

ONE-FACTOR ANALYSIS OF THE EFFECT OF FINANCIAL LITERACY ON THE ABILITY TO MANAGE BUSINESS RISKS

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Abstract

This study analyses the role of financial education in Romania in the context of the development and increasingly widespread use of artificial intelligence (AI)-based technologies in the financial and accounting sectors. Accelerated digital transformations have led to the emergence of tools for financial analysis, risk management and economic decision-making, which necessitates the adaptation of professional skills and the strengthening of financial literacy among entrepreneurs and accounting professionals. The research aims to highlight how the integration of artificial intelligence technologies influences the financial learning process, the ability to interpret economic information, and the effectiveness of managerial decisions in the Romanian business environment. The methodology employed is based on a quantitative approach, utilising methods of literature review. The data collected were analysed using descriptive and inferential statistical methods to assess the relationship between the level of financial literacy and the extent of use of digital tools based on artificial intelligence. The results of the study indicate that the use of artificial intelligence technologies contributes to increasing the efficiency of financial processes, improving the quality of economic decisions, and developing digital and financial skills. The study highlights the need to integrate financial and digital education into vocational training programmes, with a view to increasing the competitiveness and adaptability of Romania's economic environment to the demands of the European and international digital economy.

Keywords: financial literacy in business management,

JEL Classification: A22, G53, O33

1. Introduction

In recent decades, rapid technological developments have brought about significant changes in the functioning of modern economies, influencing both decision-making processes and the financial behaviour of individuals and organisations. The emergence and development of technologies based on artificial intelligence (AI) have generated significant opportunities for optimising financial and accounting activities, facilitating rapid data analysis, risk identification and improved economic performance. In this context, financial education takes on strategic importance, being considered an essential factor in developing the skills needed to adapt to the demands of the digital economy. In Romania, the level of financial education has become a subject of major interest for the academic community, financial institutions and public authorities, particularly in the context of accelerated digitalisation and the increasing complexity of financial services. The use of digital applications, financial analysis platforms and artificial intelligence-based tools requires not only technical skills but also a proper understanding of fundamental economic concepts, financial risks and fiscal responsibilities. Thus, financial education is no longer merely a basic element of vocational training, but is becoming an essential component of the development of digital and entrepreneurial skills. Furthermore, the integration of artificial intelligence into the financial and accounting sectors is driving changes in occupational structures and professional skill requirements, highlighting the need for continuous training and the adaptation of educational curricula to new economic realities. Accounting professionals, entrepreneurs and managers are required to use advanced technologies to analyse large volumes of financial data in order to make informed decisions in an economic environment characterised by uncertainty and volatility. In this context, this study aims to analyse the role of financial education in Romania in the context of the use of artificial intelligence-based technologies, highlighting their impact on professional skills, the decision-making process and organisational performance. At the same time, the research aims to contribute to the specialist literature by identifying the relationships between the level of financial education and the degree of

use of smart digital tools, offering relevant recommendations for the development of educational policies and vocational training programmes in the economic field.

2. Review of the literature

Accelerated digital transformations and the development of artificial intelligence-based technologies have significantly altered the way in which financial education is perceived and applied in the contemporary economic environment. In the literature, financial education is defined as the body of knowledge and behaviours necessary for making effective and sustainable financial decisions. In the context of the digital economy, financial literacy can no longer be achieved in isolation from digital skills and users' ability to interact with intelligent tools based on artificial intelligence. Numerous international studies highlight the fact that the use of artificial intelligence in the financial and educational sectors contributes to improving learning processes, personalising educational content and increasing the accessibility of economic information. Studies by Vandanay and colleagues (2026) emphasise that the integration of AI technologies into education facilitates the development of the analytical and digital skills required in today's economic environment. At the same time, Chaika (2025) highlights the role of digital educational tools in modernising the teaching process and increasing the effectiveness of vocational training in the economic field. Recent literature pays particular attention to the relationship between financial education and professional adaptability in a context dominated by automation and digitalisation. Rosario et al. (2025) show that new digital technologies significantly influence professional skills and individuals' ability to interpret complex economic data. Furthermore, Vesty and Gill (2024) argue that the use of smart solutions in accounting and financial management contributes to the optimisation of decision-making processes and the reduction of economic risks. In research on financial education, artificial intelligence is analysed both as an educational tool and as a key driver of changes in economic behaviour. Choudhari (2025) highlights that AI applications can improve users' ability to analyse financial information and make more effective decisions regarding saving, investing and managing financial resources. Similarly, Nazmi et al. (2024) consider that the promotion of digital and financial skills is an essential prerequisite for the effective integration of smart technologies into professional practice. Other authors have analysed the impact of artificial intelligence on organisational performance and on economic innovation processes. Alghamdi (2022) states that the implementation of AI solutions in the financial sector can lead to increased operational efficiency and the development of modern economic analysis mechanisms. Alonso (2025) argues that digital transformations require the reorganisation of educational strategies and the adaptation of university curricula to the new demands of the labour market. The specialist literature also highlights an interest in the comparative analysis of financial literacy levels across European countries. Research shows that countries with a high level of digitalisation and investment in financial education demonstrate a greater capacity to adapt to the technology-based economy. In the case of Romania, studies indicate significant differences between urban and rural areas regarding access to digital tools and the level of financial literacy. At the same time, the integration of artificial intelligence-based technologies into education is still in the process of development, which highlights the need for public policies geared towards digitalisation and the modernisation of the education system. Mursi and colleagues (2025) highlight the fact that the use of smart applications in the educational process contributes to the development of skills in analysing and solving economic problems. At the same time, Balcazar-Franco and colleagues (2026) emphasise the importance of digital literacy in strengthening young people's financial and entrepreneurial skills. Maslennik (2024) concludes that the challenges posed by digital transformation can be effectively managed through the development of interdisciplinary skills that combine financial education, technological skills and analytical thinking. An analysis of the existing literature reveals that most research focuses on the impact of artificial intelligence on the educational environment or on financial systems separately. However, there is a relatively small number of studies that directly investigate the relationship between the use of AI technologies and the level of financial education in the context

of Romania and the European Union. From this perspective, the present research aims to contribute to the development of the specialist literature by conducting a bibliometric and statistical analysis of the interdependence between artificial intelligence and financial education.

3. Research based on a statistically representative survey questionnaire

This research employs a mixed-methods approach, based predominantly on bibliometric analysis and the quantitative interpretation of scientific data collected from the specialist literature, with the aim of assessing the relationship between artificial intelligence and financial education in the context of the digital transformation of the European and Romanian economies. The choice of this methodology is justified by the emerging nature of the field under analysis and the need to identify current research trends regarding the integration of artificial intelligence-based technologies into educational and financial processes. The research aims to highlight how the international scientific literature addresses the impact of artificial intelligence on the development of financial literacy, on economic decision-making, and on the adaptation of educational systems to new digital requirements. From a methodological perspective, the study combines bibliometric analysis of scientific publications with descriptive and comparative analysis of data extracted from the Scopus database.

Research stages: the research process was structured in several successive stages, so that the analysis provides as clear a picture as possible of developments in the field under study.

Definition of research objectives and questions: in the first stage, the research objectives and main lines of analysis were established. The objectives of this study are as follows:

- identifying the main research topics in the field of artificial intelligence;
- analysing trends in the number of scientific publications between 2020 and 2026;
- identifying the economic and educational sectors in which artificial intelligence is most frequently used;
- highlighting the impact of digital technologies on the development of financial literacy;
- analysing how the specialist literature highlights the advantages and limitations of using artificial intelligence in the financial and accounting sectors.

Based on these objectives, the following research questions were formulated:

What are the main areas of research regarding the use of artificial intelligence in financial education?

To what extent does the specialist literature highlight the influence of artificial intelligence on the development of financial and digital skills?

What are the main benefits and challenges identified in the implementation of artificial intelligence in the financial and educational sectors?

How is academic interest in the relationship between financial education and artificial intelligence evolving in the European context?

Collection of bibliographic data: the data used in the research were collected from the international Scopus database, considered one of the most important academic platforms for indexing international scientific publications. The choice of this database was determined by: high academic relevance, extensive coverage of economic and educational fields, access to internationally indexed articles, and the ability to export bibliographic data in a format compatible with statistical and bibliometric analysis.

To identify relevant publications, combinations of keywords specific to the research topic were used, such as: “financial education”, “artificial intelligence”, “digital financial literacy”, “AI in accounting”, “financial technology”, “digital transformation”, “economic decision-making”, “digital competencies”.

The search for articles was carried out using the logical operators AND and OR to increase the relevance of the results obtained. An example of a query used in Scopus was: “financial education” AND “artificial intelligence” and “digital financial literacy” AND “AI”. To ensure the relevance and

scientific quality of the research, a series of selection criteria were established: the exclusive inclusion of articles published between 2020 and 2026; the selection of publications indexed in Scopus; inclusion of articles from the fields of economics, finance, accounting and education; selection of works written in English; exclusion of publications not directly related to the research topic. Following the selection process, relevant articles were identified that address the use of artificial intelligence in financial, educational and managerial processes. The selected publications are drawn from scientific journals dedicated to digitalisation and technological innovation. Bibliographic data extracted from Scopus were exported to Excel and organised into a database structured according to the following variables: authors' names, article title, year of publication, journal or conference of publication, volume and issue number, article pages, main field of research, and main topic addressed (Table 1).

Authors' names	Year of publication	Article title	Journal
Vandana, Garima, Sing.S	2026	AI-Based Predictive Modelling of Digitalisation Effects on Investment Decisions of Gen Z Investors	International Conference on Innovative Practices in Technology and Management
Chaika, Oksana	2025	Educational Policy and Reforms: the Impact of Globalisation	Book
Rosario Jorge, Pires Joana Correia, Dias Sonia, Pedro Ana Rita	2025	Exploring perceptions of health literacy, healthcare access, and utilisation among higher education students in Alentejo, Southern Portugal: A qualitative study	PLOS ONE

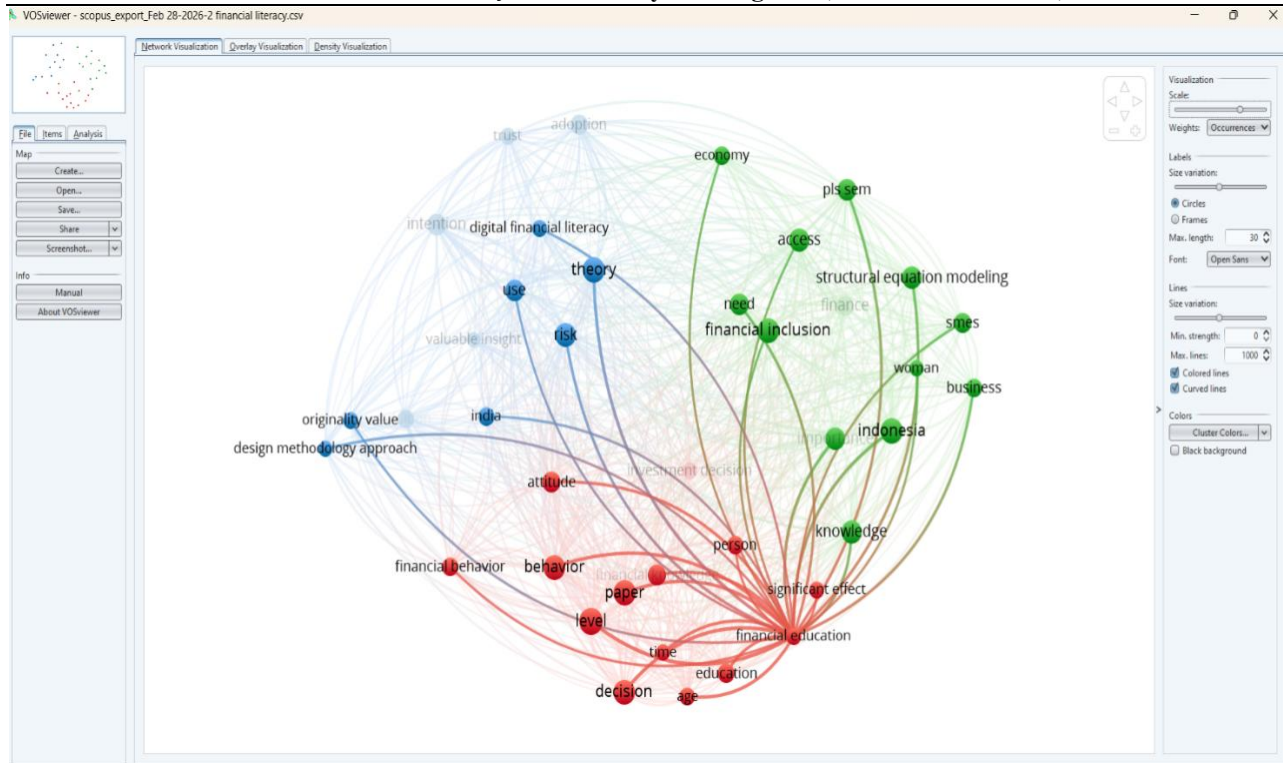
Table 1. Examples of scientific papers taken from the Scopus platform

The centralisation of data enabled a comparative analysis of the distribution of publications and the identification of the main research themes associated with artificial intelligence and financial education.

The bibliometric and statistical analysis was carried out using descriptive indicators, with the aim of highlighting the evolution of academic interest in the research topic. The following indicators were analysed in the study: the total number of publications identified; the distribution of publications by year; the types of scientific sources; and the contribution of authors and international conferences.

A comparative analysis of the topics addressed in the specialist literature reveals that the majority of studies focus on: the use of artificial intelligence in financial decision-making; the development of digital and financial skills; the use of AI tools in accounting; the automation of financial activities; the optimisation of risk management; and the personalisation of the educational process through digital technologies. During the data interpretation stage, descriptive statistical methods were used, such as frequency analysis and comparative analysis. These methods enabled the identification of the main directions for the development of the field and highlighted the relationship between digitalisation and financial education.

Figure No. 1. Analysis of a sample of papers returned in the Scopus database



The practical relevance of the research is highlighted by analysing how artificial intelligence influences financial and educational activities in the contemporary economic environment. The study reveals that technologies based on artificial intelligence contribute to: the automation of accounting and financial processes; increasing the speed of economic data analysis; the rapid identification of financial risks; the improvement of the decision-making process; the development of users' digital and financial skills; streamlining the learning process through intelligent digital platforms. The analysis of the literature also highlights the importance of integrating digital financial education into university curricula and continuing professional development, in the context of the development of the European digital economy.

The research has certain methodological limitations, arising mainly from: the use of a single international database; the relatively short period analysed; the emerging nature of the research topic; and the still limited number of publications dedicated to the relationship between artificial intelligence and financial education. Nevertheless, the results obtained provide a relevant insight into current research trends and the importance of using artificial intelligence-based technologies in the development of financial and digital skills. The methodology employed contributes to establishing an interdisciplinary perspective on the relationship between financial education and the digital transformation of the economy. Through the use of bibliometric analysis and the comparative interpretation of scientific publications, the research provides a theoretical and practical basis for the development of future studies on the impact of artificial intelligence on educational, financial and managerial processes in Romania and the European Union.

4. Results and Discussions:

The research findings highlight a significant relationship between the level of financial literacy and the extent to which artificial intelligence-based technologies are used. The correlational analysis revealed a positive association between the level of financial literacy and the frequency of use of smart digital tools. A high level of financial knowledge fosters greater openness towards the use of automated financial analysis applications, digital educational platforms and intelligent data processing technologies. The research findings confirm that artificial intelligence can be an important

factor in developing economic analysis skills and streamlining managerial activities. In a European context, the findings are consistent with current trends regarding the digitalisation of education and the development of digital financial skills. European Union member states are investing increasingly in the integration of digital technologies and artificial intelligence into educational systems and vocational training programmes, with the aim of boosting economic competitiveness and adapting the workforce to the demands of the digital economy. However, the research also highlights the existence of limitations regarding the use of artificial intelligence in financial education in Romania. Among the main difficulties are the low level of digital infrastructure in certain educational institutions, the lack of specialised training programmes, and the insufficient level of digital skills among certain categories of users. Overall, the study’s findings confirm that artificial intelligence significantly influences the development of financial education and contributes to transforming the way in which economic information is analysed and utilised. The integration of smart digital technologies into economic education represents an important opportunity to enhance professional performance, develop financial skills and strengthen the competitiveness of the Romanian economic environment within a European context.

5. Conclusions

This research has highlighted the growing importance of artificial intelligence in the development of financial education and in the transformation of economic and financial-accounting activities in Romania and the European Union. The results confirm that the integration of digital technologies based on artificial intelligence contributes to increasing the efficiency of financial processes, improving decision-making and developing the professional skills required by today’s digital economy. The study also highlights that artificial intelligence can serve as an effective tool for supporting the educational process and facilitating access to complex financial information. The use of digital platforms, automated analysis applications and intelligent data processing solutions contributes to the development of analytical skills and the strengthening of the ability to interpret economic information. At the same time, the research highlights the need to develop digital infrastructure and vocational training programmes adapted to new technological requirements. To effectively capitalise on the advantages offered by artificial intelligence, it is necessary to integrate financial and digital education into university curricula and national educational development strategies. The study’s findings also confirm the importance of strengthening digital skills among pupils, students and professionals in the economic sector, with a view to increasing competitiveness and adaptability in the labour market. Against the backdrop of accelerating digital transformation, the development of financial education supported by artificial intelligence can contribute significantly to creating a society better prepared for the challenges of the modern economy.

Financial literacy is perceived as a strategic pillar in business management and development; the responses to the questionnaire highlight an almost unanimous perception of the importance of financial education in entrepreneurial activity. This perception is all the more relevant given that a very large proportion of respondents are individuals with higher education (bachelor’s and master’s degrees) and relevant experience in business leadership and management. Respondents conclude that day-to-day decisions regarding investments, management

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