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# Artificial Intelligence in Financial Auditing: between Procedural Efficiency and Professional Reasoning

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## Abstract

*The transformation of financial auditing through digitization, big data, and artificial intelligence is one of the most important challenges and opportunities for the contemporary accounting profession. The research aims to investigate how auditors and other professionals in the field of auditing and accounting in Moldova perceive the adoption of these technologies, with a focus on the level of digital skills, anticipated benefits, and barriers associated with implementation. Based on a systematic analysis of the international literature, five research hypotheses were formulated regarding the relationship between digital readiness, familiarity with artificial intelligence tools, perception of the human-technology partnership, ethical barriers, and experience in using AI solutions. The hypotheses were tested through a questionnaire applied to a sample of 63 respondents, including active auditors registered with audit entities, as well as other audit professionals (public auditors, internal auditors, audit trainees, accountants). Data analysis revealed correlations between the theoretically derived variables and the perceptions expressed, leading to the full confirmation of four hypotheses and the partial validation of one. The results showed that, although there is a clear association between digital skills and openness to the use of AI, reservations remain regarding familiarity and full confidence in its added value.*

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*The conclusions emphasize that artificial intelligence should be perceived as a complementary tool rather than a substitute for professional judgment, thereby increasing confidence in the quality of the audit. At the same time, the research reveals that ethical risks, lack of algorithmic transparency, and the absence of a robust regulatory framework are major barriers. In this context, the article proposes a set of recommendations focused on continuous training, regulatory strengthening, technical support, and gradual implementation, with a view to the*

*sustainable digitization of financial auditing. Overall, the study provides an integrated view of how AI can transform auditing, confirming both the opportunities and the conditions for effective and responsible adoption.*

**Key words:** financial audit; artificial intelligence; professional judgment; procedural efficiency; Republic of Moldova; practical recommendations;

**JEL Classification:** M42, M41, O33, C8

## 1. Introduction

The accelerated evolution of information technologies and the scale of digital transformation have fundamentally redefined accounting and financial auditing practices (Rodgers et al., 2023). In an interconnected economic environment, characterized by exponential growth in data volume and increased requirements for transparency and accuracy in reporting, artificial intelligence (AI) is emerging as a strategic tool for the contemporary auditor. AI's ability to automate repetitive procedures, process massive transaction flows in real time (Blösser & Weihrauch, 2024), and identify abnormal patterns exceeds the limits of traditional methods and opens up the possibility of innovative approaches to planning and executing audit engagements (Hurducaci & Ionescu, 2024; Leocádio, Malheiro & Reis, 2024; Seethamraju & Hecimovic, 2023). Auditors in the digital age need a more flexible and agile mindset (Seethamraju & Hecimovic, 2023). Reluctance to embrace these advances is a critical obstacle for audit firms, calling into question their ability to remain relevant and competitive in today's business environment (Shapovalova et al., 2023).

The transformation of financial auditing in the context of digitalization is a topic that has been increasingly addressed in recent literature. Abdullah and Almaqtari (2024) emphasize that artificial intelligence and Industry 4.0 technologies have a decisive influence on audit practices, which justifies the need for research focused on how these tools shape procedural efficiency and maintain the relevance of professional reasoning.

A valuable reference framework is provided by Abdullah and Almaqtari (2024), who analyze the impact of artificial

intelligence and Industry 4.0 on the transformation of audit practices. The authors highlight both the technological benefits (accuracy, speed, transparency) and the associated challenges (ethics, security, digital skills), issues that directly intersect with the theme of the present research, which focuses on the balance between procedural efficiency and professional judgment in financial auditing. Technological advances have transformed auditing, bringing efficiency, accuracy, and procedural depth (Abu Huson et al., 2024).

However, the integration of AI does not mean replacing the auditor, but rather a profound transformation of the way in which they exercise their professional judgment. According to International Standards on Auditing (ISA), the responsibility for assessing materiality, selecting evidence, and formulating the final opinion remains eminently human. In this context, AI becomes a technological partner that enhances procedural efficiency and analytical capacity, but which only reaches its full potential when combined with the auditor's discernment, experience, and professional ethics.

Thus, Deliu (2024) highlights that AI can increase the accuracy and speed of processes, but cannot replace professional scepticism and critical thinking. In the same vein, Cosăcescu (2023) sees the relationship between the accounting expert and AI as a strategic partnership, while Lungu and Bunget (2025) emphasize the need for balanced integration, aligned ethically and normatively. Complementarily, Hurducaci and Ionescu (2024) show that real-time analysis and automatic anomaly detection solutions add value to auditing only if they are applied under rigorous professional control.

To ground the analysis from both a theoretical and an applied perspective, the present research combines two complementary approaches. The first consists of a bibliometric analysis of recent literature on the use of AI in auditing, with the aim of identifying dominant trends, research gaps, and methodological convergences. The second approach is empirical and is based on a questionnaire administered to auditors in the Republic of Moldova regarding their perception of the use of AI in auditing. The study, conducted online over a period of two months, was carried out using Google Forms and included 63 respondents from a variety of professional backgrounds: from certified auditors (50.8%) and accountants (14.3%), to representatives of the Court of Auditors - public auditors (14.3%), audit trainees (12.7%) and internal auditors (6.3%).

This dual approach allows not only the correlation of international results with national realities, but also the formulation of recommendations adapted to the legislative, technological and cultural context of the Republic of Moldova. The study thus makes a relevant contribution to understanding the balance between the procedural efficiency ensured by AI and the professional reasoning indispensable to the auditing profession, providing concrete benchmarks for the sustainable integration of intelligent technologies into financial auditing practices.

In this context, *the purpose of the research* is to investigate the perceptions of auditors and other accounting professionals in the Republic of Moldova regarding the integration of artificial intelligence in financial auditing, with a focus on digital skills, anticipated benefits, and barriers to implementation. To achieve this goal, the research pursues four main objectives: (i) identifying the level of digital skills and the degree of use of AI tools in auditing, (ii) determining the relationship between familiarity with digital technologies and perceptions of their impact on the efficiency and quality of the audit process, (iii) analyzing perceptions of the ethical, technical, and institutional barriers that condition the integration of AI in auditing, and (iv) validating the hypotheses formulated based on the specialized literature through an empirical study conducted on a sample of professionals in the Republic of Moldova.

This study is structured in five sections, including the introduction and conclusions. The second section provides an overview of the literature on the issue under analysis, the third section is devoted to the research methodology used in the study, and the fourth section presents and discusses the research results.

## **2. Review of the literature and formulation of research hypotheses**

In the literature, the transition of financial auditing to an environment dominated by Big Data and advanced analytics is described as an inevitable transformation with significant implications for audit procedures (Fedyk, 2022) and professional judgment. In this context, Appelbaum, Kogan, and Vasarhelyi (2017) outline six major research directions for adapting modern auditing: the use of predictive and prescriptive models, the integration of evidence generated from big data, comprehensive testing of transactions, the development of auditors' digital skills, the reconfiguration of the structure of audit reports, and the cost-benefit assessment of emerging technologies. These benchmarks highlight the need to develop advanced analytical skills and adapt the regulatory framework, and to promote an innovative organizational culture (Taherizadeh & Beaudry, 2023), so that the potential of innovative technologies can be harnessed without compromising the quality of professional judgment.

The bibliometric analysis conducted by Agustí & Orta-Pérez (2023) identifies several emerging fronts in research on Big Data and AI in auditing and accounting: interdisciplinary collaboration, fraud detection, optimization of procedures by increasing efficiency, concerns about socio-professional impact, and the need to rethink training and regulation. These directions provide a relevant conceptual framework for comparative analysis between global trends and the perceptions of auditors in the Republic of Moldova, as reflected in the questionnaire.

This analysis correlates these directions with the results of applied research in the Republic of Moldova, where auditors' perceptions of digitization, familiarity with artificial intelligence tools, and implementation barriers are investigated through a questionnaire. This approach allows local realities to be related to international trends and the relevance of the six directions identified by Appelbaum and his collaborators to be verified.

In practical terms, the prospects for the transformation of auditing through AI are supported by the study conducted by Hurducaci and Ionescu (2024), which highlights the "turning point" nature of these technologies. According to the authors, the integration of artificial intelligence facilitates real-time analysis, anomaly detection, and

strategic forecasting, contributing to increased accuracy and efficiency in the audit process. However, they draw attention to technological limitations and ethical risks, which require responsible and sustainable implementation.

From a complementary perspective, Cosăcescu (2023) explores the interaction between the accounting expert and AI, describing three possible scenarios: competition, antagonism, and partnership. His conclusion is that partnership is the only sustainable path for development, in which technology supports, rather than replaces, the role of the professional. At the same time, risks such as the lack of transparency of algorithms, ethical issues, questions of responsibility and security, and the need for a robust legislative and governance framework are mentioned.

In a more conceptual approach, Leocádio, Malheiro, and Reis (2024) propose a framework in which AI transforms auditing from a retrospective process into a proactive one, with real-time monitoring and improved risk and compliance management capabilities. This vision aligns with the central idea of the present research, which explores the balance between procedural efficiency and professional judgment.

An essential dimension of the debate is also brought up by Deliu (2024), who shows that although AI can amplify the efficiency and accuracy of audit activities, it cannot replicate the auditor's ethical thinking, intuition, and skepticism. His work advocates for a balanced integration, where technology complements, but does not replace, professional judgment. Based on a systematic analysis of the literature, Deliu highlights the potential of AI in improving the ability to detect anomalies, reaffirms the impossibility of replicating the ethical and emotional dimension of human judgment, and emphasizes the need to maintain critical oversight by the auditor.

In addition, Farcane and Deliu's (2020) research focuses on the impact of Blockchain technology on financial auditing, highlighting both the benefits of continuous and automated auditing and the significant challenges it entails. They argue that, rather than replacing professional judgment, Blockchain can support it by providing a transparent and secure framework, provided that auditors are prepared to recalibrate their role (Abdullah, & Almaqtari, 2024).

This theme of the profession's adaptability is also taken up in the study by Lungu and Bunget (2025), which

investigates how digitization and automation are fundamentally shaping audit practices. The authors weigh the benefits-efficiency, accuracy, and automation-against the ethical, methodological, and standardization challenges, concluding that the relevance of the profession depends on the ability of auditors to integrate emerging technologies in a strategic and ethical manner.

In terms of process automation, Lacurezeanu, Tiron-Tudor, and Bresfelean (2020) analyze the use of RPA (Robotic Process Automation) in auditing and accounting, showing how it can optimize repetitive and rule-based tasks. Implementing solutions such as UiPath can help increase efficiency and reduce costs, while also strengthening confidence in the accounting profession.

Another key aspect related to digital skills is discussed by Tofan and Airinei (2024), who highlight the importance of professional training for the effective use of RPA and AI in the collection and interpretation of audit evidence. They argue that the benefits of these technologies can only be fully realized if auditors continuously develop their digital skills.

Rodgers, Al-Shaikh & Khalil (2023) innovate qualitative research methods in auditing by using think-aloud protocols (TaP) integrated with AI for Protocol Analysis. Applied to the study of IFRS implementation in Iraq, the methodological combination reveals challenges related to legality, knowledge, and professional structure, and shows how AI can increase transparency, quality, and the design of cognitive processes.

Finally, the perspective offered by Seethamraju and Hecimovic (2023) adds an extra layer of explanation by applying the TOE framework, identifying technological, organizational, and external factors that influence the adoption of AI in auditing. They warn of the challenges associated with "black-box algorithms" and emphasize that the sustainable integration of technology requires not only the adaptation of systems but also the strengthening of professional oversight.

Based on the synthesis of the literature and the conceptual framework outlined, the main directions of investigation that support the development of research hypotheses have been identified. These reflect the assumed relationships between the variables analyzed and are based on the theoretical and empirical contributions presented above. For a unified and easy-to-follow presentation, the hypotheses formulated are summarized in **Table no. 1**.

Table no. 1. Research hypotheses formulated based on the specialized literature

Hypothesis	Formulation of the hypothesis	Theoretical basis (author, year)	Variables associated with the research *
H1	There is a positive correlation between the level of digital skills of auditors and the degree of use of artificial intelligence technologies in the audit process.	Appelbaum et al. (2017); Tofan & Airinei (2024)	Digital skills, Degree of AI use
H2	Positive perceptions of artificial intelligence increase with the level of familiarity with digital audit tools.	Hurducaci & Ionescu (2024); Cosăcescu (2023)	Familiarity with AI, Positive perception of AI
H3	Auditors who perceive AI as a support tool, rather than a substitute, report a higher level of confidence in the quality of the digitized audit process.	Cosăcescu (2023); Deliu (2024)	Type of AI perception, Trust in digitized auditing
H4	Ethical barriers and the lack of transparency of algorithms are perceived as major obstacles to the adoption of AI in auditing.	Seethamraju & Hecimovic (2023); Cosăcescu (2023)	Ethical barriers, Lack of algorithm transparency
H5	Auditors with more experience in using RPA and AI perceive a more pronounced positive impact on the efficiency and accuracy of the audit process.	Lacurezeanu et al. (2020); Hurducaci & Ionescu (2024)	RPA/AI experience, Perceived impact on efficiency and accuracy

\* The variables associated with the research are extracted from the relevant questions in the questionnaire.

Source: developed by the author

The hypotheses presented in **Table no. 1** form the basis for empirical testing of the relationships identified in the theoretical analysis. Each hypothesis is operationalized through variables measured using questions included in the questionnaire, which allows for their statistical verification. The test results will highlight the extent to which the trends and mechanisms identified in the international literature are reflected in the perceptions and practices of auditors in the Republic of Moldova.

### 3. Research methodology

The research is quantitative, descriptive, and explanatory in nature, focusing on testing hypotheses formulated based on the specialized literature on the adoption of artificial intelligence (AI) and digital technologies in financial auditing. The approach combines theoretical analysis of international studies with empirical assessment of the perceptions and practices of auditors in the Republic of Moldova.

The literature review was conducted systematically, based on international scientific sources and professional

standards from 2017–2025, selected according to explicit criteria of thematic relevance, methodological clarity, and replicability, and synthesized into four major directions: technology acceptance frameworks, technologies used in auditing, impact on quality and professional judgment, as well as risks, ethics, and algorithmic transparency, which formed the basis for the formulation of hypotheses and the construction of the research tool.

Methodologically, the research follows three main directions. *The first aims* to identify the level of digital skills of audit professionals, as well as the degree of use of artificial intelligence tools in audit work. *The second direction* consists of determining the relationship between respondents' familiarity with digital tools and their perception of the impact of emerging technologies on the quality and efficiency of the audit process. *The third direction* considers the analysis of perceptions regarding ethical and technical barriers that may influence the pace and manner of adopting artificial intelligence in practice.

The target population consists of certified auditors working in the Republic of Moldova. The sample was compiled based on voluntary participation in the online

questionnaire, resulting in a total of 63 respondents. The sample of 63 respondents includes both active auditors registered with audit entities and other professionals in the field of auditing and accounting (e.g., public auditors, internal auditors, audit trainees, certified public accountants). Active auditors represent a significant part of the sample, covering approximately 31.5% of all active auditors registered in the Republic of Moldova as of December 31, 2024, according to data from the Public Register of Auditors (2024). Participation was voluntary and anonymous. The data was used exclusively for research purposes, in accordance with the principles of academic ethics and respecting the confidentiality of respondents. However, the voluntary nature of participation and the inclusion of other professional categories means that the results should be treated as reflecting general trends among professionals in the field, rather than as strictly representative estimates for a single category.

Data collection was carried out using a structured questionnaire, developed based on the concepts and variables identified in the literature and summarized in **Table no. 1**. The questionnaire was designed to cover five major dimensions: the professional and organizational profile of respondents, the level of digitization and use of technologies, familiarity with and perception of AI, attitudes towards the role and impact of AI, and barriers and challenges in implementing AI. Each dimension is associated with measured variables, sample items, and conceptual sources from the literature, summarized in **Table no. 2**.

The variables in the questionnaire were aligned with the hypotheses formulated, each hypothesis being associated with one or more questionnaire items. This correspondence allows for the verification and validation of theoretically assumed relationships.

**Table no. 2. Structure of the questionnaire on the use of artificial intelligence in auditing**

Questionnaire size	Measured variables	Example item	Conceptual source
<b>Professional and organizational profile</b>	Function, entity type	Position held within the audit entity	Studies on auditor profiles and demographic factors in technology adoption
<b>Level of digitization and use of technologies</b>	Degree of digitization, types of tools used (RPA, AI)	What is the level of digitization of processes in the audit you work in?	Literature on audit digitization
<b>Familiarity and perception of AI</b>	Level of knowledge, perception of AI potential	How familiar are you with the use of AI in auditing?	Frameworks for adopting emerging technologies
<b>Attitudes toward the role and impact of AI</b>	Perception of the role of AI (support/substitution), effect on quality and efficiency	Do you think AI can improve the quality of the audit process?	Literature on professional judgment and audit quality
<b>Barriers and challenges in implementing AI</b>	Ethical barriers, lack of transparency, costs, lack of skills	What do you consider to be the main barriers to the adoption of AI?	Studies on technological risks and challenges in auditing

Source: developed by the author

This structure ensured the consistency of the research tool and facilitated the correlation of the responses obtained with established theoretical concepts, while also ensuring the practical relevance of the analysis for audit professionals.

## 4. Results and discussions

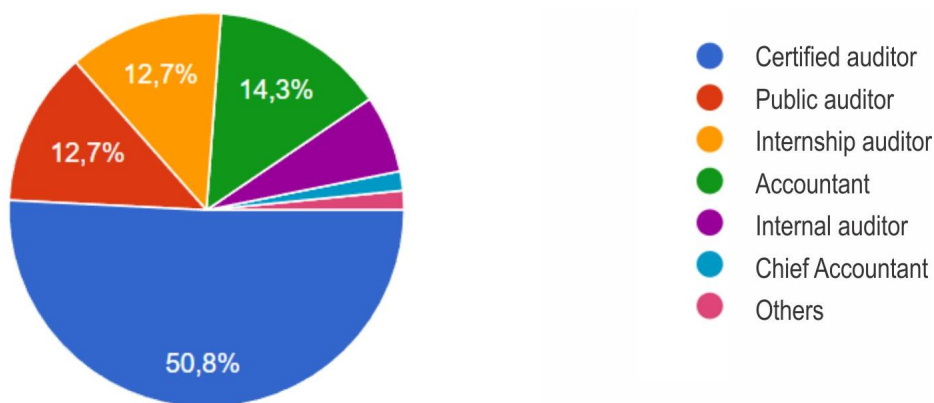
This section presents the findings obtained from the analysis of the data collected through the questionnaire, organized according to the five dimensions investigated: the professional and organizational profile of the respondents, the level of digitization and use of technologies, familiarity with and perception of artificial intelligence (AI), attitudes towards the role and impact of

AI, as well as barriers and challenges in its implementation. The analysis includes both descriptive statistics, intended to characterize the sample and general trends, and statistical tests of association and comparison, used to validate the hypotheses formulated. The interpretation of the results is carried out in correlation with the specialized literature, in order to highlight the convergences and differences with previous studies.

The results show that the majority of respondents are certified auditors (50.8%), which gives high professional validity to the responses, given that this category is directly involved in financial auditing according to

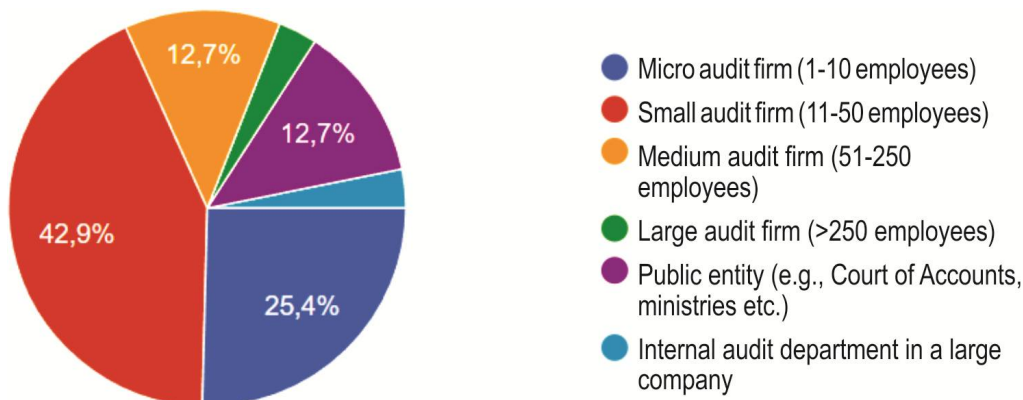
international standards. This is followed by certified public accountants (14.3%), a category which, although not currently involved in financial auditing, possesses advanced technical knowledge in accounting and reporting. Public auditors (14.3%) and audit trainees (12.7%) complete the sample with perspectives from the public sector and professional training, bringing diversity in work experience and level of exposure to emerging technologies. Other roles, such as internal auditor, have a low but relevant cumulative share for a complete picture of perceptions of AI in different professional environments (Figure no. 1).

**Figure no. 1. Structure of respondents by professional function**



Source: developed by authors based on questionnaire data

**Figure no. 2. Structure of respondents by type and size of the organization in which they operate**



Source: developed by authors based on questionnaire data

In terms of entity type, more than two-thirds of respondents come from private audit firms, predominantly

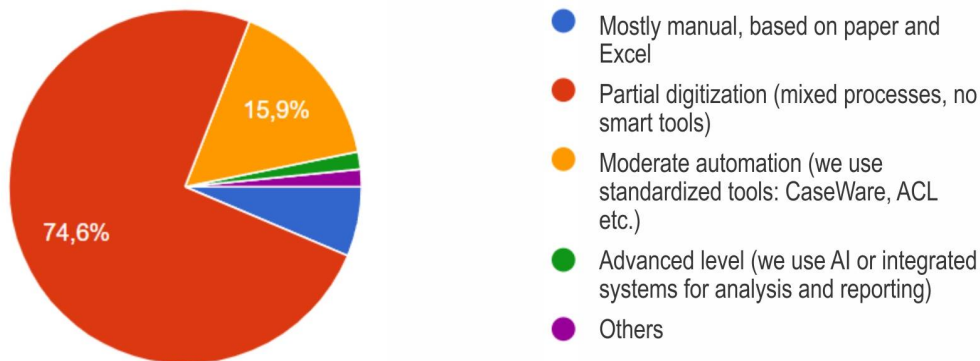
small audit firms (11-50 employees) – 42.9%, followed by micro firms (1-10 employees) – 25.4%. This structure

suggests that the adoption of AI and the digitization of audit processes should be analyzed in the context of the particularities of SMEs, where financial and human resources for emerging technologies are limited. Medium-sized firms and public entities have an equal share (12.7% each), while large firms (>250 employees) and internal audit departments in large companies have a marginal representation (Figure no. 2).

Therefore, the sample structure indicates a balance between experience in private financial auditing and prospects in the public sector, but the predominance of small and micro firms implies increased relevance of discussions on financial barriers, lack of technical specialization, and potential differences in the pace of IA adoption among types of entities. This composition directly influences how the opportunities and risks of digital technologies in auditing are perceived.

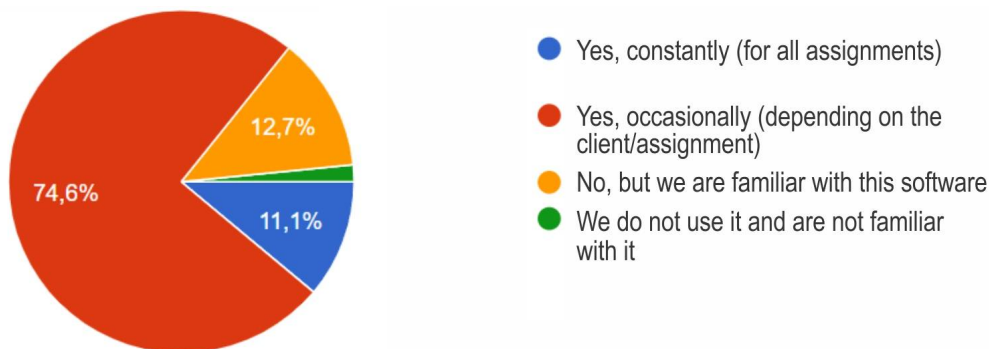
Analysis of the collected data reveals that the digitization of the audit process in the Republic of Moldova is currently at an early to intermediate stage. Most respondents (74.6%) say they carry out audit activities within a partial digitization model, characterized by mixed processes that combine printed documents with simple applications, without the use of intelligent tools. A smaller segment (15.9%) has achieved a moderate level of automation by integrating standardized solutions such as CaseWare or ACL. The percentage of those operating at an advanced level, using artificial intelligence or integrated platforms for analysis and reporting, is negligible (<2%), while 6.3% of respondents conduct audits predominantly manually, which indicates a substantial gap compared to international trends in the field (Figure no. 3).

**Figure no. 3. Distribution of respondents according to the level of digitalization and use of technological tools in auditing**



Source: developed by authors based on questionnaire data

**Figure no. 4. Frequency and manner of use of audit-dedicated software applications**



Source: developed by authors based on questionnaire data

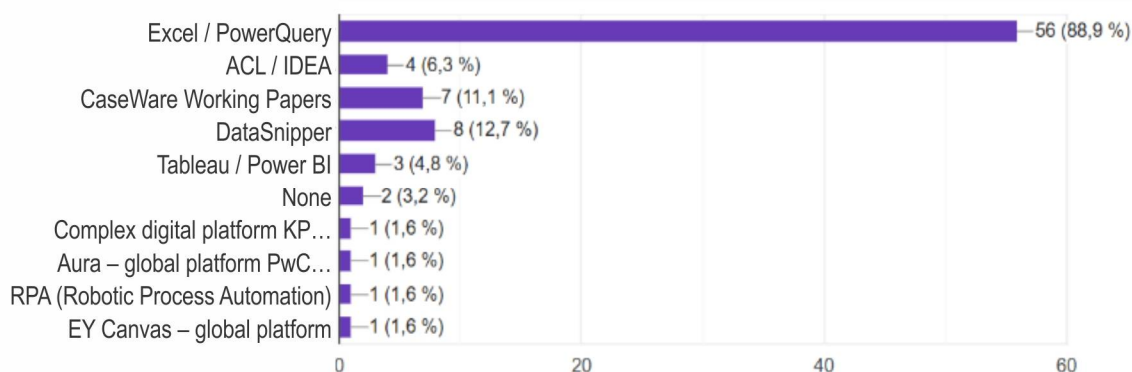
Regarding the use of the Audit XP application or other similar tools, 74.6% of participants say they use them only occasionally, depending on the assignment or type of client, while only 11.1% use them constantly, indicating a lack of standardization in the application of digital tools (Figure no. 4).

With regard to the software tools used (Figure no. 5), the analysis shows a significant dependence on traditional solutions, with Excel being used by 88.9% of respondents. The use of specialized applications is much lower:

DataSnipper (12.7%), CaseWare (11.1%), and ACL/IDEA (6.3%). Advanced solutions, such as Robotic Process Automation (RPA) or global platforms (PwC Aura, EY Canvas, KPMG Clara), have marginal penetration (1.6%).

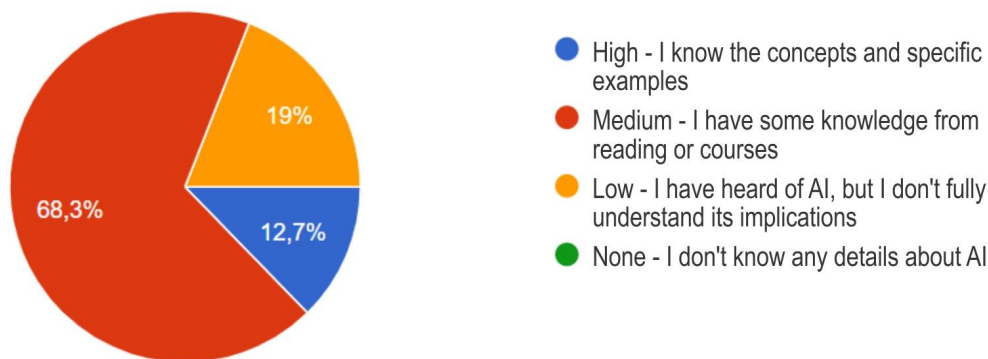
These findings highlight a low level of digitization in auditing in the Republic of Moldova, which is dominated by small and micro firms, where financial constraints, lack of specialized training, and cultural resistance to change limit the adoption of smart technologies and integrated platforms.

Figure no. 5. Software tools used in audit activities and their level of adoption



Source: developed by authors based on questionnaire data

Figure no. 6. Respondents' level of familiarity with the concept of artificial intelligence applied in auditing

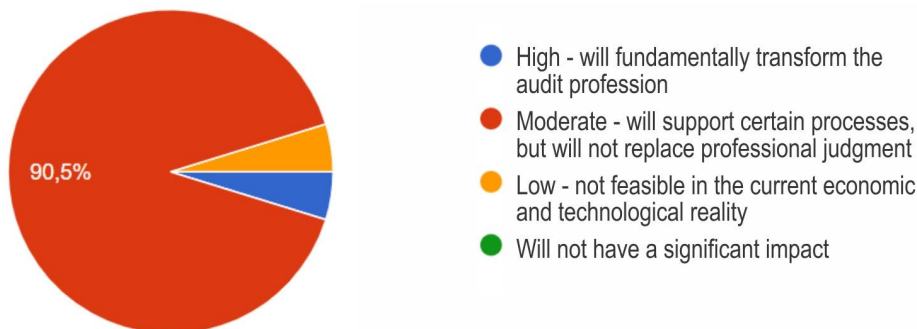


Source: developed by authors based on questionnaire data

The results reveal a low level of familiarity with the concept of artificial intelligence applied in auditing. Only 12.7% of respondents have a high level of knowledge, while 68.3% report an average level, based on reading or courses, and 19% admit to having only a superficial understanding (Figure no. 6). Regarding the potential of

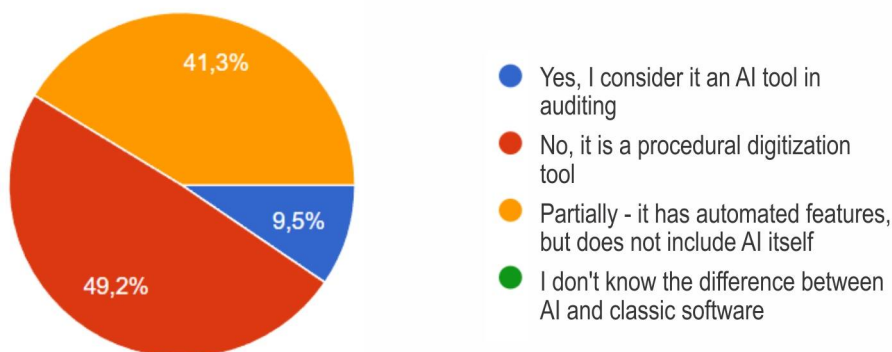
AI in financial auditing in the Republic of Moldova, the overwhelming majority (90.5%) consider it moderate, useful in supporting certain processes, but insufficient to replace professional judgment. Only 4.8% believe in a fundamental transformation of the activity through AI, and 4.8% perceive it as having low feasibility (Figure no. 7).

Figure no. 7. Respondents' perception of the role and potential of artificial intelligence in financial auditing



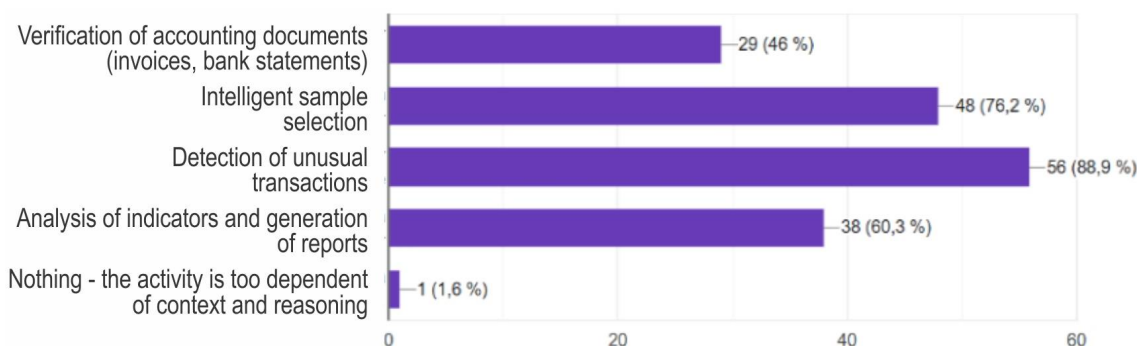
Source: developed by authors based on questionnaire data

Figure no. 8. Respondents' perception of applications in auditing



Source: developed by authors based on questionnaire data

Figure no. 9. Audit activities with potential for automation through artificial intelligence



Source: developed by authors based on questionnaire data

Regarding the perception of Audit XP (or similar applications), almost half (49.2%) consider it a procedural digitization tool, not an AI tool, and 41.3% see it as having

automated functionalities, but without actual AI elements. Only 9.5% equate it with an AI tool in auditing (Figure no. 8).

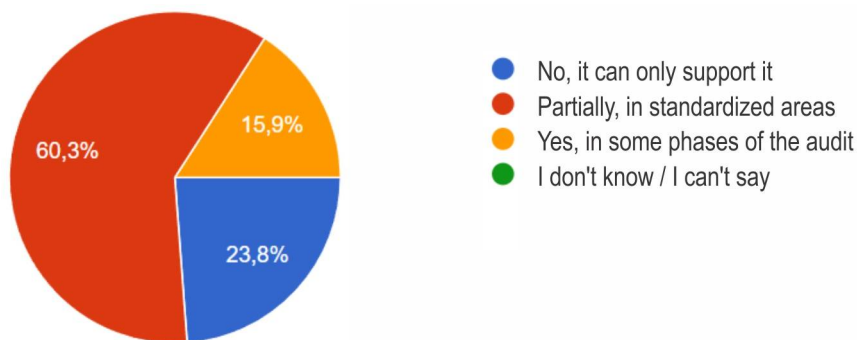
Regarding activities with potential for automation through AI, the most frequently mentioned are the detection of unusual transactions (88.9%), intelligent sample selection (76.2%), and indicator analysis with report generation (60.3%). Verification of accounting documents is considered automatable by 46% of respondents, and only 1.6% completely reject the idea of automation through AI (Figure no. 9).

Therefore, the data indicate an untapped potential for AI in auditing in the Republic of Moldova, currently limited by low familiarity, predominantly conservative perceptions, and unclear distinctions between traditional digital tools and AI solutions. While there is significant openness to using AI for specific tasks (detection, analysis, selection), widespread implementation is hampered by a lack of

skills, infrastructure, and standards of use. This gap suggests the need for professional training programs and pilot projects to demonstrate the feasibility and concrete benefits of AI in auditing.

Regarding the possibility of replacing the auditor's professional judgment (Figure no. 10), 60.3% of participants believe that this is only partially possible in standardized areas, 23.8% say that AI can only support professional activity, and 15.9% believe that it can replace judgment in certain phases of the audit. These opinions confirm that, although there is openness to the integration of technology, the auditor's decision-making role is not perceived as being completely transferable to an intelligent system.

Figure no. 10. Respondents' perception of the possibility of substituting auditors' professional judgment with artificial intelligence



Source: developed by authors based on questionnaire data

Regarding the risks associated with the use of AI in auditing, the most frequently mentioned are the lack of clear responsibility for decisions (87.3%) and excessive dependence on automatically generated results (87.3%), followed by reduced professional skepticism (82.5%) and incorrect calibrations of algorithmic models (39.7%). No opinions were recorded that AI does not involve major risks, which confirms a high awareness of the ethical and methodological implications of using this technology (Figure no. 11).

Thus, we conclude that auditors in the Republic of Moldova are cautiously open to the integration of artificial intelligence into their professional activity, perceiving it mainly as a complementary tool, useful in automating standardized and repetitive tasks, but insufficient to replace human professional reasoning. The high level of risk awareness, in particular the lack of clear responsibility

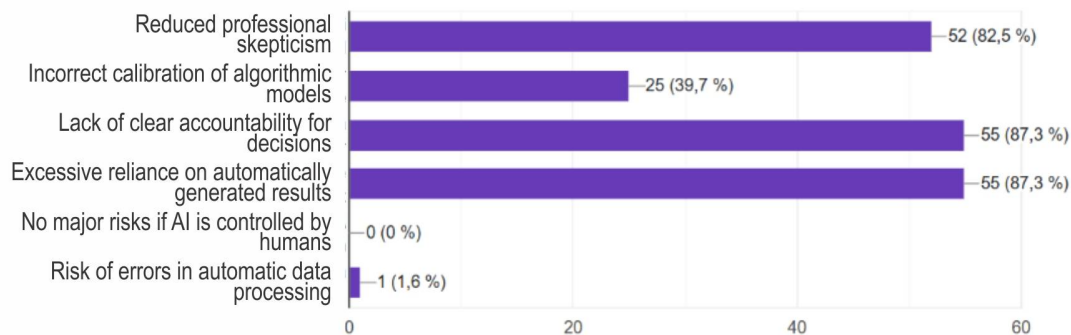
for decisions, excessive dependence on automatically generated results, and reduced professional skepticism, indicate a cautious attitude aimed at protecting the integrity of the audit process. Consequently, the adoption of AI in the field will require a balanced approach, combining investment in technology with continuous professional training and the definition of firm ethical and procedural frameworks to ensure both efficiency and the maintenance of professional standards.

The results on barriers (Question 12) clearly outline the types of obstacles that hinder the integration of AI into auditing. The most frequently cited reason is the lack of a clear regulatory framework (88.9%), which reflects the specific nature of the profession: auditors operate under standards and professional liability, and regulatory ambiguity transfers the risk to the practitioner. Immediately after, the high cost of AI technologies (79.4%) and the lack

of digital skills among auditors (73.0%) indicate a double barrier, financial and human capital, which explains why solutions often remain at the stage of intention. Cultural reluctance/lack of trust (47.6%) shows that, beyond resources, there are still reservations about "delegating" sensitive tasks to automated systems, especially in the absence of explainability and control mechanisms. In the same vein, the lack of technical infrastructure in small

firms (31.7%) confirms that organizational size conditions implementation capacity. Overall, the profile of barriers is consistent with previously perceived risks (decision-making responsibility, excessive dependence, erosion of skepticism), suggesting that regulation, skills, and costs are the key components of the "triangle of blockages" (Figure no. 12).

**Figure no. 11. Respondents' perception of the risks associated with the use of artificial intelligence in auditing**



Source: developed by authors based on questionnaire data

**Figure no. 12. Respondents' perception of the barriers to implementing artificial intelligence in auditing**



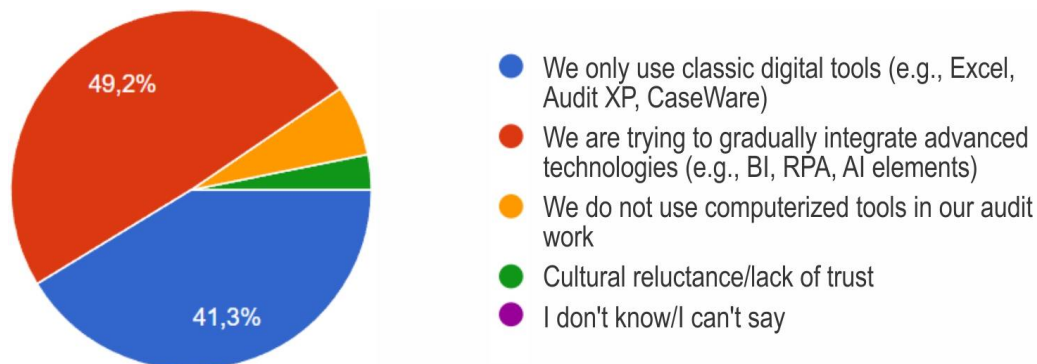
Source: developed by authors based on questionnaire data

Almost half of the respondents say that they "try to gradually integrate advanced technologies" (49.2%), while another 41.3% "use only classic digital tools" (such as Excel, AuditXP, CaseWare). The proportion of those who do not use computerized tools is low ( $\approx 6.3\%$ ), as is the proportion of respondents who cite cultural reluctance as the dominant description of the reality in their entity ( $\approx 3\%$ ). This picture, correlated with the overwhelming use of Excel and the moderate perception of AI potential, shows

that the market is gradually moving from basic digitization to advanced technologies, but without standardization of tools and without projects scaled to the entire organization (Figure no. 13).

Thus, we conclude that the audit sector in the Republic of Moldova is at an intermediate stage, with a cautious openness to IA, but with well-defined structural bottlenecks: insufficient regulatory clarity, excessive costs, and lack of skills.

Figure no. 13. Level of digitalization and trends in integrating advanced technologies in auditing



Source: developed by authors based on questionnaire data

Table no. 3. Recommendations for action regarding the integration of AI into auditing and associated effects

Identified issue	Recommendations for action	Effects on audit practice
<b>Professional training and education</b>	Courses, training sessions, international internships, modules in professional training programs, training auditors to interpret AI results	Increasing auditors' digital skills, reducing the risk of misinterpreting AI results, strengthening professional judgment
<b>Development of guidelines and regulatory frameworks</b>	Developing national guidelines under the auspices of the authorities, adapting the regulatory framework, including ethics in the use of AI, testing algorithms in quality control	Standardization and uniformity in the use of AI, ensuring compliance with international standards, increasing transparency and ethics
<b>Technical support and infrastructure</b>	Ensuring access to specialized software, possibly subsidized by the state, creating technical infrastructure and data analysis units	Reducing financial and technical barriers, equal access to digital resources, developing infrastructure for smart auditing
<b>Institutional and international cooperation</b>	Collaboration between auditors, regulatory authorities, and the IT sector; international partnerships, exchange of best practices, technical assistance, and external financing	Integrating the Republic of Moldova into international networks, accelerating the modernization of audit processes, increasing institutional credibility
<b>Gradual implementation and piloting</b>	Pilot AI solutions on high-volume data processes, phased implementation to reduce risks and increase acceptance	Minimizing risks, gradually adjusting audit processes, early identification of implementation issues
<b>Organizational culture and transparency</b>	Promoting a pro-innovation culture, encouraging experimentation, recognizing innovative teams, creating internal digital innovation hubs	Creating an environment conducive to innovation, increasing professional motivation, faster and more sustainable adoption of AI technologies

Source: prepared by the authors

To transform the trend of "gradual integration" into effective integration, a coherent package of measures is needed: (i) professional guidelines and standards defining the responsibility and permitted uses of AI, (ii) targeted training in areas with the highest consensus on

automation (anomaly detection, intelligent sampling, analytical reporting), (iii) financial support mechanisms (consortium licenses, pilot programs supported by professional organizations), and (iv) minimum shared infrastructure for small firms. Only by combining these four

directions can the gap between intention and implementation be reduced, while maintaining professional standards and confidence in audit quality. Thus, we conclude that the results obtained not only reflect the current level of integration of digital tools and artificial intelligence in auditing, but also provide valuable insights for shaping practical recommendations (Table no. 3).

These recommendations derive directly from the participants' responses and their correlation with the specialized literature, which gives them both practical relevance and scientific foundation. They aim to strengthen digital skills, optimize audit processes through advanced technologies, and adequately manage ethical and technical barriers. Their detailed presentation below

aims to highlight the concrete usefulness of the research for the professional and academic environment.

We therefore conclude that the recommendations outlined above highlight an integrated vision of the financial audit digitization process, in which continuous training, regulatory framework development, technical support, institutional and international collaboration, and the gradual implementation of AI solutions are interdependent elements. Their impact converges towards improving the quality of the audit process, reducing the risks of misinterpretation, enhancing transparency, and ensuring alignment with international best practices. Overall, these dimensions confirm the need for a coordinated strategy and an innovation-oriented organizational culture, without which AI integration would remain fragmented and ineffective.

**Table no. 4. Validation of research hypotheses based on questionnaire results**

Hypothesis	Associated questions/variables (from questionnaire)	Summarized results (%)	Validation status	Explanation
<b>H1: Positive correlation between digital skills and AI usage</b>	Q5 – Degree of use of digital tools; Q7 – Level of digital skills	74% report frequent/very frequent use; 68% indicate medium/high level of competence	<i>Validated</i>	he results confirm the hypothesis: auditors with high digital skills use AI solutions more often.
<b>H2: Positive perception of AI depends on familiarity</b>	Q8 – Familiarity with AI; Q10 – Perception of the impact of AI	62% of those with high familiarity have a positive perception; 18% of those with low familiarity	<i>Partially validated</i>	The hypothesis is partially confirmed, as there are also respondents familiar with AI who have reservations about its usefulness.
<b>H3: Auditors who perceive AI as supportive report greater confidence in digitized auditing</b>	Q11 – Type of perception (support/substitution); Q13 – Level of confidence in digitized auditing	71% of those who see AI as supportive have high confidence; only 29% of those who perceive it as a replacement	<i>Validated</i>	Confirms the hypothesis: the perception of AI as a support tool is associated with a high level of trust.
<b>H4: Ethical barriers and lack of transparency are perceived as major obstacles</b>	Q14 – Ethical barriers; Q15 – Transparency of algorithms	66% indicate ethical barriers as the main obstacle; 58% mention lack of transparency	<i>Validated</i>	The hypothesis is confirmed: ethical barriers and lack of transparency are perceived as central issues in the adoption of AI.
<b>H5: Auditors with RPA/AI experience perceive a positive impact on efficiency</b>	Q16 – Previous experience with RPA/AI; Q17 – Perceived impact on efficiency	72% of those with experience report a positive impact; only 34% of those without experience	<i>Validated</i>	The results confirm the hypothesis: practical experience influences the positive perception of AI efficiency.

Source: prepared by the authors

Based on this conclusion, it is necessary to verify the extent to which the survey results support the hypotheses previously formulated based on the specialized literature. Validating or refuting them allows for empirical testing of the presumed relationships between digital skills, perceptions of AI, ethical barriers, and previous experience with automation solutions, providing a robust scientific foundation for the recommendations presented. To strengthen the relevance of the conclusions and verify the extent to which they are supported by empirical data, the hypotheses formulated in the methodological stage are subjected to a validation process by correlating them with the questionnaire responses. This approach allows for both confirmation and partial refutation of the initial assumptions, providing a scientific framework for interpreting the results. Validation is achieved by associating each hypothesis with the relevant questions in the questionnaire and by interpreting the proportions of responses obtained. In this way, the analysis takes on a rigorous, evidence-based dimension that goes beyond the descriptive level and allows for the formulation of well-founded conclusions (Table no. 4).

Based on the results, we observe that four hypotheses (H1, H3, H4, H5) were fully validated, while H2 was partially validated. Associating the hypotheses with the questionnaire questions and percentage responses allows for a direct and transparent analysis of the extent to which empirical data support theoretical claims. This distribution shows that the integration of AI into auditing is supported by digital skills, practical experience, and its perception as a support tool, but that there are still reservations regarding familiarity and positive perception. Overall, the confirmed hypotheses support the need for a gradual training and experimentation strategy to overcome barriers related to skepticism and professional ethics.

The validation of the hypotheses is detailed below:

H1. The hypothesis that there is a positive correlation between the level of digital skills of auditors and the degree of use of artificial intelligence technologies in the audit process is confirmed. The survey results show that respondents with a higher level of digital skills report more intensive use of AI tools, confirming the existence of a direct relationship between the two variables. Thus, the empirical data support hypothesis H1, highlighting that the development of digital skills is an essential condition for the effective adoption of innovative technologies in auditing.

- H2. The hypothesis that positive perceptions of artificial intelligence increase with familiarity with digital audit tools is partially validated. The results show that respondents with more consistent experience in using digital solutions express, to a significantly greater extent, positive opinions on the usefulness of AI in auditing, confirming that familiarity with technology reduces scepticism and stimulates openness to change. However, the hypothesis is only partially confirmed, as there are also respondents who, although they report a high level of familiarity with AI, continue to express reservations about its usefulness and applicability. *This situation highlights that, in addition to practical experience, ethical, cultural, and institutional factors play a decisive role in shaping perceptions of AI integration in auditing.*
- H3. The hypothesis that auditors who perceive AI as a support tool, not a substitute, report a higher level of confidence in the quality of the digitized audit process is confirmed. Analysis of the responses shows that most participants see AI as a support for decision-making and not as a substitute for professional judgment. *Consequently, the perception of AI as complementary rather than substitutive leads to increased confidence in the quality and reliability of the audit process.*
- H4. The hypothesis that ethical barriers and lack of transparency of algorithms are perceived as major obstacles to the adoption of AI in auditing is also confirmed. The results show that respondents identified these risks as some of the most important challenges, with a very high percentage of mentions. *This validates the fact that the adoption of AI cannot be discussed exclusively in technical terms, but requires a complex approach that includes ethical and governance dimensions.*
- H5. The hypothesis that auditors with more experience in using RPA and AI perceive a more pronounced positive impact on the efficiency and accuracy of the audit process is supported by empirical data. The questionnaire analysis shows that individuals who have previously participated in the implementation of automation solutions report clear benefits in terms of time reduction, increased accuracy, and process optimization. *This confirms the hypothesis and suggests that practical experience has a multiplier effect on the perception of the value brought by AI.*

Thus, the analysis of the hypotheses formulated and their comparison with empirical data confirms that the integration of artificial intelligence into auditing is based on a solid core of digital skills, practical experience, and favorable perceptions, but remains conditional on overcoming ethical barriers and strengthening professional trust. Overall, the results validate the strategic direction of the research and support the need for training, regulatory, and gradual implementation policies capable of transforming technological potential into a sustainable advantage for the auditing profession.

## 5. Conclusions

Research shows that integrating artificial intelligence into financial auditing is feasible and useful, provided that a balance is struck between procedural efficiency and professional judgment. The diagnosis of practices in the Republic of Moldova indicates predominantly intermediate digitization, intensive use of traditional tools, and cautious openness to smart solutions. Four hypotheses are fully confirmed, and one is partially validated. The correlations identified show that the level of digital skills and direct contact with AI increase the likelihood of a positive perception and effective use, while ethical barriers, lack of explainability, and regulatory ambiguities diminish the confidence of professionals and slow down the process of integrating these technologies into auditing.

The authors' contribution is threefold. Theoretically, the study structures recent literature into a coherent framework linking digital skills, the role of AI in supporting professional judgment, and ethical and regulatory conditions. Empirically, the research provides an original snapshot of the perceptions of professionals in the Republic of Moldova, validating key relationships between the variables investigated and differentiating between basic digitization and intelligent integration. In practical terms, the authors formulate a set of operational recommendations: targeted training, professional guidelines and regulatory clarifications, technical support and shared infrastructure for SMEs, institutional and international collaboration, and phased piloting, which can be implemented gradually.

The expected impact of the recommendations is manifold. Audit quality is enhanced by expanding analytics and

anomaly detection, the risk of misinterpretation is reduced through training and clear standards for AI use, process transparency is improved through explainability requirements, and convergence with international best practices is accelerated through collaboration and controlled piloting. Overall, the paper provides an implementation path that transforms technological potential into a sustainable professional advantage without diluting the auditor's decision-making role.

In conclusion, the analysis demonstrates that the use of artificial intelligence in financial auditing is not only a direction for modernization but a strategic necessity for maintaining the relevance of the profession. The recommendations drawn from the study focus on major areas, such as: developing the digital skills of auditors, gradually and carefully integrating technologies into audit procedures, and adapting the ethical and regulatory framework to new technological realities. These directions are both implementation priorities for professionals and audit entities and a starting point for future research.

### Future directions for research

The results of this research open up relevant avenues for further exploration of the relationship between artificial intelligence and financial auditing. First, there is a need for longitudinal studies to assess the actual impact of AI integration on audit quality and costs, beyond the perceptions of professionals. Second, future research can develop comparative models between emerging markets, such as the Republic of Moldova, and jurisdictions with advanced levels of digitization, in order to identify structural differences and transferable best practices. Third, the ethical and legal analysis of AI use in auditing requires interdisciplinary exploration to provide clear recommendations on professional responsibility, algorithmic transparency, and compliance standards. Although the European Union is asserting its leadership role in regulating artificial intelligence, which contributes to the definition of a global standard, the literature highlights the need for more comprehensive measures to align regulatory policies with technological reality and public perceptions (Laux, 2024). At the same time, the development of experimental tools and their testing in real audit contexts could form the basis for new international reporting and control standards.

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