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Review Article

THE IMPACT OF DIGITAL TOOLS ON THE AUDIT'S PARADIGM CHANGE

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Abstract: *Digital tools have fundamentally changed the way auditors plan, conduct, and report on audits. The change is not only in the speed of work and efficiency, but also in the logic of the approach - from sampling to examination of the whole, from periodic and retrospective to continuous auditing. Such technological transformation not only changes the way auditors work but also fundamentally affects the understanding of what it means to be an auditor. The focus shifts from verification to understanding, from control to interpretation, and from the past to prediction. The aim of this paper is to analyze and present how digital tools, including artificial intelligence, change the way auditors work and the implications for the development of auditing skills and, consequently, the auditing profession as a whole. This paper drew on secondary data sources, including relevant scientific articles, publications from professional organizations, and international standards. Select journalistic sources were used illustratively to reflect recent developments in the research domain, subject to interpretative processing conducted by the author. The methodological approach is based on the application of analysis and synthesis, descriptive and comparative methods, complemented by the critical-interpretative approach to examining the technological, ethical and professional challenges of AI implementation in audit practice.*

The theoretical approach is conceptually based on the interdisciplinary integration of analyzed sources and the author's experience in contemporary audit practice regarding risk management and institutional adaptation. This is integrated with the concept of digital transformation and development in the context of rapid technological changes.

Key words*: Audit, Audit Software, External Audit, Internal Audit, Public Audit, Technological Change, Technological Impact, AI*

JEL classification*: M42, O33, G29*

1. INTRODUCTION

Paradigm change means a fundamental, radical turn in the way of thinking, the perception of reality, or the approach to solving problems. It is a transformation of basic assumptions, a transition from one model, theory, or set of values to a completely new one, often driven by the old model's inability to explain new phenomena. We live in a time when digital transformation significantly impacts all segments of economic reality, including the audit profession. The development of advanced digital technologies, such as big data analytics, process automatization, and generative artificial intelligence, is changing the way auditors plan, conduct, and report on audits.

Researchers increasingly question the traditional approach, which relies on retrospective analysis and sampling, and it gradually gives way to comprehensive and continuous methods for examining data, transactions, processes and systems. In such an environment, auditors are required not only to know accounting and auditing standards and methodological procedures, but also to develop new skills that enable the efficient use of modern technologies.

In this paper, we will explore how the traditional traits of auditors relate to the skills needed in the digital age. Key characteristics like independence, ethics or professional skepticism are no longer sufficient. It is inevitable to review the recognized

limitations and threats that the use of advanced digital tools and artificial intelligence in auditing entails, as well as a presentation outlining the path for the responsible adoption of artificial intelligence and its integration into the audit methodology.

2. TRADITIONAL CHARACTERISTICS OF AUDITORS

2.1. PROFESSIONAL SKEPTICISM

Professional skepticism is one of the basic characteristics of auditors, and it is perhaps best defined in ISSAI 300 - Principles of performance auditing, where the following statement is established as one of the basic principles (INTOSAI, 2019): "*Auditors should show professional skepticism, but also be open to different opinions and ready to innovate*." This duality essentially means that auditors, as professionals, must exercise professional skepticism and adopt a critical approach in their thinking. They must maintain an objective distance from the information obtained, while at the same time remaining open to different points of view and arguments. Auditors maintain an attitude of professional skepticism, accepting the possibility of misstatement regardless of prior experience with the audited entity. However, this does not mean unfounded doubt and endless questioning. Auditors are expected to make rational assessments and overcome their own and others' personal prejudices in order to avoid errors in reasoning and cognitive bias.

The second part of the duality within the definition of professional skepticism concerns openness and willingness to innovate - applicable both to the audit process itself and to the processes or activities under audit examination. Without such openness and flexibility, auditors risk missing important arguments or key evidence.

This paper will highlight the transition in the perspective of audit skepticism from the point of questioning the trust or degree of assurance in human-produced "hand and mind" reports, to the examination of systems that collect, sort, and analyze data and information, generating new forms of information and that develop the possibility of biased placement of final results or "darkening" of certain important facts.

2.2. ANALYTICAL THINKING

At the core of the audit profession's structure and understanding lies analytical thinking: the conscious consideration of all available information before making a decision or conclusion. By definition (Brandt & Lorié, 2024), it is a cognitive process that involves: identifying the problem; decomposing the complex into parts; establishing criteria; examining the properties of each part; recognizing connections and deviations; and finally, drawing a conclusion and explaining how that conclusion follows from the data.

Practically, analyticity, as a personality trait, is reflected in focusing attention on the structure of the problem, connecting causes and consequences, whether they are real or possible, assessing risks and limitations, and searching for an acceptable solution. In the audit work, where it is difficult, even with the use of advanced and scientifically based sampling methods, to assert with certainty that the audit finding, i.e. the conclusion derived from it, is without inherent limitations, reliance on advanced IT tools and their integration into audit activities can dramatically improve the quality of audit judgment and decisions. This is especially critical in those audit areas where audit risk is apparent, either as a result of high data and transactions volumes coupled with weaker internal controls, or in areas that are of great interest to the general public.

2.3. PROFESSIONAL STANDARDS KNOWLEDGE

Knowledge of accounting and auditing standards — including principles and standards for public sector auditing, internal auditing standards, and other relevant frameworks — is both a core pillar of auditing professionals and a foundation of the auditing profession.

The adoption of new standards, as well as changes to existing ones (whether international or national), as a rule requires a multi-stage, long-term process involving proposal, harmonization, publication, and translation. This process typically includes a transition period for adapting to the new standards and establishes deadlines for full implementation.

In all of this, the individual auditor is expected to "know the subject matter", but also to possess impeccable knowledge of the concepts and essence of the standards themselves, to take into account their applicability, mutual conditionality and intertwining, and legal restrictions in the jurisdiction in which he/she performs the audit.

The accessibility and availability of the standards that auditors necessarily use in their work has in a short period moved from the form of bound books (primarily in English, and later in other languages), through information obtained through Internet search engines, publications in electronic format on the pages of authorized professional organizations, to the latest searchable sources through "tags" and their own internally formatted knowledge bases.

In addition to the previously mentioned characteristics of auditors, there is also

indispensable independence and ethics that an auditor possesses, as a foundation of trust, as well as communication and some other skills that will not be written about in detail in this paper, but it is important to keep them in mind when considering auditing a profession as a whole. All the aforementioned primary auditor characteristics, including independence and ethics, professional skepticism, analytical thinking, knowledge of professional standards and verbal and written communication skills, remain the foundation for the auditor's professional competence. However, they are no longer sufficient.

3. OPPORTUNITIES FOR INTEGRATION OF ADVANCED IT TOOLS IN AUDIT ACTIVITIES

Information technologies and digital tools have long been widely accepted and used in the modern business environment. Consequently, such digital tools enhanced or augmented by artificial intelligence are increasingly being used in audit work, data analysis and related fields. According to ICAS (2026) "*technology is transforming how audits are performed and how auditors exercise professional judgment*". The integration of advanced technologies into the audit process, such as Big Data Analytics, audit process automation and artificial intelligence (AI) is in full swing and affects not only the work methodology, but also auditor competencies and the institutional frameworks in which audit organizations operate.

3.1. DATA ANALYTICS

One of the most important aspects of digital transformation is the application of data analytics, which enables the transition from limited sampling to the analysis of the entire population of transactions and data sets. Artificial intelligence tools for data analysis are software, programs or libraries designed to simplify and empower various stages of the data analysis process. Such tools can automate various analytical tasks, such as collecting data from multiple sources, cleaning and organizing data, predictive modeling and segmentation, so auditors can identify patterns and irregularities at the level of the entire population of transactions, thereby increasing the reliability of audit findings (Appelbaum et al., 2017).

Traditionally, auditors have worked with samples due to limited time and resources. Today, with data analytics tools, it is possible to analyze 100% of transactions. In practice, this increases the likelihood of detecting irregularities, enabling auditors to focus on risky and unusual transactions instead of relying on random sampling, which in turn results in more accurate audit conclusions. Therefore, this approach contributes to the reduction of audit risk.

3.2. RISK ASSESSMENT

As a rule, an audit is an independent, systematic, documented and risk-based process of reviewing and checking certain facts in relation to criteria. Auditing as a risk-based process reflects a strategic approach that directs audit resources to areas of greatest risk.

Audit risk assessment based on the use of digital technologies is the practical use of artificial intelligence for the identification, assessment and prioritization and significance of potential risks within the subject of audit.

By prioritizing risks based on their likelihood and potential impact (magnitude), auditors can more efficiently allocate resources and apply targeted strategies when determining the type and scope of audit testing and substantive procedures. Artificial intelligence algorithms can review and correlate information from financial records, operational data and other information sources to detect exceptions, recurring patterns, trends and anomalies that may indicate potential and significant risks. It can also rank different types of transactions, organizational units or processes based on a range of factors such as financial performance, compliance records or market conditions.

This helps in prioritizing high risk areas that require more audit attention.

In addition, artificial intelligence can simulate different scenarios to assess how certain changes (eg new regulations) can affect the organization, helping to prepare for potential risks in different situations. Moreover, AI-based risk assessment can evolve and adapt over time, through continuous learning from new data and refinement of initial risk identification models.

3.3. PREDICTIVE ANALYTICS

Predictive analytics is a way of using data to make informed judgments about what might happen in the future.

Therefore, for audit purposes, it is possible to use advanced IT tools and artificial intelligence not only for simulating various possible scenarios during risk assessment, but also for well-founded predictions of future economic trends within audit subjects and in their environment. This involves examining historical data, identifying patterns or trends, and using them to predict future outcomes. Artificial intelligence can help analyze historical data and identify future trends, in areas such as: predicting weaknesses in internal control system, cash flows and revenue forecasting, or proactive risk management.

3.4. COMPLIANCE VERIFICATION AND FRAUD DETECTION

Artificial intelligence systems can continuously monitor transactions, activities and operations in real time, ensuring compliance with legal and regulatory requirements as well as internal policies. This enables the immediate detection of the rules deviations or irregularities and allows such problems to be remedied. When the auditee has such models for monitoring compliance and detecting deviations, it enables the auditor (internal and external) to collect evidence more quickly and efficiently, and to provide a higher degree of reliability and audit assurance. This is particularly important in public sector auditing when compliance audits are also conducted, whether performed engagement with financial statement audits and performance audits or as stand-alone engagements.

Modern digital tools can help auditors spot discrepancies and potential fraudulent activity by analyzing how transactions move through systems and identifying patterns of fraud or criminal activity. This is particularly useful in cases of complex fraud schemes. Using machine learning algorithms, AI-based systems can relatively quickly analyze vast amounts of financial data, transaction records, and other relevant information to identify deviations from the rules, individual anomalies, patterns of behavior, and "red flags" that may indicate the presence of fraudulent activity. Algorithms based on AI can detect irregular activities, subtle discrepancies and suspicious transactions that deviate from normal operations. For instance, it can detect recurring or unusually high-value transactions processed outside business hours, which can indicate to the auditor fraudulent activity and areas that should be further investigated.

3.5. NATURAL LANGUAGE PROCESSING (NLP)

NLP is a field of artificial intelligence that focuses on how computers can understand, interpret and respond to human language. This is what allows machines to read, listen to, and even generate text in a way that feels natural to humans. A common example of NLP includes virtual assistants like the language translation tools Siri or Alexa, and even chatbots that help answer questions online.

In the future, NLP can improve audit efficiency by helping auditors extract insights from different published and audit reports over the years, across multiple sectors or organizations. Such digital assistants could find their application especially in performance audits where it is necessary to investigate a large number of different documents such as strategies, plans, different reports from several entities in different formats, over a number of years, and to observe relationships and correlations, cause-and-effect relationships or deviations and conflicting information. By analyzing large amounts of unstructured text data, NLP can help identify patterns, trends, and anomalies that may not be easily detected by human reading and manual review or would require the commitment of too much time or human resources.

Also, NLP could be used to analyze the wording and tone of business reports and the implementation of strategic and action plans, as well as previous audit reports, to reveal potential areas of risk or concern. Finally, NLP could be used to consolidate and summarize key findings from multiple individual audit reports, formulate audit recommendations, and achieve consistency in the writing of similar findings for similar auditee's by multiple audit teams.

3.6. KNOWLEDGE MANAGEMENT

Knowledge management focuses on the accumulation, effective use and sharing of knowledge within the audit organization, thereby improving the ability of auditors to learn, innovate and adapt more quickly to a changing environment.

As ISQM 1 (IFAC, 2022) explicitly defines three categories of resources that are required for the implementation of audit engagements and the operation of the quality management system, namely: human, technological and intellectual, whereby intellectual resources are: "*written rules or procedures, methodologies, manuals specific to the industry or subject matter, accounting manuals, standardized documentation or access to information sources*", it becomes clear that each audit organization must necessarily have a developed system that will enable the collection, distribution and efficient use of knowledge, i.e. intellectual resources within the organization. It includes the practices and technologies used to identify, create, represent and distribute knowledge.

Examples of the use of digital tools in the managed and efficient use of knowledge are the indexing and marking of documents and parts of documents by "tags". This means that AI algorithms can categorize and label documents based on their content, making it easier to find relevant information when needed. This facilitates the search of extensive standards, guidelines and methodologies and finding answers to specific audit questions from practice. In addition, the AI-powered chatbots and virtual assistants can provide instant access to knowledge and resources by answering common questions, guiding users to

relevant documents, or connecting them to experts in specific fields.

3.7. QUALITY MANAGEMENT

When it comes to an audit engagement, which is basically a service that an audit firms provide to intended users, digital tools and artificial intelligence can significantly improve the audit quality management system by improving accuracy, efficiency and the ability to detect potential deviations. This is achieved by:

a) Automating routine tasks, because in this way human errors in data entry and analysis can be minimized, ensuring a higher level of accuracy in audit findings.

b) Standardization: AI can apply consistent criteria and processes across audits, reducing variability in quality and ensuring that all audits adhere to standards in an identical manner.

c) Dynamic report generation. To some extent, it is possible to automate the generation of audit reports, summarizing findings and highlighting key metrics in a standardized format. This speeds up the reporting process and ensures that reports are consistent and comprehensive.

As Curtis and Rozario (2019) point out, the digitization of auditing requires the development of new competencies, especially in the area of data analysis and critical thinking. As previously described, digital tools significantly redefine the audit process, first of all enabling the transition from limited sampling to the analysis of complete data sets, thereby increasing the validity and reliability of audit findings. In addition, the automatization of routine tasks is another important aspect of digital transformation. Furthermore, machine learning and artificial intelligence make it possible to identify patterns and anomalies that would be difficult to detect with traditional work methods. Thus, technology contributes to the improvement of risk assessment and more effective audit planning (Kokina and Davenport, 2017).

4. HOW DIGITAL TOOLS ENHANCED BY AI ARE CHANGING THE WAY AUDITORS WORK

Audit software is a digital tool used by accountants and auditors to more efficiently plan, perform and document audits. It reduces manual work and improves accuracy by automating many standard accounting and auditing needs, such as analyzing financial data, testing controls, and ensuring compliance with accounting standards and regulations.

Further development and integration of advanced IT tools and artificial intelligence in auditing represents the concept of continuous auditing, which enables monitoring of transactions in real time. Instead of retrospective analysis, auditing becomes a proactive process aimed at timely recognition and management of risks. Alles (2015) emphasizes that continuous auditing enables faster identification of irregularities and increases the efficiency of the auditing process.

For continuous auditing to be applied in a standards-based and methodologically correct way, certain prerequisites are needed. In the context of this paper, we will focus on software platforms used for audit preparation and audit software. AI-based software platforms that help companies manage risk, monitor compliance, validate and reconcile data can help prepare for internal and external audits.

For example, the *DataSnippe* software package reduces the risk of errors associated with repetitive manual tasks and provides real-time insights as well as improved workflow efficiency. Then, "*AuditBoard*" and "*Trullion*" are currently the most popular software platforms (Cavanaugh, 2026) based on artificial intelligence, enabling audit preparation; they are designed to automate and simplify work processes to improve audit readiness. In addition, compliance with various standards is supported and simple data validation and reconciliation is enabled. Audit teams benefit from reduced errors and streamlined workflows, along with real-time visibility into critical data. These automations and increased visibility help prepare for internal and external audits and ensure compliance standards are met.

In terms of software used in external auditing, technological resources used in conducting audits include (CPAB, 2021):

1. IT applications used for the preparation and compilation of audit documentation and audit management (ie. audit platform). Audit platforms are becoming increasingly automated, enabling centralized monitoring of audits by audit practice managers – partners of such audit firms.

2. IT applications used for intellectual resources. Individual audit firms have incorporated their intellectual resources (ie. policies and procedures, ethical requirements, methodologies, accounting, industry and subject matter guidelines) into their audit platforms.

3. IT applications that are used as automated tools and techniques (ATT) for performing audit procedures. ATT are IT tools used by auditors to perform risk assessment procedures and/or further audit procedures (ie. tests of controls and substantive procedures), and include data

analytics, AI and robotic process automation (RPA).

"The Big Four" audit firms (Deloitte, EY, KPMG, PwC) primarily use their own platforms (based on AI and "cloud" technology) for risk management, analytics and documentation automation. (Core platforms include: Deloitte has Omnia (for audit management) and Cortex (data analytics), EY Canvas/Helix, KPMG - Clara, and PwC - Aura/Halo)

The pace of change that "The Big Four" are investing in and improving their digital platforms suggests is a true "*artificial intelligence arms race*" (Foley, 2026).

There are commercially available data analysis and visualization software packages designed to enable users to efficiently extract, analyze, and visualize data from various sources to improve audit processes and improve decision making (example: CaseWare IDEA; Galvanize; SAS Audit Analytics).

These and similar platforms allow auditors to create statistical samples for testing, ensuring a representative and efficient analysis. Unlike a generic AI assistant, every query, test and result is logged for verification, auditing and evidence of compliance.

However, the dramatic change from the auditor's perspective is also reflected in the nature of audit evidence.

Digital records, databases and system logs become key sources of information, which requires auditors to have additional knowledge in the field of information technology.

The auditor no longer analyzes only financial reports, but also the systems that generate those reports

Table 1: Comparison of conceptual audit principles between traditional and AI-supported audit approaches

Fundamental audit principles	***Traditional audit approach***	***AI-supported approach***
Professional competence	Knowledge of the theoretical and practical professional framework, application of the concept of measuring findings (conditions) in relation to criteria (rules).	The traditional concept of professional judgment significantly enhanced by the requirements for digital and technological literacy.
Professional skepticism	Dominantly focused on human statements and paper documentation at the level of individual decisions and transactions.	Focused on the question "How did the system get this result?“, skepticism in relation to algorithms, quality of input data and transparency of AI..
Audit risk	A risk-based audit when there is a possibility that certain errors will remain undetected due to the application of sampling methods and the concept of inherent risk.	Analyzing the entire population completely eliminates sampling risk, and inherent limitations disappear because AI enables continuous risk assessment.
Materiality	Determining the threshold above which an error is considered significant and affects the auditor's opinion.	It is possible to identify, analyze and summarize all errors, regardless of the quantitative amount and qualitative nature of the error.
Documentation	The evidence is primarily documentary and retroactive.	The evidence is primarily data and digital formatted, and enables continuous audit in real time.
Independence and ethics	Independence in relation to the auditee, while not relying on only one source of evidence (reliability of sources and sufficiency of evidence). The auditor is responsible for professional assessments, conclusions reached and opinions expressed.	The unclear line of relying on automated results in terms of algorithm bias, the inability to determine the source and extent of data and information on which the conclusion is based, with the risk of the AI-"hallucination". The responsibility of the auditor is not transferred to the "black box".

Note. Author's presentation based on conducted research.

Generative AI plays a special role in modern auditing, but its application carries certain risks, including the issue of reliability, transparency and accountability (European Commission, 2021). Therefore, the auditor must maintain a key role in the verification and interpretation of the results

5. THREATS, CHALLENGES AND LIMITATIONS OF DIGITAL TRANSFORMATION IN AUDITING

5.1. LIMITED RESOURCES AND TECHNICAL CHALLENGES

Despite numerous advantages, digital transformation also brings certain challenges. One of the key problems is the demanding nature of the introduction of artificial intelligence systems in terms of resources, investments in technological infrastructure and the lack of adequate competencies among auditors, but various ethical and regulatory issues, security issues and key technical challenges are also raised. According to the report of the European Commission, "*AI systems may pose risks related to transparency, accountability and accuracy*" (European Commission, 2021). In this sense, Brynjolfsson emphasizes that "*AI does not replace human judgment but amplifies the need for it*" (Brynjolfsson and McAfee, 2017), which can be very relevant for the auditing profession.

Namely, the implementation of AI systems is still very expensive, available only to the largest companies and states and, in addition to the development of customized software platforms and models, large investments in technological infrastructure, data storage and qualified personnel are also required. Artificial intelligence models, especially deep learning models (Deep Learning), require enormous computing power, which leads to high energy consumption, and development and maintenance costs grow exponentially.

The key technical challenges can be categorized as:

- *Dependence on input data and its quality*, because incomplete, biased or poor quality data will result in wrong output results.
- *Bias in the data*. Artificial intelligence models can maintain biases arising from the input data used to train them, leading to skewed results.
- *Explainability and transparency*. This is already a widespread concept of the so-called „The Black Box" problem, since many AI models work in such a way that their decision-making processes are not easily understood or explained.
- *Absence of responsibility*. When AI makes decisions that affect people's lives, there is a challenge in identifying responsibility if something goes wrong.

All this must be taken into account when considering the possibility of applying advanced digital tools in audit practice.

5.2. RELIABILITY AND SECURITY OF DATA AND RESULTS

Another group of significant challenges relates to data reliability and security. The use and disposal of a large amount of digital data increases the risk of cyberattacks and breaches of information confidentiality, that is, security concerns and vulnerabilities are growing that were not previously expressed. In addition to vulnerability to breaches of confidentiality and data integrity, motivated hackers could manipulate AI algorithms or inject false data to alter their results.

These challenges significantly impede critical discourse regarding the ethical, legal and societal implications of rapid technological advancement.

Additionally, there is a need to adjust the regulatory framework in order to enable adequate application of new technologies in auditing, while preserving professional standards and ethical principles.

According to Foley (2026), while representatives of "The Big Four" were demonstrating improvements in their digital platforms, the UK's Financial Reporting Council (FRC) was finalizing what they called the first published guidelines for audit firms on the use of generative and agentic AI. The FRC's framework is useful precisely because it is simple, and identifies three mechanisms through which AI compromises the audit function:

1. The result or output from AI models can be wrong, because the input data was deficient or the model was faulty.
2. The result, i.e. the output can be misinterpreted.
3. AI may not do as much work or may not meet the "sufficiency" of evidence requirement to meet the standard required of a human auditor.

It follows that audit firms will already have to establish new processes aimed at identifying and mitigating each of the three completely new risks.

5.3. DIGITAL TRANSFORMATION IN THE PUBLIC SECTOR

In the context of the public sector, the digitization of auditing has an additional dimension. SIGMA/OECD points out that "digitalisation is a key enabler of transparency and accountability in public administration" (SIGMA/OECD, 2024). Therefore, the digital transformation in Supreme

Audit Institutions (SAIs) takes on special importance, as it can enable more efficient and real-time monitoring of public spending, fosters transparency and contributes to the accountability of public institutions. In particular, the implementation of digital tools can improve performance auditing (which focuses on effectiveness, efficiency and economy) and enable the analysis of complex public policies.

However, the public sector often faces additional constraints in addition to those listed above, including chronic underfunding, rigid administrative structures, and slow adoption of innovation.

The Sharm El-Sheikh Declaration (XXV INCOSAI, 2025) reflects the collective commitment of INTOSAI members to advance public sector auditing in response to transformations in the global context. The Declaration summarizes the most significant strategic perspectives, achievements and recommendations, along with setting a vision that promotes the spirit of innovation and professionalism. At the Congress, members of the International Organization of Supreme Audit Institutions (INTOSAI) focused their attention on two key topics, one of which is "Using artificial intelligence techniques in auditing."

In the final text of the Declaration from Sharm-El-Sheikh, it is recognized that artificial intelligence is a tool for increasing the efficiency and accuracy of audits, optimizing the quality of audit findings and detecting deviations and anomalies, emphasizing that it is necessary that such use be reliable, responsible, ethical and carried out under disciplined, professional and standardized auspices. In this context, INTOSAI members emphasized the following through their conclusions:

- Necessity of applying the so-called of a "hybrid model" that combines the efficiency of artificial intelligence with the expertise of auditors.
- Ethical use of artificial intelligence in public sector auditing.
- The importance of an effective governance framework to ensure responsible and secure use of data and technologies.
- The need for capacity building, taking into account the different contexts in which supreme audit institutions operate.
- The importance of reviewing the integration and use of AI by governments.

Proclaiming their collective commitment to strengthening SAIs to contribute to a fairer and more sustainable future, Congress recommends (XXV INCOSAI, 2025): "*Investing in the continuous development of audit methodologies and competencies, in addition to supporting the use of advanced tools, most notably Artificial Intelligence technologies. From this perspective, INTOSAI members adopt this Declaration towards a more responsive, innovative, agile and inclusive era, consisitent with and rooted in the enduring principles of INTOSAI that unite the global audit community*."

6. RESPONSIBLE AI

6.1. GLOBAL TRENDS

The term responsible artificial intelligence refers to the development and application of artificial intelligence systems in an ethical, transparent and responsible manner.

Artificial intelligence is rapidly changing our lives, the corporate world, and public discourse, and as stated in the opening section of Stanford's Artificial Intelligence Index Report for 2025 (Maslej et al., 2025): „*AI has moved from the margins to become a central driver of business value. Governments, too, are ramping up their involvement. Policymakers are no longer just debating AI—they're investing in it. Several countries launched billion-dollar national AI infrastructure initiatives, including major efforts to expand energy capacity to support AI development. Global coordination is increasing, even as local initiatives take shape. Yet trust remains a major challenge. Fewer people believe AI companies will safeguard their data, and concerns about fairness and bias persist.*"

The overall goal should be to ensure that AI technology is used in ways that benefit individuals and society as a whole, minimizing risks and addressing potential harms. This applies to all spheres of human activity, including large corporations, health and education systems, finance, transportation, everyday life, public administration and even auditing.

As Mark Babington, executive director for regulatory standards at the UK's FRC, told the Financial Times (Kissina, 2026): „*You can't blame it on the box. If you use this technology, you are still accountable for it.*", responsibility for audit failures still rests with the audit partners and not with the designers of any digital tools and artificial intelligence.

The four major audit firms have collectively spent billions of dollars on an "artificial intelligence arms race" (Foley, 2026) to demonstrate that AI will revolutionize the audit process and to take advantage through more efficient operations and cost reductions.

However, there are concerns (Kissina, 2026) that investment in AI could widen the gap in audit quality and capabilities, as 'The Big Four' siphoned off 90% of audit fees paid by FTSE 350[2] companies in 2024.

6.2. BASIC PRINCIPLES OF RESPONSIBLE AI

While regulators and standard setters are still slow to react to the application of advanced digital tools and artificial intelligence in audits, the question of how to satisfy the key principles of fairness, responsibility, security and transparency is justified.

As stated (Maslej et al., 2025), the ecosystem of responsible artificial intelligence is evolving, but unevenly, that is, incidents related to artificial intelligence are growing rapidly, but standardized evaluations among the main developers of industrial models still remain rare. There remains a gap among companies between recognizing the risks of AI and taking meaningful action. In contrast, governments are showing increasing urgency: in 2024, global cooperation on AI governance has intensified, and organizations including the OECD, the EU, the UN and the African Union have published frameworks focused on transparency, trustworthiness and other core principles of responsible AI.

6.3. THE PATH TO ADOPTION OF AI METHODOLOGY IN THE SAI

The potential benefits and opportunities offered by advances in technology to the audit profession are certainly numerous and potentially incredibly potent. Exploiting these opportunities, within acceptable risk levels, provides the potential for a complete paradigm changes, as well as for more efficient fulfillment of the role of internal auditors in the public sector, supreme audit institutions (SAIs) and the exponential realization of the aspirations of professional auditors, as well as the needs and desires of interested parties and the general public.

Ethics should continue to play a central role in ensuring that technology does not dehumanize audit work and that SAIs create added value and benefit the lives of citizens. In this sense, apart from declarative statements, it is necessary to adopt a strategic approach as well as to find an appropriate balance between the expectations of auditors and audit institutions, regulators, professional bodies and other interested parties, in order to ensure that the technology serves the ultimate purpose.

The path for the methodological adoption of contemporary digital tools and artificial intelligence in the daily work of SAIs primarily includes:

1. Strategic planning;

2. Investment in infrastructure and data;

3. Development of new auditing skills;

4. Continuous consideration of ethical issues.

Although the mentioned steps are not linear, but are mutually conditioned and complementary, the initial investment still refers to the development of a comprehensive strategy for the application of digital tools that must be in line with the SAI's mission and goals. This should include identifying the needs and potential uses of AI, embracing initiatives and prioritizing while setting clear performance metrics.

In addition to investing in equipment, i.e. hardware and the purchase/development of applications, it is necessary and crucially important to invest in a robust data infrastructure to support AI applications, which includes providing access to high-quality data, building secure systems for data storage and management, and defining and implementing data management policies. Without "clean" and secure data, AI insights are useless (according to the principle of "*garbage in, garbage out*"). According to ICAS (2026), it works on data valuation, i.e. explores the possibilities of how data can be treated as a strategic asset, while the issue of data integrity focuses on protocols for collecting, storing and managing data to ensure that it is accurate, complete and compliant with laws (e.g. GDPR).

In order to equip auditors with the skills to effectively use digital tools in their work, one of the most important steps is training auditors, which can be achieved through targeted training programs, workshops and mentoring. According to the latest research (Slapničar et al., 2026), the *motivation and competence* of audit and IT experts play a key role in their readiness for coordination and cooperation, aware that they are the ones who define effective security within their organization.

At the same time, they value the other party's knowledge and contribution, which gives them the confidence to flexibly coordinate and collaborate without fear of losing integrity or professional independence.

All the previous steps are connected by ethics and refer to the consideration of ethical issues in continuity with the establishment of clear ethical

[2] FTSE 350 - The Financial Times Stock Exchange 350 Index is a stock market index weighted by market capitalization, composed of the components of the FTSE 100 and FTSE 250 indexes.

guidelines for the responsible use of digital tools and AI in auditing. These activities include ways to address potential biases in data and algorithms, ensure transparency in decisions made based on the results of artificial intelligence, and protect the privacy of individuals involved in audits.

CONCLUSION

Digital transformation is not only technological progress, but a fundamental change in the paradigm of the auditing profession. The integration of advanced analytics, automation and generative artificial intelligence is redefining the way evidence is gathered, risks are assessed and audit conclusions are formulated.

Digital tools not only change the way auditors work, but also fundamentally affect the understanding of what it means to be an auditor. The focus shifts from verification to understanding, from control to interpretation, and from the retroactive review to prediction.

Auditors necessarily become interdisciplinary experts who combine previously acquired professional knowledge with technological competencies.

The application of IT tools and artificial intelligence does not eliminate the need for traditional audit competencies; rather, it redefines their sufficiency. The contemporary audit environment requires an expansion of the auditor's competency framework to include an in-depth understanding of information systems, algorithmic processes, electronic data management and manipulation, and the risks inherent in AI-driven reasoning.

However, it is precisely in this interdisciplinary synergy that the greatest challenge lies.

Namely, technology can improve the audit, but it cannot take responsibility for the audit opinion. Professional skepticism, ethics and responsibility cannot be automated, but become even more important in the context of relying on complex digital tools.

Therefore, it can be concluded that the future of the audit profession does not depend solely on the degree of digitization, but on the ability of auditors (individuals) to use technology critically, responsibly and purposefully.

The auditor of the digital era is not only a user of tools, but an active interpreter of data and guardian of trust in financial reporting. It is precisely in this role - at the crossroads of technology and professional judgment - that the new value and relevance of auditing in modern society will be defined.

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