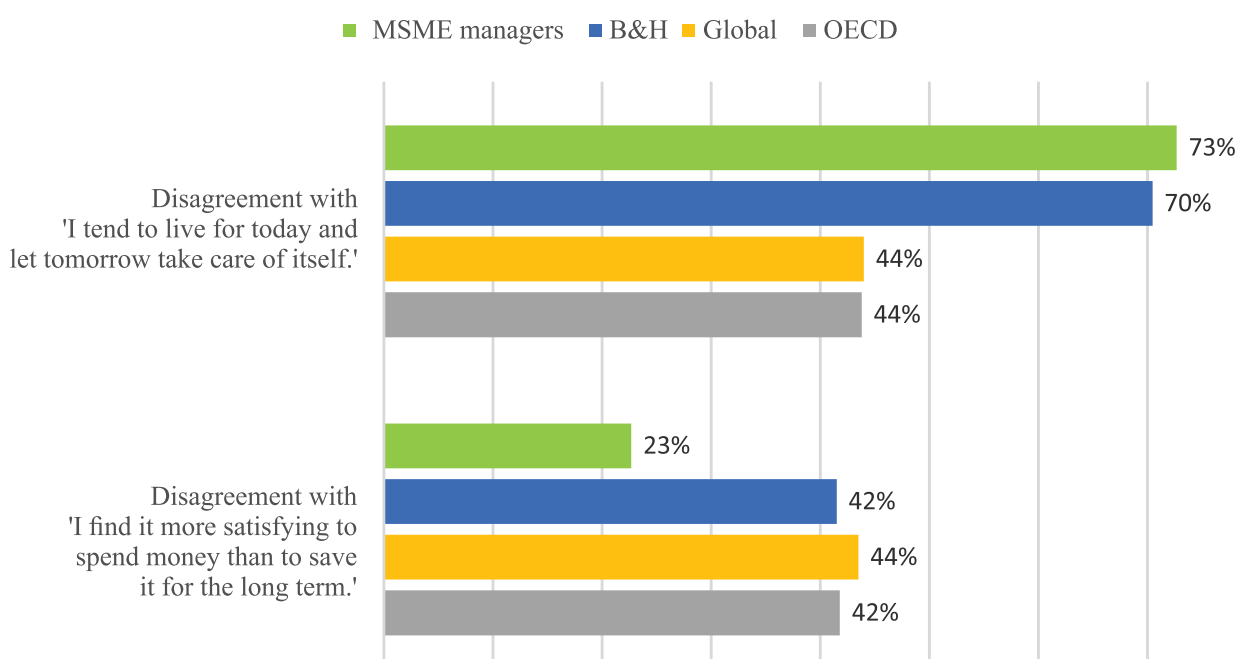
Positive financial attitudes support long-term thinking and saving, and play a key role in financial decision-making and behaviour. The average financial attitudes score of the surveyed MSME managers is 63 on a 0-100 scale.



In the study, financial attitudes were assessed based on two statements according to the OECD/INFE methodology (OECD, 2022), Figure 11. Disagreement with the given statements is interpreted as an indicator of positive financial attitudes.

The surveyed MSME managers disagree to a significantly smaller extent with the statement that spending money brings more satisfaction than saving it for the future, compared to adults in B&H, globally, and in OECD countries, showing the weakest performance in this aspect of financial attitudes. On the other hand, MSME managers demonstrate long-term thinking and perform best regarding the tendency to live for today and let tomorrow take care of itself, with 73% of MSME managers disagreeing with this statement.

Figure 11. Reported financial attitudes



Source: (1) OECD/INFE 2023 International Survey of Adult Financial Literacy (OECD, 2023); (2) UNSA 2022 Survey of Adult Financial Literacy in Bosnia and Herzegovina (Zaimović et al., 2025a); (3) UNSA 2023 Survey of Financial Literacy among MSME Managers in Sarajevo Canton

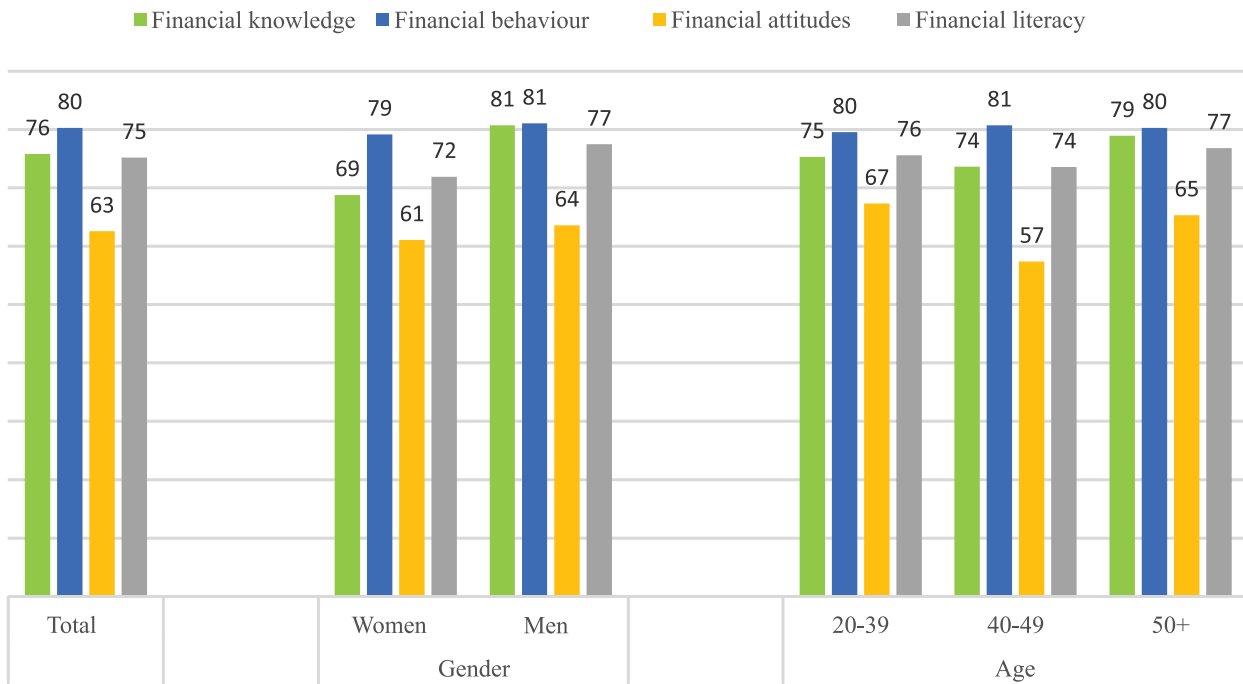
2.2.5. Financial Literacy by Demographic and Firmographic Characteristics

The financial literacy score of surveyed MSME managers varies according to demographic and firmographic characteristics. Scores were analysed with respect to gender, age, educational level, and years of managerial experience, as well as the company's sector, size, export orientation, ownership structure, and use of loans and credits, all expressed on a 0-100 scale.

The high average financial literacy score of MSME managers in the Sarajevo Canton of 75 points, is primarily the result of strong financial behaviour and high financial knowledge, and to a lesser extent, proficient financial attitudes. Scores in financial attitudes are notably lower, at 63 on a 0-100 scale, Figure 12. Men achieve a higher financial literacy score, 77, compared to women, 72, indicating gender differences in the financial literacy of surveyed MSME managers in favour of men, which are particularly pronounced in financial knowledge.



Figure 12. Average financial literacy scores of MSME managers (0-100) by gender and age



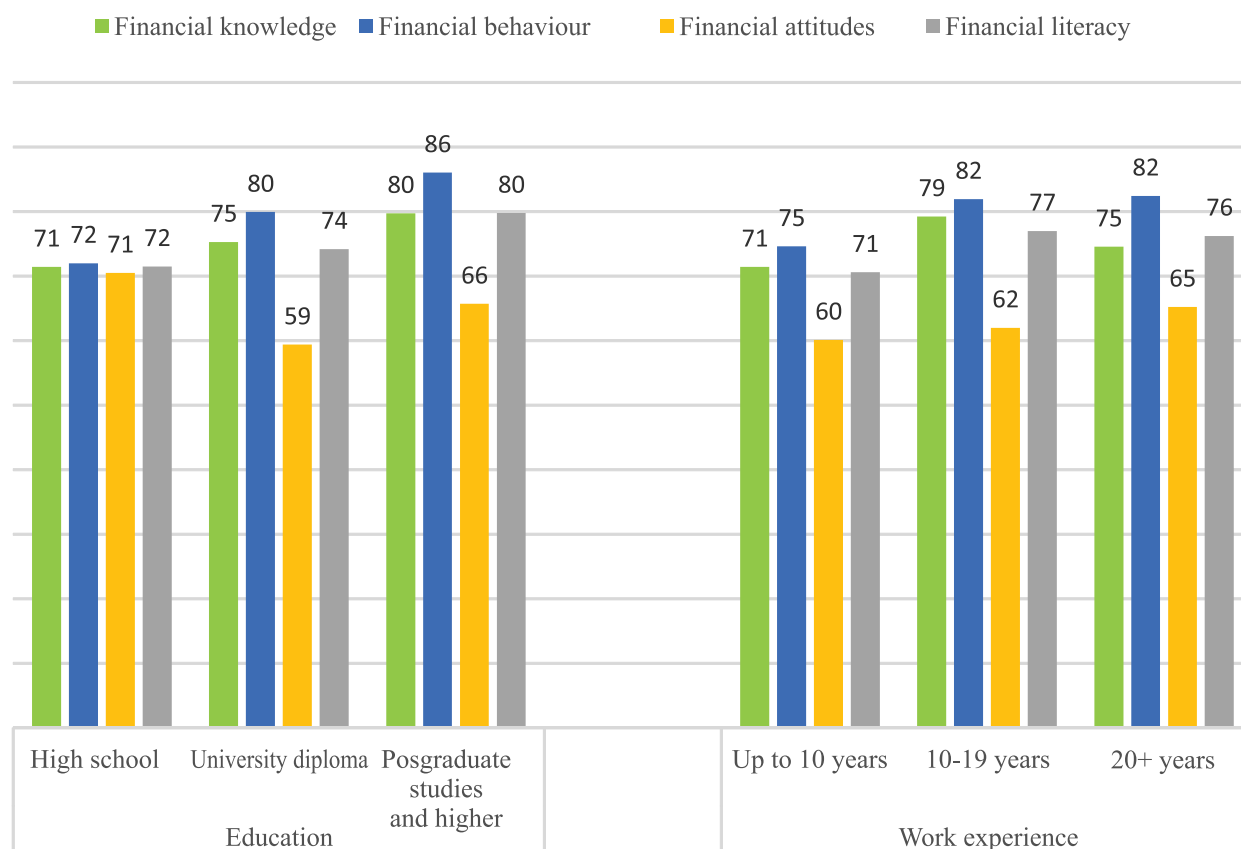
Source: UNSA 2023 Survey of Financial Literacy among MSME Managers in Sarajevo Canton

In terms of age and educational background, the highest financial literacy is observed among MSME managers over 50 years old, with an average score of 77, Figure 12, and those with postgraduate education, with an average score of 80, Figure 13. The lowest scores are recorded for managers aged 40-49, at 74, and those with only high school education, at 72. These results suggest that, in terms of age, the average financial literacy scores among the observed groups indicate that older managers, due to their greater experience and education, possess higher financial knowledge and more developed financial skills. In contrast, younger managers, although less experienced, demonstrate greater willingness to adopt new financial practices and technologies and exhibit stronger financial attitudes.

The highest financial literacy scores are achieved by MSME managers with 10-19 years of managerial experience, averaging 77, highlighting the importance of accumulated experience in developing financial skills and knowledge, Figure 13. Conversely, the lowest scores are observed among managers with less than 10 years of experience, averaging 71, which may reflect limited exposure to complex financial decisions and practices, and generally lower financial knowledge.



Figure 13. Average financial literacy scores of MSME managers (0-100) by education level and years of managerial experience



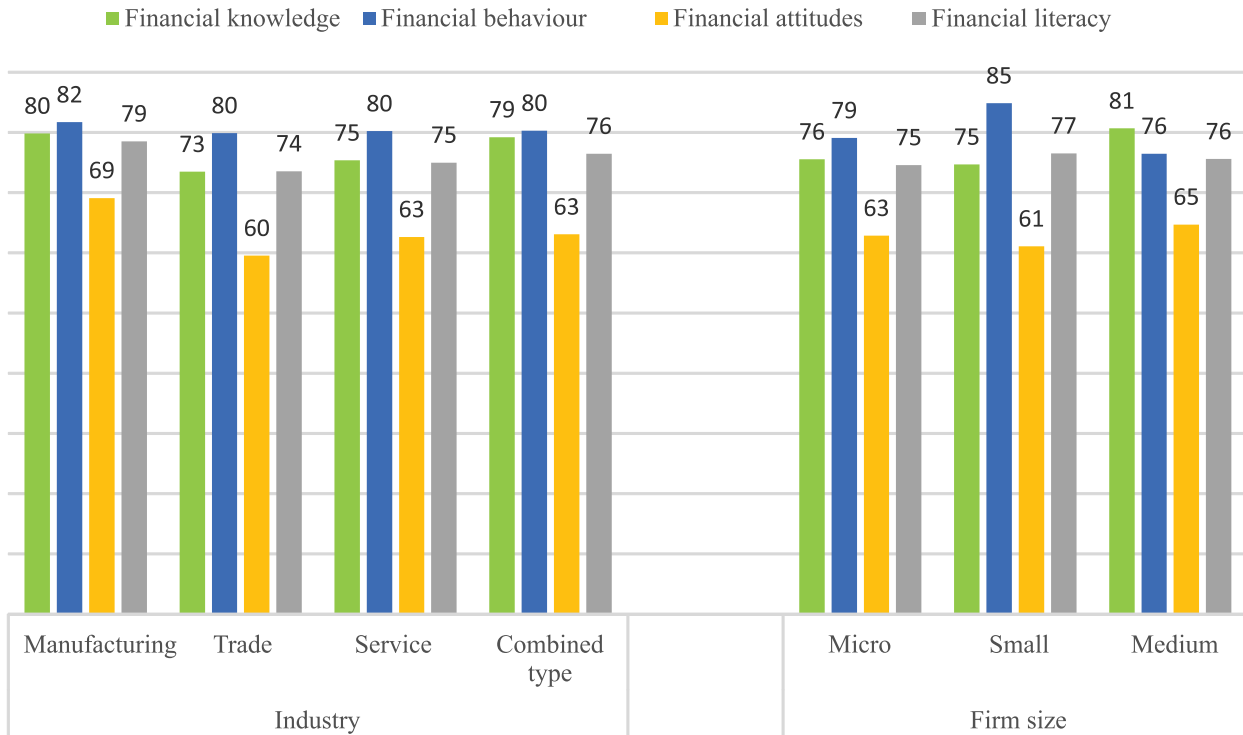
Note: Postgraduate and higher education levels – master’s, PhD, specialization

Source: UNSA 2023 Survey of Financial Literacy among MSME Managers in Sarajevo Canton

When it comes to the industries, MSME managers in the manufacturing industry have the highest average financial literacy score, 79, while managers in the trade industry show the lowest level of financial literacy, 74, Figure 14. Managers in the manufacturing industry also stand out with the highest scores in the components of financial knowledge, behaviour, and attitudes, suggesting that the complexity of financial decision-making in this sector is positively associated with the development of comprehensive financial skills. In terms of the firm size, the surveyed MSME managers achieve fairly consistent results. Managers of small firms stand out with an average financial behaviour score of 85, which is one of the highest individual scores among all analysed groups (only managers with postgraduate studies and higher education levels have a higher score, 86).



Figure 14. Average financial literacy scores of MSME managers (0-100) by industry and firm size



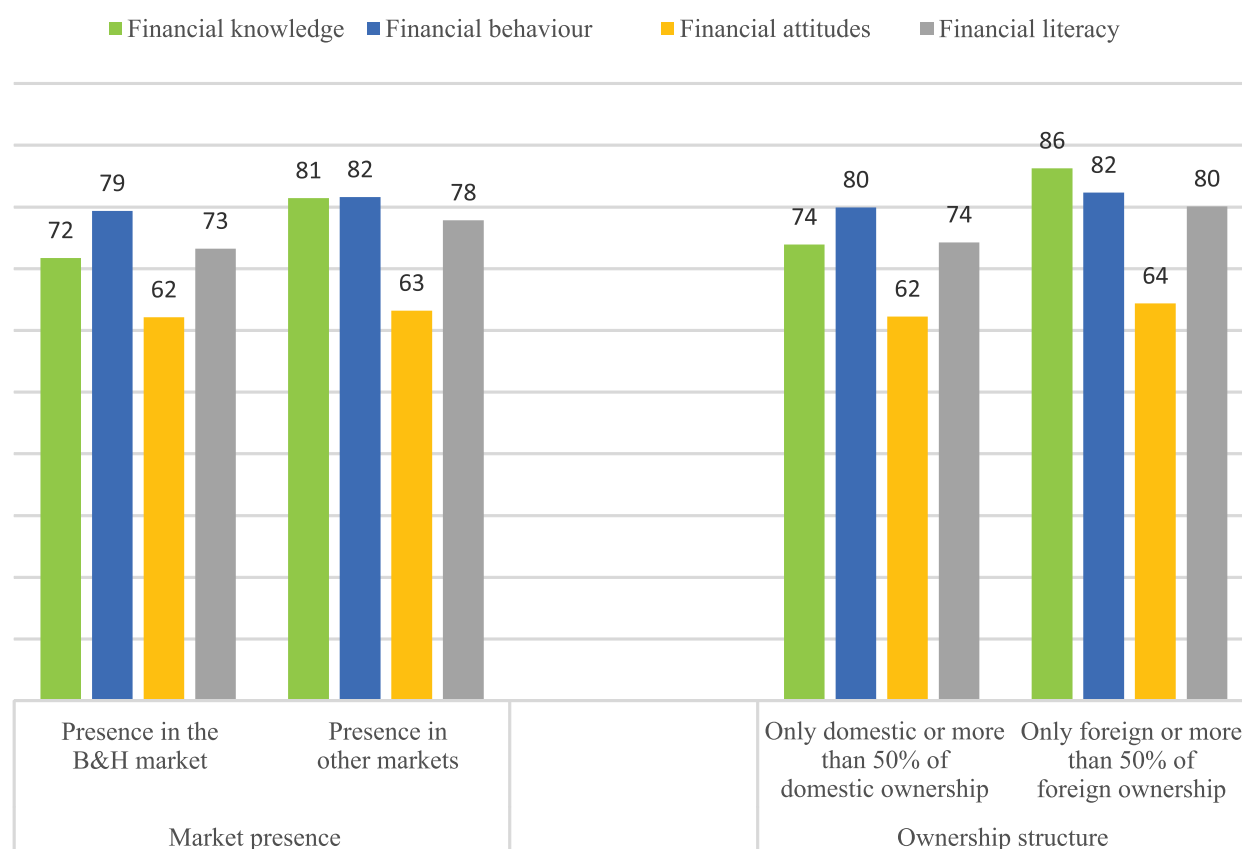
Source: UNSA 2023 Survey of Financial Literacy among MSME Managers in Sarajevo Canton

Managers of firms that operate in foreign markets in addition to the Bosnian market achieve a higher average overall financial literacy score, 78, compared to managers of firms that operate exclusively in the Bosnian market, 73, Figure 15. In addition, managers from firms with a presence in foreign markets perform better across all components of financial literacy, financial knowledge, behaviour, and attitudes, with the advantage in financial knowledge being the most pronounced. These findings indicate that exposure to foreign markets, along with more complex business demands and access to a wider range of financial tools, may contribute to the development of more comprehensive financial skills among managers.

Furthermore, managers of firms in foreign ownership or with more than 50% foreign ownership achieve a higher financial literacy score, 80, compared to managers of firms that are domestically owned or have more than 50% of domestic ownership, 74. These results suggest that the presence of foreign capital may be positively associated with the level of financial literacy among managers, due to greater exposure to global financial practices, various tools, and approaches to financial management, which contributes to the development of their financial skills.



Figure 15. Average financial literacy scores of MSME managers (0-100) by market presence and ownership structure

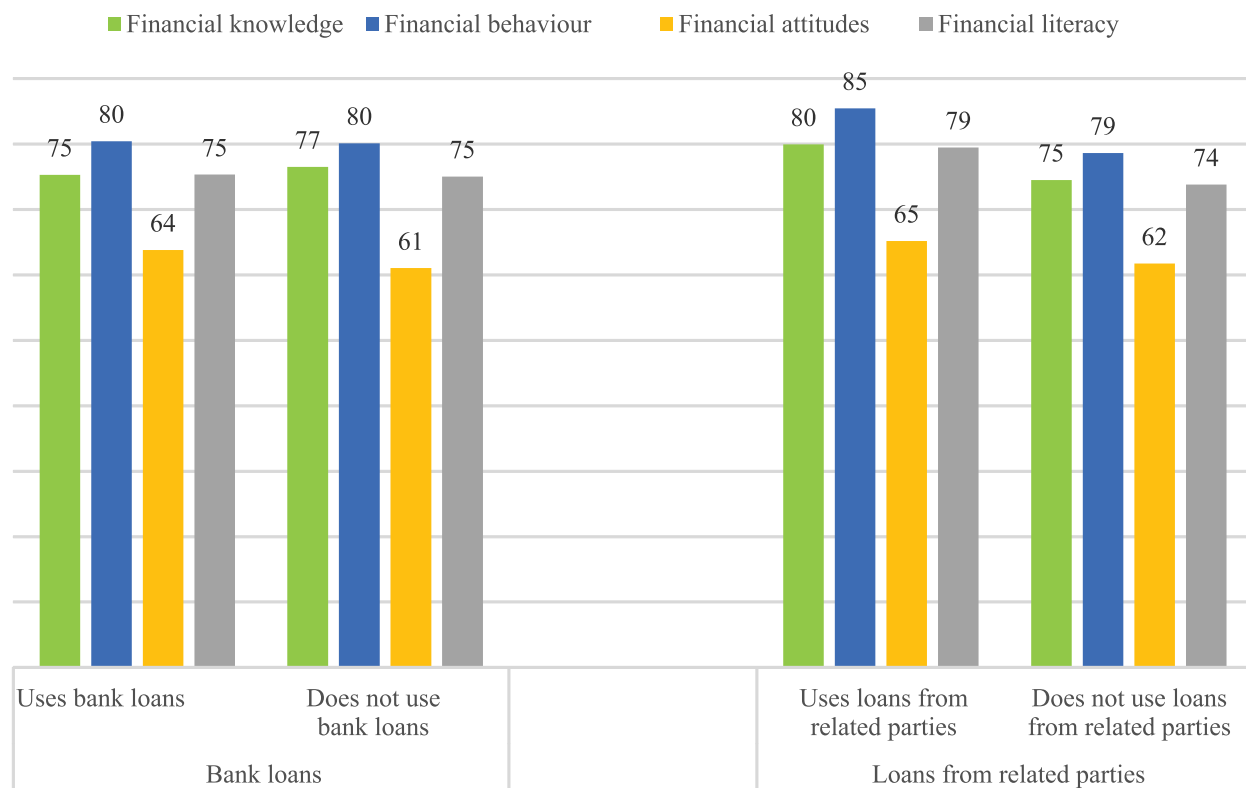


Source: UNSA 2023 Survey of Financial Literacy among MSME Managers in Sarajevo Canton

From the standpoint of firms' use of bank loans, the financial literacy scores achieved by surveyed MSME managers in Sarajevo Canton are fairly consistent, Figure 16. However, when it comes to the use of loans from related legal entities and individuals, managers from firms that use these loans show a higher level of overall financial literacy compared to managers from firms that do not use them, 79 versus 74, as well as higher levels in all components of financial literacy, particularly financial knowledge and sound financial behaviour. Relying on loans from related parties allows firms to secure necessary financing with less uncertainty, greater control over contractual terms, and improved financial risk management. The financial literacy of managers may be positively associated with the use of these financing sources, and the effects warrant further investigation.



Figure 16. Average financial literacy scores of MSME managers (0-100) by use of bank loans and loans from related parties



Source: UNSA 2023 Survey of Financial Literacy among MSME Managers in Sarajevo Canton

The highest average financial literacy scores are achieved by surveyed MSME managers with postgraduate education and higher levels of formal education, as well as MSME managers of firms with foreign ownership, both scoring 80. In terms of financial behaviour, MSME managers with postgraduate and higher education attain the highest average score, 86. Financial knowledge is highest among MSME managers in firms with foreign ownership, 86, and among men, 81, while the most favourable financial attitudes are found among MSME managers with high school education, 71. The results indicate that strong financial attitudes partly compensate for the lack of financial knowledge in certain groups, such as managers with high school education.

The lowest financial literacy scores are recorded among surveyed MSME managers with up to 10 years of managerial experience, 71, as well as among female managers, 72, and managers with high school education, also 72. Financial knowledge is lowest among female managers, 69, financial behaviour is lowest among MSME managers with high school education, 72, and financial attitudes are lowest among managers aged 40-49, scoring 57.

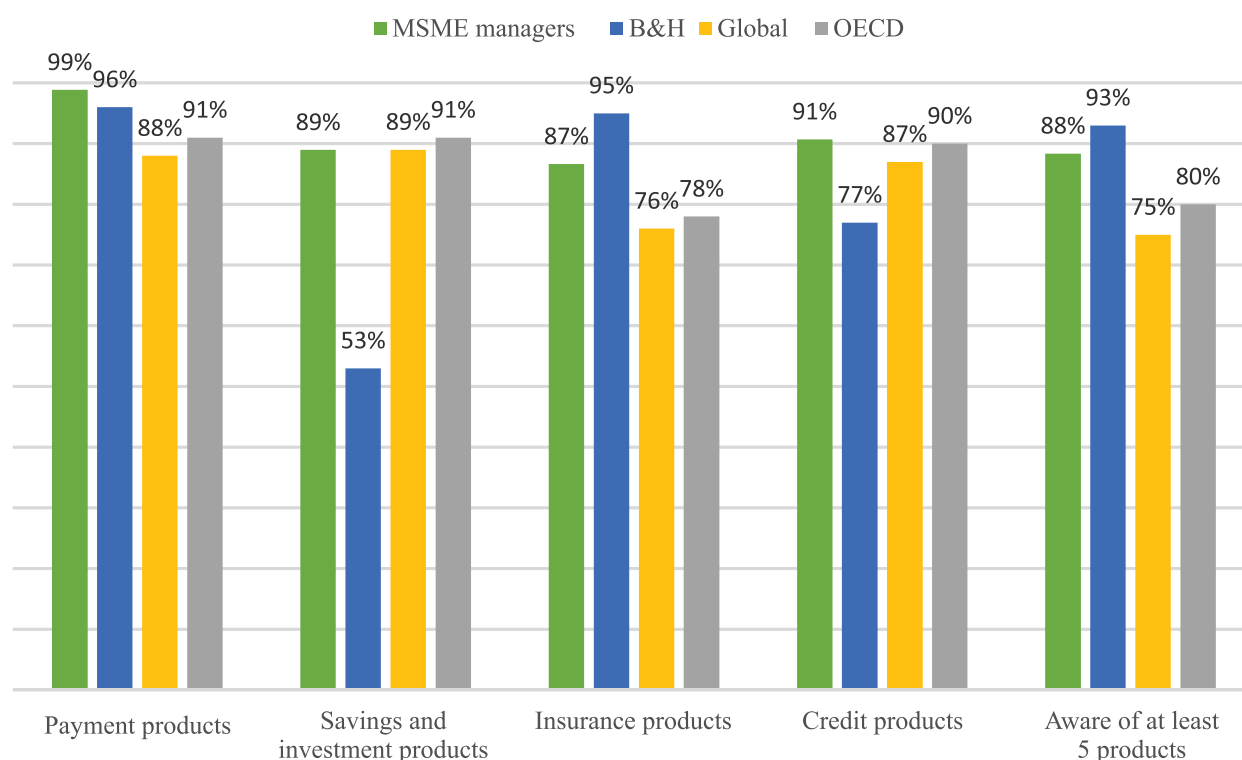
2.2.6. Use of Financial Products

Financial literacy is positively associated with financial inclusion and the use of financial products. The research results show that surveyed MSME managers in Sarajevo Canton have a high awareness of the existence of financial products, Figure 17. This high level of awareness suggests that managers recognize the importance of financial products as key tools for managing the financial aspects of their enterprises. It indicates potential for further development of their financial skills, particularly regarding the proper selection and use of these products in business operations.



On average, 88% of MSME managers have heard of at least five financial products. Furthermore, 99% of managers are aware of at least one payment product, and 91% of them are aware of at least one credit product, placing the surveyed MSME managers in Sarajevo Canton at the very top compared to the observed averages. Compared to the general population in B&H, the surveyed MSME managers are significantly more aware of the existence of savings and investment products.

Figure 17. Awareness of at least one product from the categories of payments, savings and investments, insurance, and credit products (percentage of MSME managers and adults)

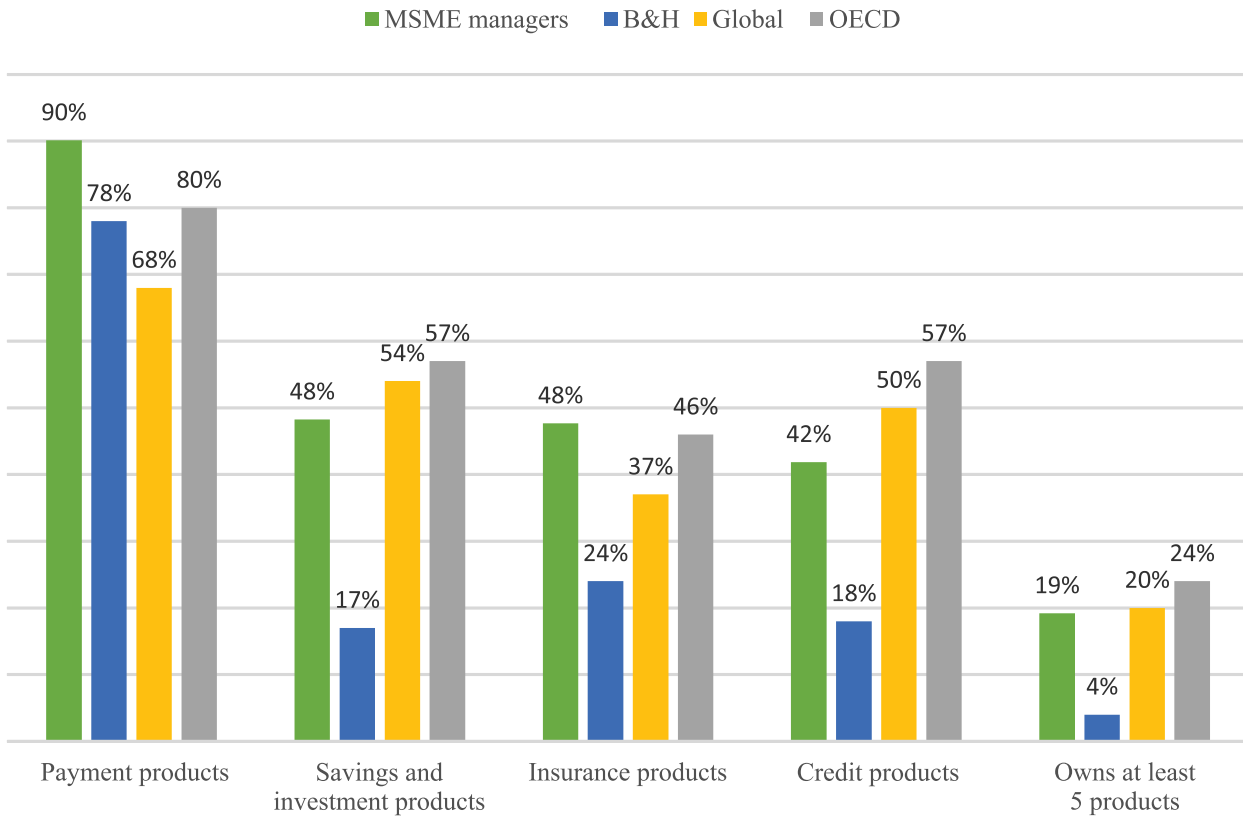


Source: (1) OECD/INFE 2023 International Survey of Adult Financial Literacy (OECD, 2023); (2) UNSA 2022 Survey of Adult Financial Literacy in Bosnia and Herzegovina (Zaimović et al., 2025a); (3) UNSA 2023 Survey of Financial Literacy among MSME Managers in Sarajevo Canton

Despite high awareness of the existence of financial products, only 48% of surveyed MSME managers own a savings or investment product or an insurance product, while 42% own a credit product, Figure 18. These results indicate that, although the importance of financial products is recognized, there is significant room for improvement in their practical application and utilization. Moreover, these percentages are well below the Global average and the OECD average for the general adult population, suggesting a need for further education and support in financial planning and management.



Figure 18. Ownership of at least one product from the categories of payments, savings and investments, insurance, and credit products (percentage of MSME managers and adults)

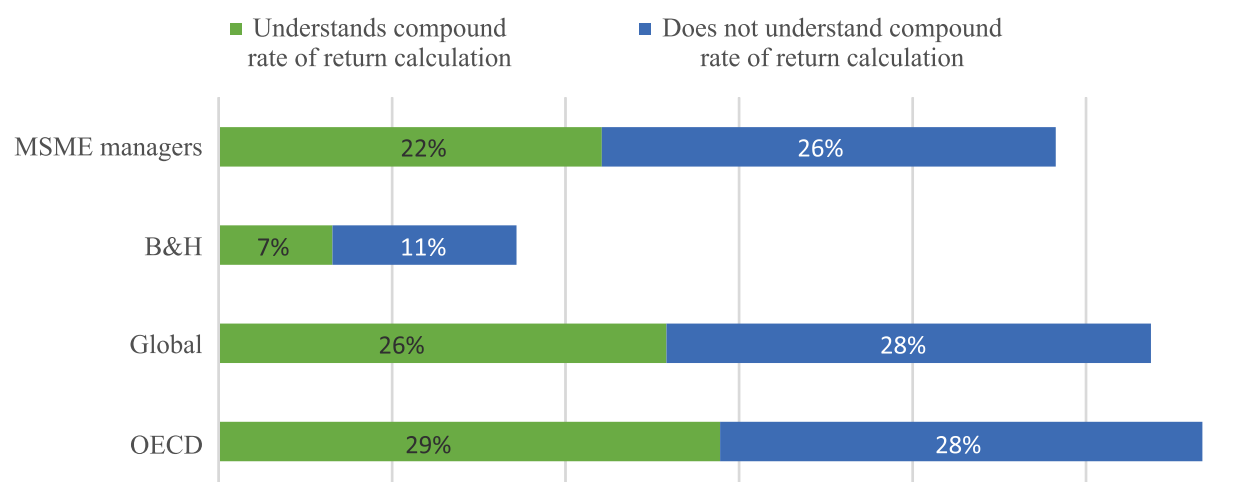


Source: (1) OECD/INFE 2023 International Survey of Adult Financial Literacy (OECD, 2023); (2) UNSA 2022 Survey of Adult Financial Literacy in Bosnia and Herzegovina (Zaimović et al., 2025a); (3) UNSA 2023 Survey of Financial Literacy among MSME Managers in Sarajevo Canton

The relationship between ownership of financial products and the level of understanding provides important insights for decision-makers and policymakers. These data can help assess whether individuals using various types of financial products possess sufficient financial knowledge to use them effectively and make informed decisions. The percentage of adults and surveyed managers who own a savings product in relation to their understanding of compound rate of return is shown in Figure 19. On average, 22% of managers who own a savings product understand compound rate of return, while 26% do not grasp this financial concept. Although these figures are below the Global and OECD averages, MSME managers are considerably above the general adult population in B&H in terms of both the use of savings products and understanding of the compound rate of return concept.



Figure 19. Percentage of individuals holding a savings product, by understanding of compound rate of return



Source: (1) OECD/INFE 2023 International Survey of Adult Financial Literacy (OECD, 2023); (2) UNSA 2022 Survey of Adult Financial Literacy in Bosnia and Herzegovina (Zaimović et al., 2025a); (3) UNSA 2023 Survey of Financial Literacy among MSME Managers in Sarajevo Canton

2.2.7. Recommendations

1. Develop programs and make resources available which are tailored to the needs and requirements of different sectors of activity to targetedly improve the financial literacy of MSME managers.
2. Organize educational programs to increase MSME managers' financial literacy, particularly regarding attitudes toward spending and saving, given that the general adult population performs better than MSME managers in the financial attitudes segment. Additionally, it is recommended to investigate differences in financial attitudes between the general population and MSME managers to gain a better understanding of these issues.
3. Create a program to help MSME managers better manage their finances and pay bills on time, considering the noticeable difference in timely bill payment between the general population in B&H and MSME managers.
4. Work on reducing the gender gap in financial literacy among managers through programs targeting women's education on financial concepts and best practices.
5. Provide special educational programs for MSME managers with high school education to improve their financial literacy and enhance their financial knowledge and behaviour.
6. Organize training and programs to enhance financial literacy for MSME managers with less than 10 years of managerial experience to ensure better financial management.
7. Encourage domestic firms to enter international markets, as MSME managers operating internationally acquire knowledge and develop skills in international business practices that contribute to their financial literacy and understanding of global financial opportunities, with positive effects on firm performance.

2.3. Measuring Digital Financial Literacy among MSME Managers in Sarajevo Canton

- The average digital financial literacy score of surveyed MSME managers in Sarajevo Canton is 58.41 on a 0-100 scale, which is 13.85 points higher than the average score of the general adult population in B&H.
- The digital financial knowledge score of surveyed MSME managers in Sarajevo Canton is 16.57 out of a possible 30 points, the digital financial behaviour score is 23.87 out of 40 points, and the digital financial attitudes score is 17.96 out of 30 points. Except for the digital financial behaviour score, MSME managers achieve higher scores than the general adult population in B&H across all other aspects.
- 38% of surveyed MSME managers in Sarajevo Canton reach the minimum target level of digital financial literacy, scoring 70 points or higher.
- The highest digital financial literacy in the sample is observed among MSME managers of firms with combined type of industry, while the lowest scores are recorded for managers in the manufacturing industry.
- In terms of the perception of public Wi-Fi security, surveyed MSME managers in Sarajevo Canton engage more in online purchases and demonstrate greater awareness and caution regarding the security of these transactions compared to the general adult population in B&H.

2.3.1. Digital Financial Literacy

The digital financial literacy of MSME managers in Sarajevo Canton was measured using the OECD/INFE 2022 methodology, which, for the first time, addresses and introduces a methodological framework for digital financial literacy (OECD, 2022).

Digital financial literacy is derived from three components (OECD, 2022):

- Digital financial knowledge (scored from 0 to 3),
- Digital financial behaviour (scored from 0 to 4),
- Digital financial attitudes (scored from 0 to 3).

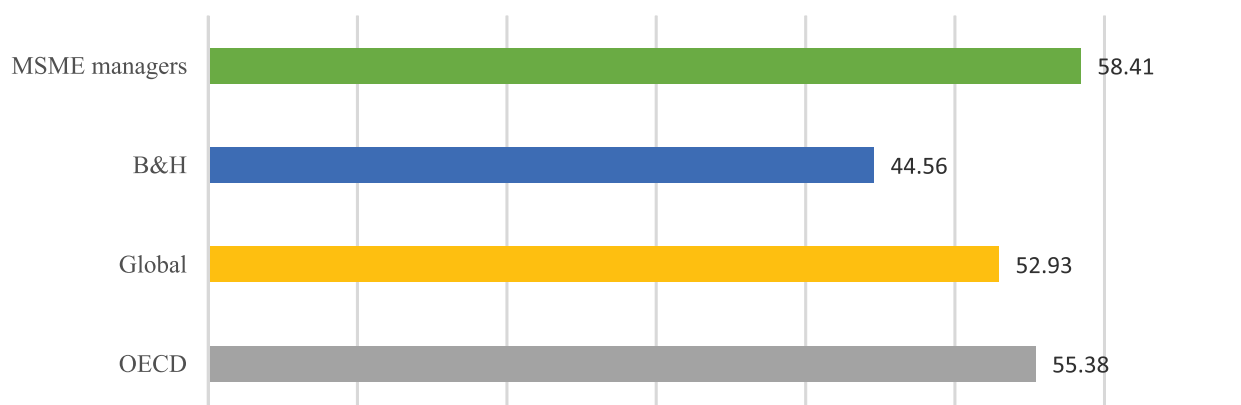
Knowledge is assessed as the number of correct answers to three questions measuring understanding of digital contracts, use of personal data, and crypto-currencies. Behaviour and attitudes are evaluated as the number of savvy digital behaviours and attitudes, as expressed through survey statements. The overall score is calculated as the sum of these component scores and can range from 0 to 10, which is then scaled to a 0-100 range. Since the digital financial behaviour section in the MSME managers' survey includes three questions, the results were adjusted to ensure comparability with other studies, so that each question carries an equal weight in the final score, which ranges from 0 to 4.

The applied methodology for measuring the digital financial literacy of MSME managers in Sarajevo Canton allows for comparison with the digital financial literacy of the general adult population: (1) in B&H (Zaimović et al., 2025a), (2) globally, based on the average of 21 countries from Europe, Asia, and Latin America (OECD, 2023), and (3) with the OECD country average (OECD, 2023).



Surveyed MSME managers in Sarajevo Canton achieved an average digital financial literacy score of 58.41 on a 0-100 scale, Figure 20. This result is significantly higher, by 13.85 points, compared to the average score of the adult population in B&H. Furthermore, MSME managers also perform better across all individual components of digital financial literacy, Table 2. When compared with results from the OECD/INFE study (OECD, 2023), the average digital financial literacy score of MSME managers in Sarajevo Canton exceeds the Global and OECD country averages.

Figure 20. Average digital financial literacy score of MSME managers and general adult population



Source: (1) OECD/INFE 2023 International Survey of Adult Financial Literacy (OECD, 2023); (2) UNSA 2022 Survey of Adult Financial Literacy in Bosnia and Herzegovina (Zaimović et al., 2025a); (3) UNSA 2023 Survey of Financial Literacy among MSME Managers in Sarajevo Canton

Table 2. Average digital financial literacy score by components

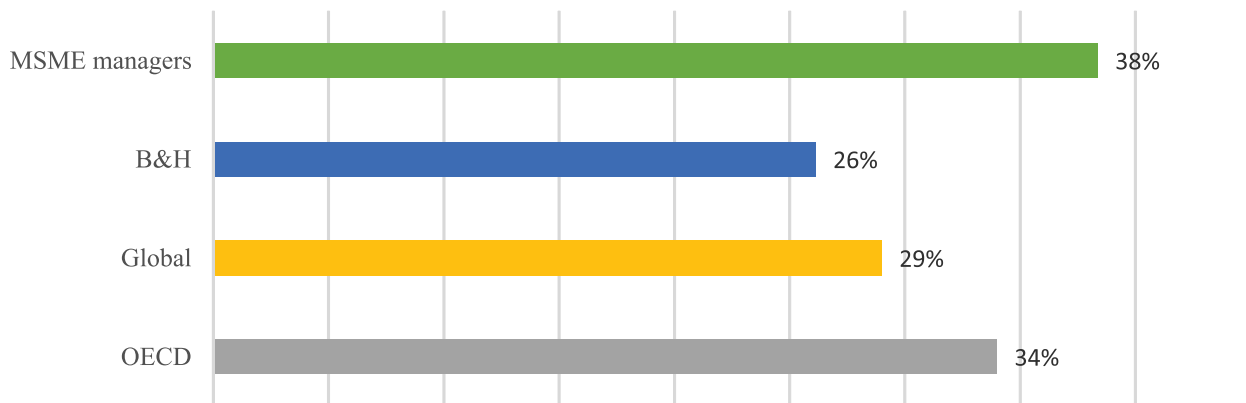
Score	MSME managers in Sarajevo Canton	B&H
Digital financial literacy (0-100)	58.41	44.56
Digital financial knowledge (0-30)	16.57	10.77
Digital financial behaviour (0-40)	23.87	21.43
Digital financial attitudes (0-30)	17.96	12.36

Source: (1) UNSA 2022 Survey of Adult Financial Literacy in Bosnia and Herzegovina (Zaimović et al., 2025a); (2) UNSA 2023 Survey of Financial Literacy among MSME Managers in Sarajevo Canton

The results show that 38% of surveyed MSME managers achieve a digital financial literacy score of 70 out of 100, which is significantly above the average for the adult population in B&H, Figure 21. Additionally, surveyed MSME managers in Sarajevo Canton perform better in targeted digital financial literacy compared to the Global and OECD averages. However, the results remain far below the desired level needed to enable MSME managers to make successful financial decisions in a digital environment.



Figure 21. Percentage of MSME managers and adults achieving the target digital financial literacy score



Source: (1) OECD/INFE 2023 International Survey of Adult Financial Literacy (OECD, 2023); (2) UNSA 2022 Survey of Adult Financial Literacy in Bosnia and Herzegovina (Zaimović et al., 2025a); (3) UNSA 2023 Survey of Financial Literacy among MSME Managers in Sarajevo Canton

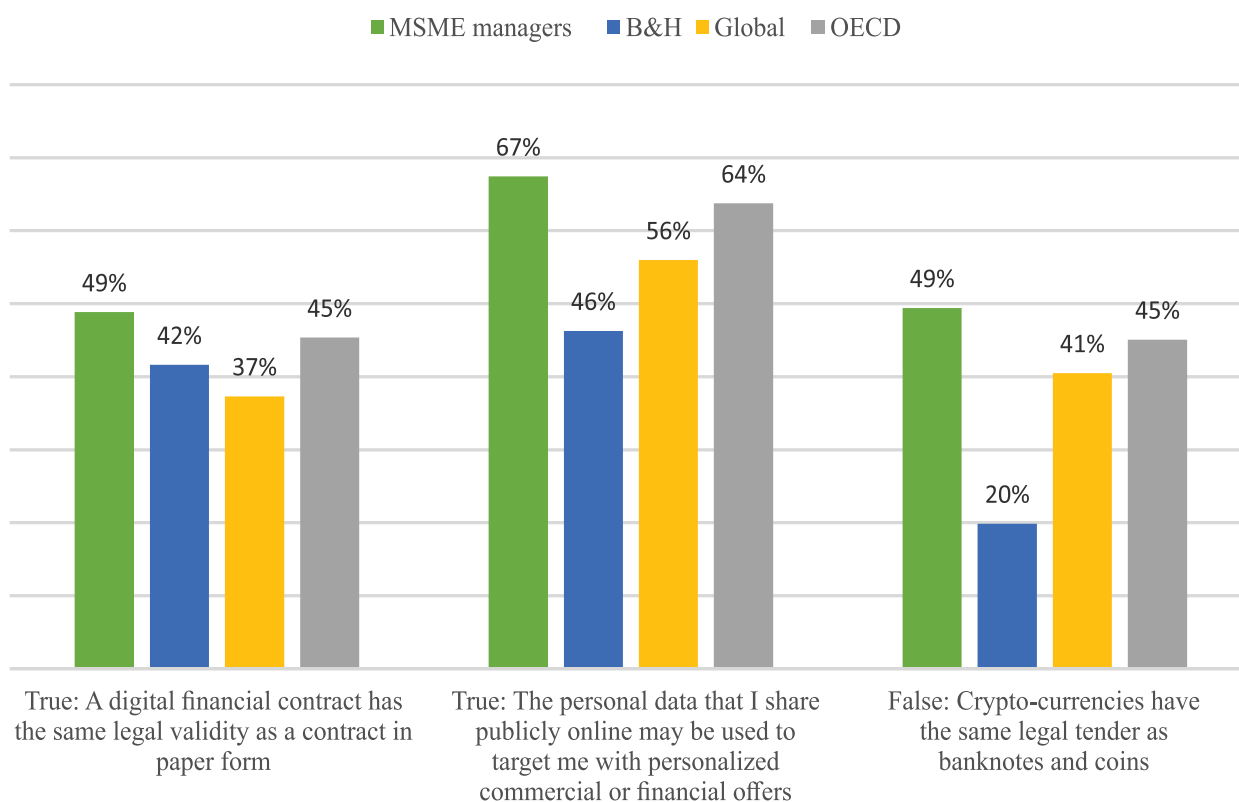
2.3.2. Digital Financial Knowledge

The digital financial knowledge score of surveyed MSME managers in Sarajevo Canton is 16.57 out of a maximum of 30 points, significantly surpassing the average score of the general population in B&H, which is 10.77 points. On a 0-100 scale, the average digital financial knowledge score of the surveyed MSME managers is 55.

Figure 22 shows the percentages of correct answers by managers on three questions related to digital financial knowledge. The analysis indicates that surveyed MSME managers outperform other averages. The largest difference in the percentage of correct answers between managers and the adult population in B&H is observed on questions related to crypto-currencies, while the smallest difference is on questions concerning the legal validity of digital financial contracts.



Figure 22. Percentage of MSME managers and adults who answered the digital financial knowledge questions correctly



Source: (1) OECD/INFE 2023 International Survey of Adult Financial Literacy (OECD, 2023); (2) UNSA 2022 Survey of Adult Financial Literacy in Bosnia and Herzegovina (Zaimović et al., 2025a); (3) UNSA 2023 Survey of Financial Literacy among MSME Managers in Sarajevo Canton

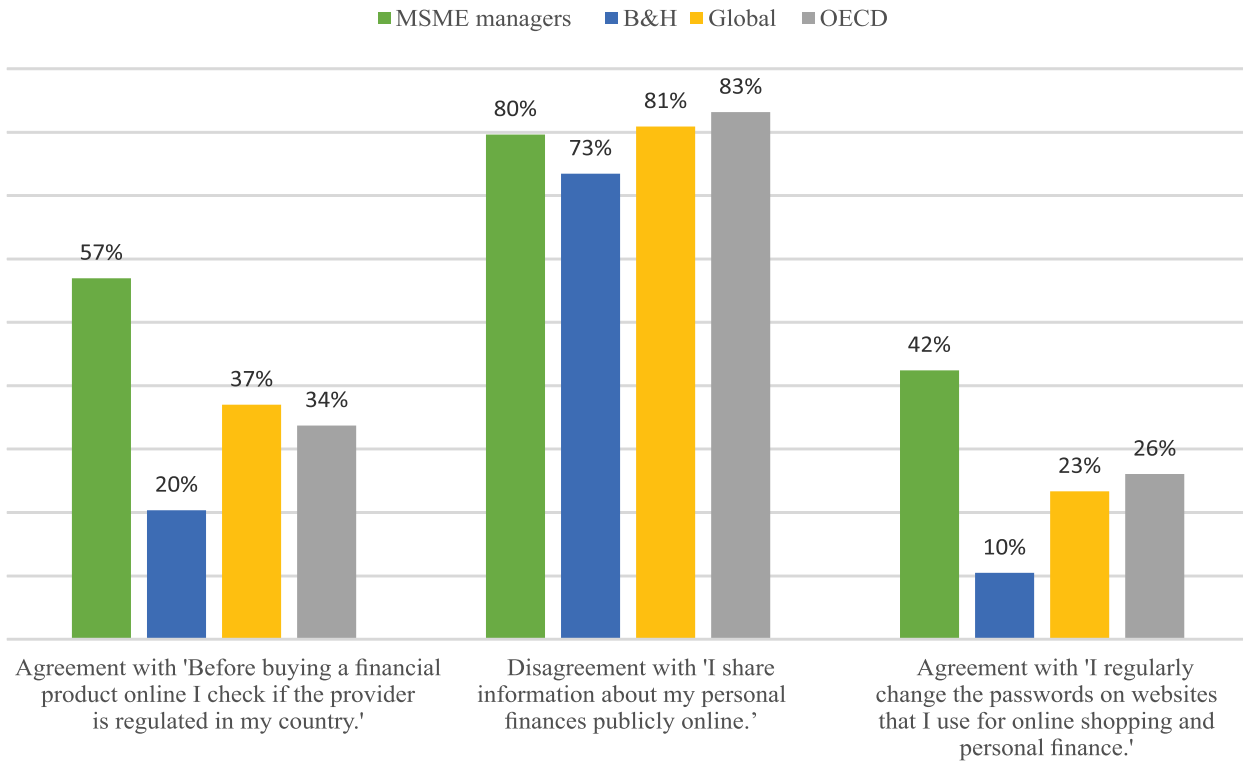
2.3.3. Digital Financial Behaviour

The digital financial behaviour score of surveyed MSME managers in Sarajevo Canton is 23.87 out of a maximum of 40 points, slightly higher than the average score of the general population in B&H, which is 21.43 points. On a 0-100 scale, the average digital financial behaviour score of the surveyed MSME managers is 60.

Figure 23 presents the results of correct answers to three key questions on digital financial behaviour among adults and surveyed MSME managers. The analysis shows that the majority of managers, 57%, check the regulatory status of providers before making online purchases of financial products, which is a positive indicator. Furthermore, 80% of surveyed MSME managers report that they do not share information about their personal finances online, a higher proportion compared to the general adult population in B&H. MSME managers in Sarajevo Canton demonstrate significantly greater awareness of the importance of regularly changing passwords on websites used for online shopping and personal finance, compared to the general population. This practice places them above the average for the adult population in B&H, as well as above the Global and OECD averages.



Figure 23. Percentage of MSME managers and adults who answered the digital financial behaviour questions correctly



Source: (1) OECD/INFE 2023 International Survey of Adult Financial Literacy (OECD, 2023); (2) UNSA 2022 Survey of Adult Financial Literacy in Bosnia and Herzegovina (Zaimović et al., 2025a); (3) UNSA 2023 Survey of Financial Literacy among MSME Managers in Sarajevo Canton

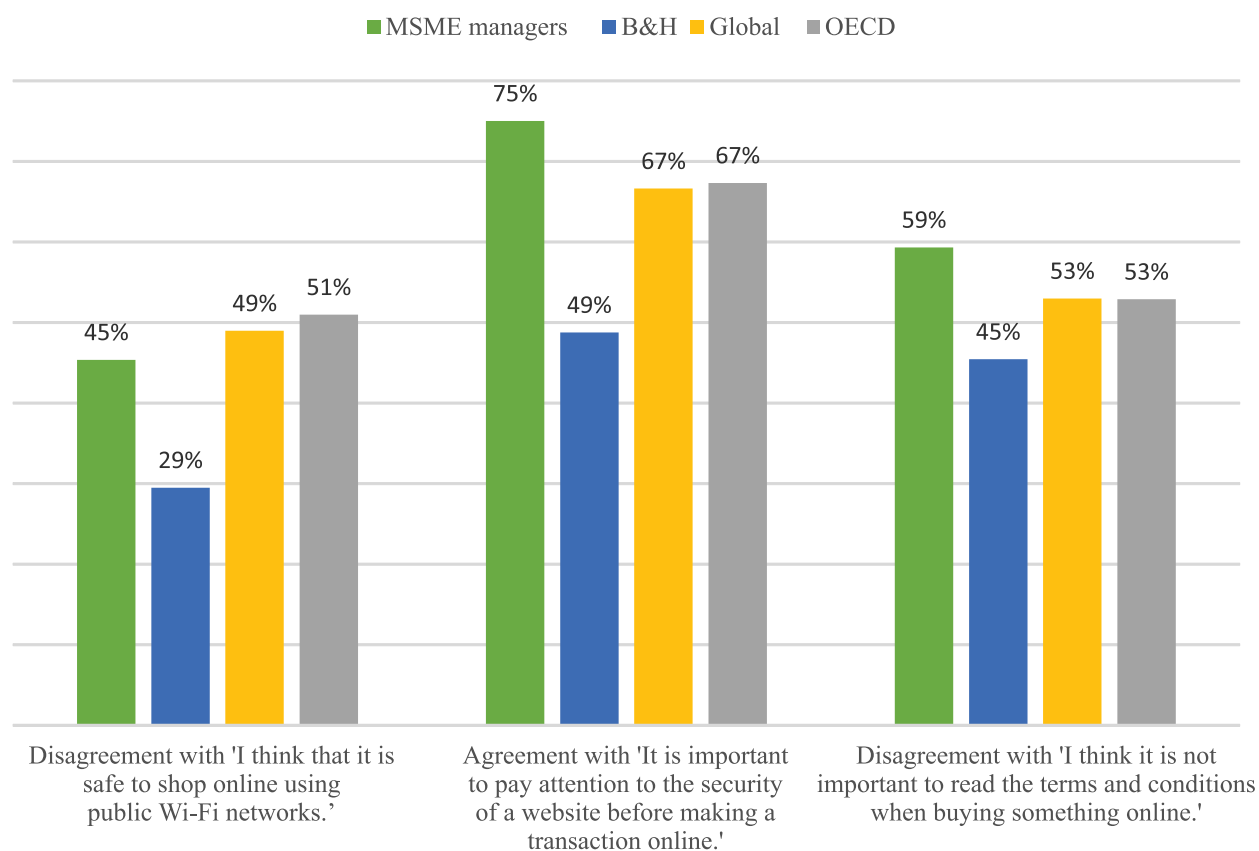
2.3.4. Digital Financial Attitudes

The digital financial attitudes score of surveyed MSME managers in Sarajevo Canton is 17.96 out of a maximum of 30 points, significantly higher than the average score of adults in B&H, which is 12.36 points. On a 0-100 scale, the average digital financial attitudes score of the surveyed MSME managers is 60.

Figure 24 presents the responses of adults and MSME managers to three key questions on digital financial attitudes. The results show that 45% of surveyed MSME managers does not consider purchases over public Wi-Fi networks safe, a higher proportion compared to the general adult population in B&H, where the percentage is 29%. Furthermore, a significant share of surveyed MSME managers, 75%, agree that it is necessary to check the security of a website before making online transactions. This result places the surveyed MSME managers above the average for the adult population in B&H, as well as above the Global and OECD averages.



Figure 24. Percentage of MSME managers and adults who answered the digital financial attitudes questions correctly

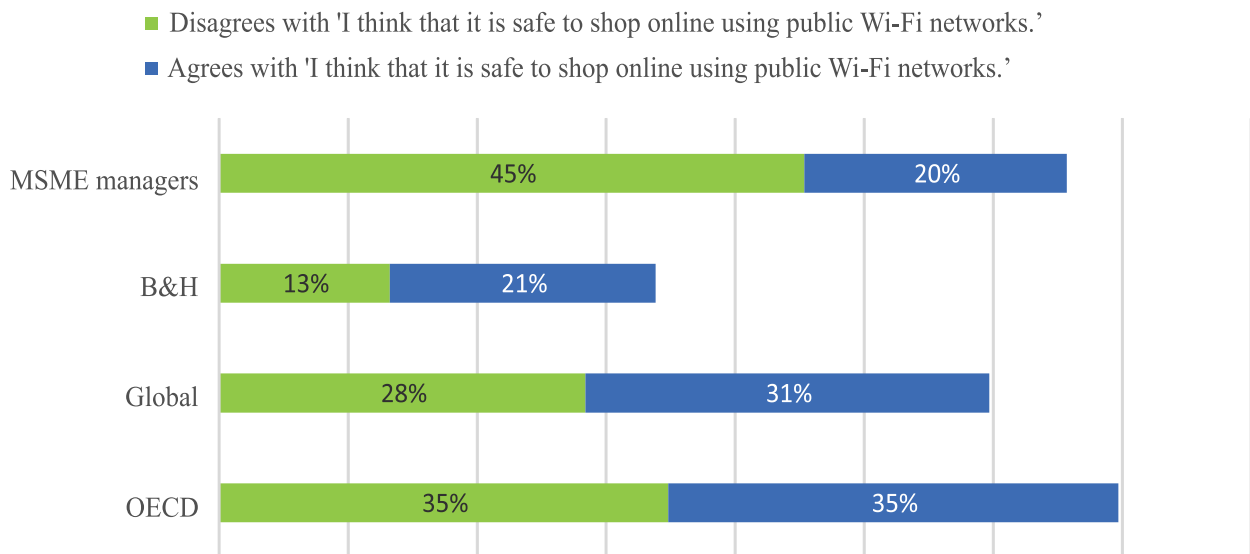


Source: (1) OECD/INFE 2023 International Survey of Adult Financial Literacy (OECD, 2023); (2) UNSA 2022 Survey of Adult Financial Literacy in Bosnia and Herzegovina (Zaimović et al., 2025a); (3) UNSA 2023 Survey of Financial Literacy among MSME Managers in Sarajevo Canton

Regarding the percentage of surveyed MSME managers in Sarajevo Canton who make online purchases, taking into account their perception of public Wi-Fi security, the results show that 45% of managers who shop online consider it unsafe to use public Wi-Fi networks for online transactions, Figure 25. This indicates an awareness of security risks, such as cyberattacks. Compared to adults in OECD countries, surveyed MSME managers in Sarajevo Canton shop online less frequently by the perceived safety of public Wi-Fi networks, but they demonstrate a higher level of awareness regarding the security aspects of online transactions. Relative to the Global average and the adult population in B&H, surveyed MSME managers in Sarajevo Canton use online shopping more frequently while also showing greater caution toward security risks. These results highlight positive online shopping practices that should be further supported and enhanced through education and information on security measures and best practices for safe internet use.



Figure 25. Percentage of MSME managers and adults who make online purchases, by perception of public Wi-Fi security



Source: (1) OECD/INFE 2023 International Survey of Adult Financial Literacy (OECD, 2023); (2) UNSA 2022 Survey of Adult Financial Literacy in Bosnia and Herzegovina (Zaimović et al., 2025a); (3) UNSA 2023 Survey of Financial Literacy among MSME Managers in Sarajevo Canton

2.3.5. Digital Financial Literacy by Demographic and Firmographic Characteristics

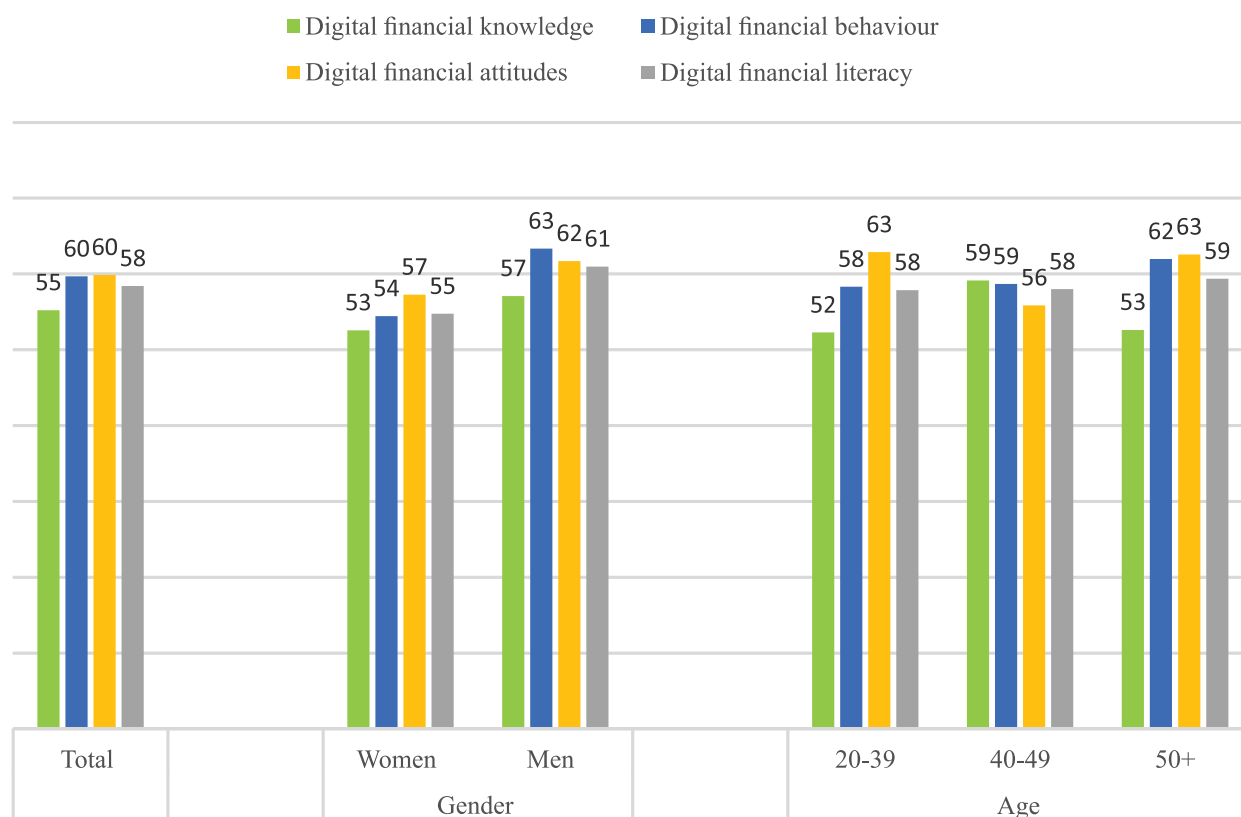
The digital financial literacy score and its components vary according to the demographic and firmographic characteristics of the sample, such as gender, age, education level, and years of managerial experience, as well as the firm's sector, size, export orientation, ownership structure, and use of loans and borrowings. All scores are expressed on a 0-100 scale.

The high digital financial literacy score of 58 among surveyed MSME managers in Sarajevo Canton is largely the result of proficient digital financial behaviour and attitudes, Figure 26. The results indicate a gender gap in digital financial literacy and its components among managers. Men achieved an average digital financial literacy score of 61, while the average score for women is slightly lower at 55, with the largest gap observed in digital financial knowledge. These findings highlight the need for targeted interventions and educational activities to help reduce the gender gap in digital financial literacy.

In terms of the age of surveyed MSME managers in Sarajevo Canton, the results are fairly consistent, with the youngest and oldest groups lagging in digital financial knowledge compared to the middle-aged group, 40-49 years.



Figure 26. Average digital financial literacy scores of MSME managers (0-100) by gender and age

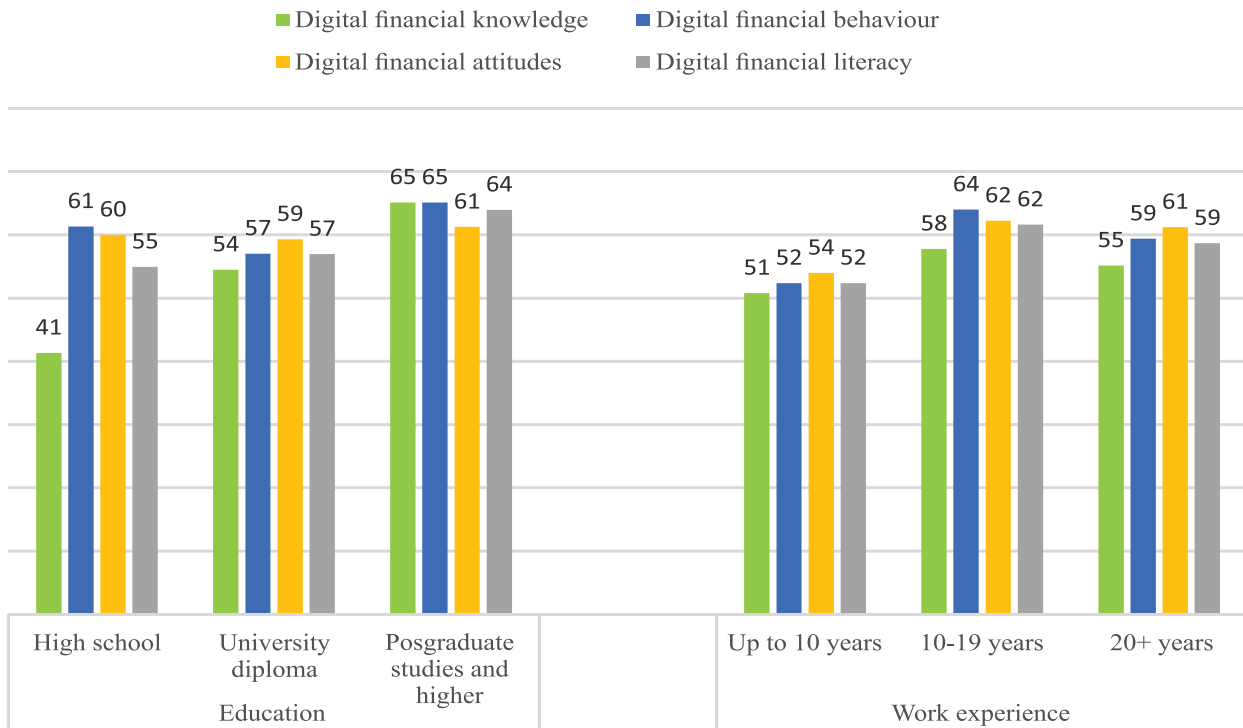


Source: UNSA 2023 Survey of Financial Literacy among MSME Managers in Sarajevo Canton

The results indicate a positive correlation between digital financial literacy and the respondents' level of formal education, Figure 27. The highest average score was achieved by managers with postgraduate and higher-level education (master's, PhD, specialization), with an average of 64. On the other hand, analysis by years of managerial experience shows that digital financial literacy is positively associated with managerial tenure, but scores tend to decline after a certain point. This pattern suggests a possible influence of factors such as technological changes or differences in adaptation to digital tools among managers with longer experience.



Figure 27. Average digital financial literacy scores of MSME managers (0-100) by formal education and years of managerial experience



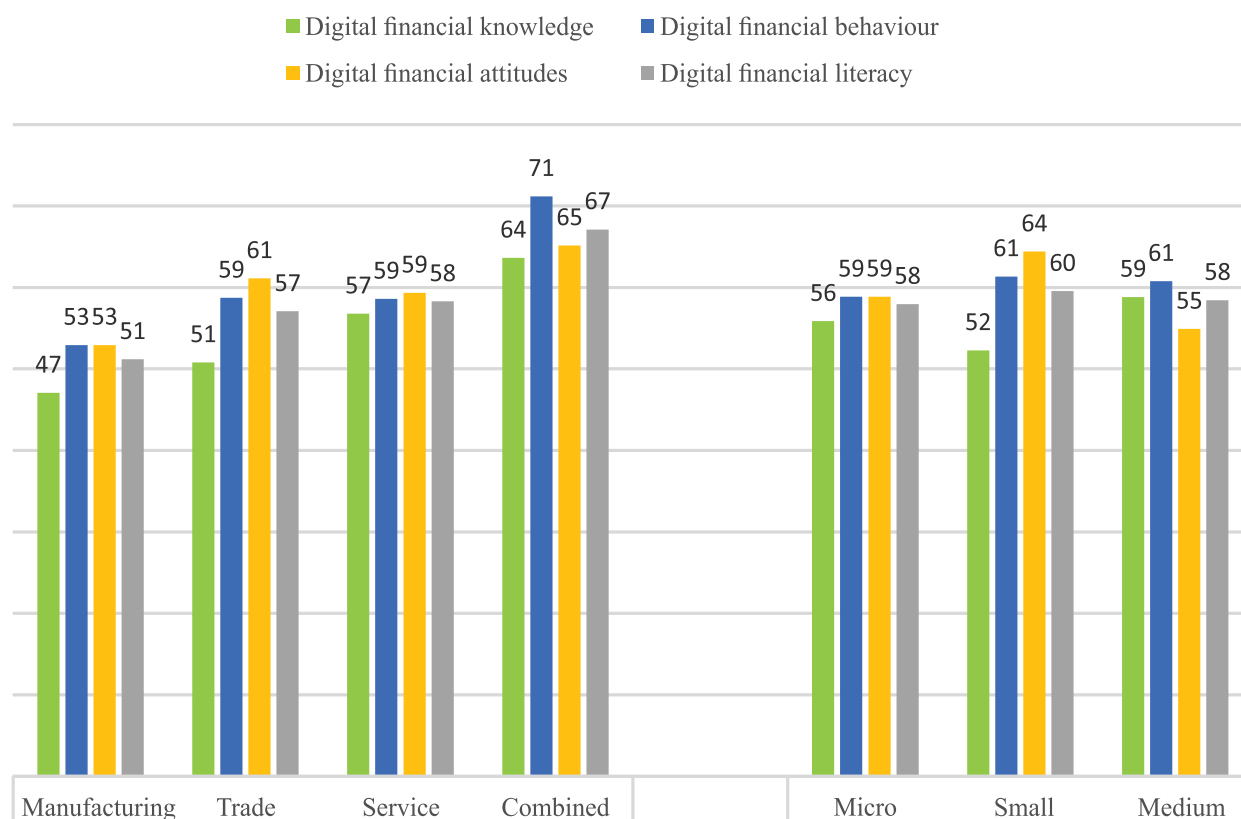
Note: Postgraduate and higher education levels – master’s, PhD, specialization

Source: UNSA 2023 Survey of Financial Literacy among MSME Managers in Sarajevo Canton

Managers of firms operating in combined type of industry achieved the highest level of digital financial literacy, with an average score of 67, Figure 28. Next are managers in the service sector, with a score of 58, followed by managers of trade companies, who achieved an average score of 57. The lowest score was recorded among managers of manufacturing firms, with an average of 51. In terms of firm size, the digital financial literacy of surveyed MSME managers is fairly consistent.



Figure 28. Average digital financial literacy scores of MSME managers (0-100) by industry and firm size

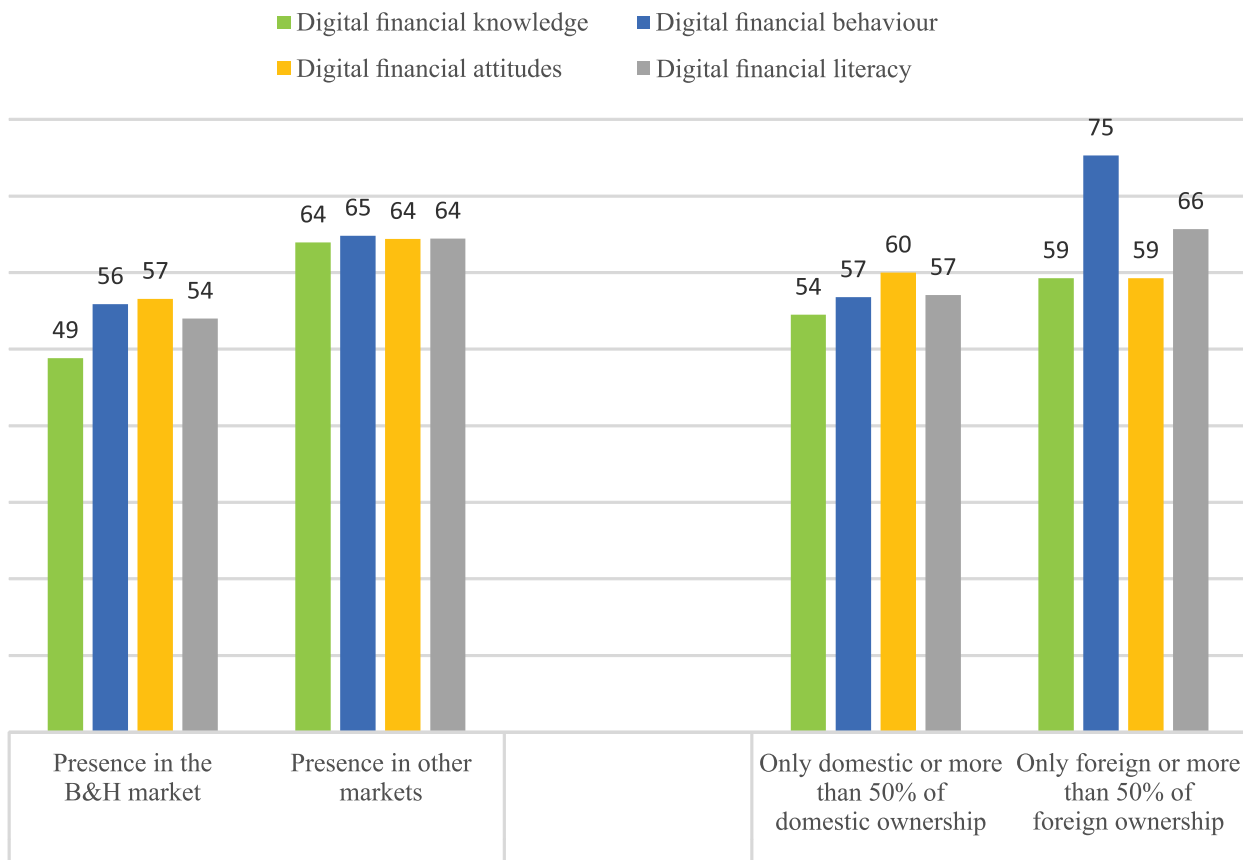


Source: UNSA 2023 Survey of Financial Literacy among MSME Managers in Sarajevo Canton

Surveyed managers of firms operating in foreign markets achieve significantly higher results in overall digital financial literacy, as well as in its aspects of digital financial behaviour, attitudes, and knowledge, compared to managers whose business activities are focused solely on domestic market, Figure 29. Additionally, managers of firms with more than 50% of foreign ownership attain higher digital financial literacy scores relative to managers of firms with exclusively domestic or predominantly (more than 50%) domestic ownership. These findings suggest that international business operations and foreign investments may be associated with the development of more advanced digital financial competencies. At the same time, the results highlight the need for additional education and support for managers operating exclusively in the domestic market and in firms with predominantly domestic capital, in order to strengthen their digital financial skills.



Figure 29. Average digital financial literacy scores of MSME managers (0-100) by market presence and ownership structure

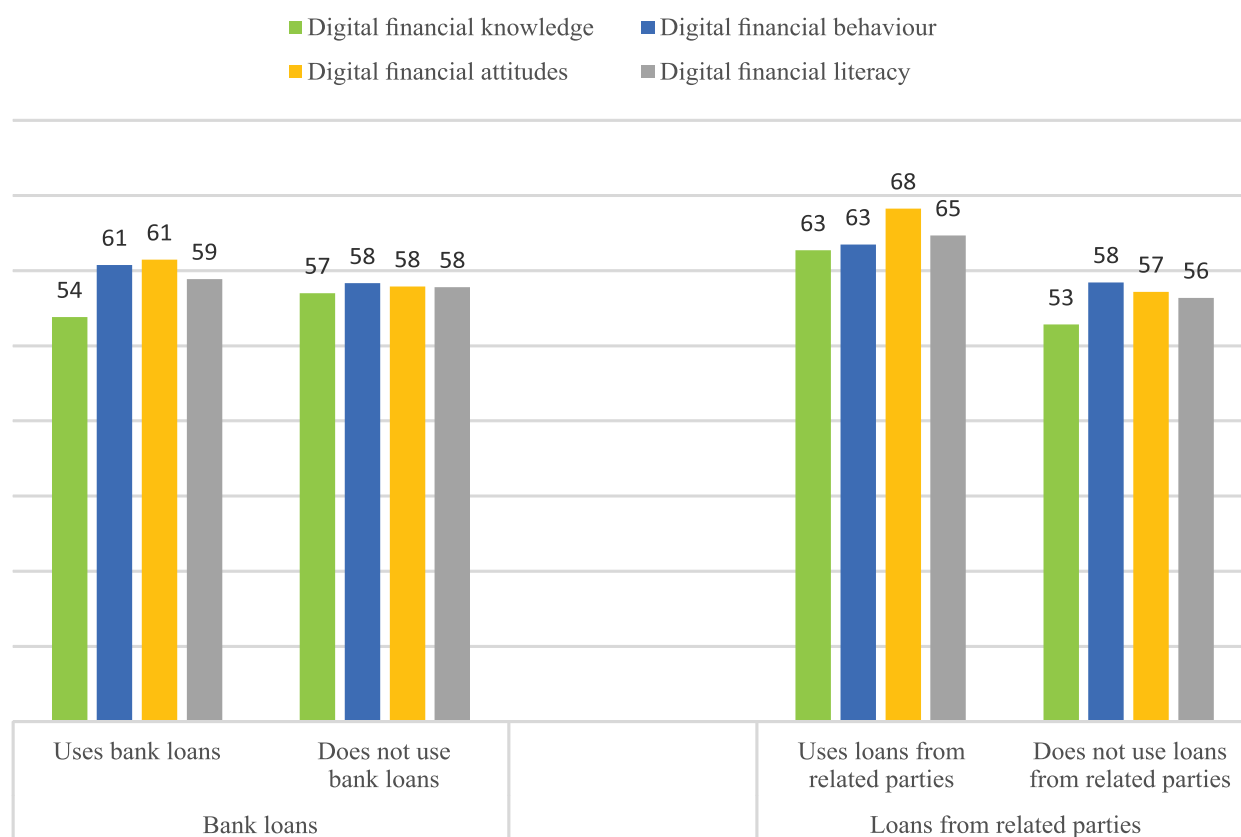


Source: UNSA 2023 Survey of Financial Literacy among MSME Managers in Sarajevo Canton

Surveyed MSME managers whose firms use bank loans show a slight advantage in digital financial literacy, behaviour, and attitudes compared to managers whose firms do not use bank loans, Figure 30. On the other hand, the differences are much more pronounced when it comes to the use of loans from related legal entities and individuals. MSME managers of firms that use such loans outperform managers of firms that do not use them, both in the overall score and across all individual digital financial literacy components. Additionally, their score on digital financial attitudes is, on average, the highest among all analysed groups.



Figure 30. Average digital financial literacy scores of MSME managers (0-100) by the use of bank loans and loans from related parties



Source: UNSA 2023 Survey of Financial Literacy among MSME Managers in Sarajevo Canton

The highest scores in digital financial literacy and digital financial behaviour, on average, are recorded among surveyed managers of firms with foreign ownership and those with combined type of industry, ranging from 64 to 75. Digital financial knowledge is, on average, highest among managers with completed postgraduate studies and higher levels of education, at 65, while digital financial attitudes are highest among managers of firms that use loans from related parties, at 68.

The lowest scores in digital financial literacy, behaviour, and attitudes are recorded among surveyed MSME managers of firms in the manufacturing industry and among those with up to 10 years of managerial experience, ranging from 51 to 54. Digital financial knowledge is lowest among MSME managers of firms in the manufacturing industry and among managers with high school as the highest level of education, ranging from 41 to 47.



2.3.6. Recommendations

1. Develop programs that will help managers better understand digital financial tools and technologies, enabling them to manage their companies' finances more efficiently.
2. Improving and strengthening legislation related to digital finance in order to protect consumers and raise awareness of the legal validity of digital contracts.
3. Promoting transparency of financial products and services online, including clearly presented information on regulation and transaction security, to ensure safe and reliable digital financial experiences.
4. Develop educational resources which cover topics such as online shopping security, understanding crypto-currencies, and the use of digital security tools, with the aim of improving and promoting digital financial literacy among managers.
5. Enhancing digital financial literacy through educational programs and information initiatives, with a focus on women, less-experienced managers, and managers with lower levels of education.
6. Strengthening the digital financial literacy of managers in manufacturing firms.
7. Supporting the exchange of knowledge between firms operating in foreign and domestic markets, and improving access to education and information on digital finance for managers.



3. Conclusions

According to the study results, surveyed managers of micro, small, and medium-sized enterprises in the Sarajevo Canton achieved higher financial literacy scores compared to the general adult population in B&H, the Global average, as well as the average of OECD member countries. Although these results are encouraging, there remains significant room for further improvement in all areas. The average financial literacy score of surveyed MSME managers in the Sarajevo Canton, calculated according to the OECD/INFE methodology (OECD, 2022), is 75.19, with 74% of managers reaching the targeted financial literacy threshold of 70 points. The conclusions of this study can assist policymakers in the development and strengthening of financial and digital financial literacy among managers.

Diversification of financial strategies: expanding access to investment and savings products

Surveyed MSME managers demonstrate a high level of understanding of basic financial concepts such as inflation, risk and return, the time value of money, and the cost of financing through loans, compared to the adult population in B&H, with an average financial knowledge score of 76 on a 0-100 scale. The largest difference between MSME managers and the general adult population in B&H is observed in the knowledge of simple and compound rate of return calculations, where managers show a significant advantage.

The study results show that MSME managers in the Sarajevo Canton most commonly keep their money in bank accounts, while a significantly smaller percentage prefer to keep cash at home or in a wallet. The largest share of managers saves through savings accounts, invests in real estate, gold, and similar assets, or uses other forms of savings such as life insurance. On the other hand, only 10% of managers purchase investment financial products, while merely 9% are inclined to invest in crypto-currencies, as a higher-risk form of investment.

Promoting long-term savings and responsible financial planning

The average financial behaviour score of surveyed MSME managers in the Sarajevo Canton is 80 on a 0-100 scale. Compared to the adult population in B&H, as well as the Global and OECD averages, MSME managers demonstrate significantly better financial behaviour, particularly in areas such as short-term cash management, active saving, comparing financial products, seeking advice, monitoring financial transactions, and setting long-term goals. The greatest advantage of MSME managers lies in setting long-term financial goals and seeking advice when making decisions regarding financial products.

Surveyed MSME managers are significantly less likely to disagree with the statement that it is more satisfying to spend money than to save it for the future, compared to the adult population in B&H, the Global average, and the OECD average, indicating weaker performance in this segment of financial attitudes. Nevertheless, MSME managers show a tendency toward long-term thinking, achieving the best results regarding the attitude that one should live for today and let tomorrow take care of itself, with 73% of them opposing this view. Overall, the average financial attitudes score of MSME managers is 63 on a 0-100 scale.



Strengthening managers' competencies for the effective use of digital financial technologies in business

Surveyed MSME managers in the Sarajevo Canton demonstrate a high level of digital financial literacy, with an average score of 58.41 on a 0-100 scale. This result is higher compared to the average for the general adult population in B&H and slightly exceeds the average score recorded globally and among OECD member countries. Additionally, 38% of managers reach the minimum digital financial literacy threshold of 70 points.

The average digital financial knowledge score of surveyed MSME managers in the Sarajevo Canton is 55 on a 0-100 scale, which is significantly higher compared to the average score of the general adult population in B&H. A detailed analysis indicates that MSME managers achieve superior results in all aspects of digital financial knowledge relative to the general adult population in B&H. The largest gap in the percentage of correct answers is observed for questions related to cryptocurrencies, while the smallest gap is found for questions regarding the legal validity of digital financial contracts. These results indicate that MSME managers in the Sarajevo Canton possess substantially more advanced digital financial knowledge compared to the average adult population. This represents a significant advantage in the modern business environment, where digital financial skills are crucial for making informed decisions and managing finances at a strategic level.

Educational programs for the safe use of digital financial products and services

Surveyed MSME managers in the Sarajevo Canton achieve a digital financial behaviour score of 60 on a 0-100 scale, which is slightly above the average for the adult population in B&H. Analysis of the results shows that MSME managers apply responsible and secure digital financial practices, including verifying the regulatory status of providers before purchasing financial products online and regularly changing passwords on websites used for online shopping and personal finance. Although their behaviour regarding the public sharing of personal financial information is above the average for the adult population in B&H, MSME managers remain slightly below the Global and OECD averages.

The average digital financial attitudes score of surveyed MSME managers in the Sarajevo Canton is 60 on a 0-100 scale, which is significantly higher compared to the average score of adults in B&H. The study results show that 45% of MSME managers who engage in online shopping consider using public Wi-Fi networks for online transactions unsafe, indicating a high level of awareness regarding security risks. Compared to the Global and B&H averages, MSME managers in the Sarajevo Canton demonstrate greater caution and awareness of security issues, although they conduct online purchases less frequently for security reasons. Additional educational programs on security measures could further enhance their skills in protecting online financial transactions.

Reducing financial literacy gaps through targeted educational programs

The study results show significant differences in financial literacy among MSME managers in the Sarajevo Canton based on various demographic and firmographic characteristics, such as gender, age, education, and managerial experience. Men achieve higher financial literacy scores than women, while managers with high school as the highest level of formal education demonstrate the



lowest level of financial literacy within the observed groups. Additionally, managers with less than 10 years of experience exhibit lower financial literacy compared to those with greater managerial experience.

The study highlights the importance of developing and implementing tailored programs to reduce gender gaps in financial literacy, with a particular focus on educating women about key financial concepts and practices. It is also essential to provide targeted educational programs for MSME managers with less than 10 years of work experience, as well as for those with high school as the highest level of education, with the aim of enhancing their financial knowledge, attitudes, and behaviour.

Supporting the development of financial literacy through tailored programs for different ownership structures and market exposures

From a business environment perspective, surveyed managers of firms operating in foreign markets exhibit higher financial literacy scores compared to those operating exclusively in the domestic market. Similarly, managers of firms with foreign capital demonstrate higher levels of financial literacy compared to managers of domestically owned firms. These findings suggest that factors such as ownership structure and exposure to foreign markets are associated with the development of managers' financial skills.

The design and implementation of training and programs aimed at improving the financial literacy of MSME managers is crucial for enhancing their financial skills and ensuring more effective financial management, which can significantly contribute to the overall productivity and sustainability of these enterprises. Furthermore, it is important to encourage domestic firms to enter international markets, as MSME managers operating globally acquire knowledge and develop skills necessary for a better understanding of international financial opportunities and practices, contributing to their professional development and higher financial literacy, with positive effects on firm performance.

Strategies for effective financial planning and management

The study results show that surveyed MSME managers in the Sarajevo Canton have a high awareness of the existence of financial products, with 88% of them being familiar with at least five financial products. This places them above the Global and OECD averages, but below the average for the general adult population in B&H. However, despite recognizing the importance of these products, only 48% of managers own savings, investment, or insurance products, and 42% use credit products. This indicates significant room for improvement in the actual use of financial products, particularly in terms of financial planning and management. Although MSME managers demonstrate good awareness and understanding of financial products, there is a need for further education and support in their practical application. Enhancing financial knowledge and strengthening financial literacy can enable more efficient use of these products, leading to better financial management and informed business decision-making.



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