

Will Artificial Intelligence Replace the Statutory Auditor?

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Introduction: A New Audit Paradigm

Audits of financial statements are increasingly conducted in environments where the tools utilized contain components of Artificial Intelligence (AI). These tools are not necessarily complex generative models, but often systems for invoice classification, credit scoring algorithms, or modules analysing large volumes of journal entries in accounting records.

Changes in the financial reporting process do not affect the scope of the statutory auditor's formal responsibilities – the entity's financial statements are still subject to a mandatory audit, and the independent auditor's report requires the signature of the person assuming responsibility for its performance. What is changing, however, is the manner in which data constituting audit evidence is created, processed, and utilized.

The true shift lies not in the simple replacement of man by machine, but in a profound transformation of the scope and efficiency of verification procedures used in the audit. The traditional model, focused on retrospective, fragmentary verification of selected transactions, gave way some time ago to an approach where the ability to assess and verify systems processing financial data – in near real-time – becomes key. The specialist increasingly assumes the role of a designer of audit procedures, an evaluator of the results produced by analytical tools, and a professional bridging accounting and reporting knowledge with an understanding of the capabilities and limitations of technology.

Polish and international industry publications consistently emphasize that the role of artificial intelligence in auditing is supportive, not substitutive¹. AI does not assume professional scepticism, professional judgment, or responsibility for the type of opinion issued; rather, it enhances capabilities in data analysis, audit

¹ Arches Sp. z o.o. (2025). *Sztuczna inteligencja (AI) w audycie - wsparcie pracy biegłego rewidenta* [Artificial intelligence (AI) in audit – support for the statutory auditor's work]. <https://arches.pl/sztuczna-inteligencja-ai-w-audycie-wsparcie-pracy-bieglego-rewidenta/>.

Defacto Sp. z o.o. (2024). *AI nie zmienia zasad audytu, AI zmienia obszary ryzyka* [AI does not change audit principles, AI changes risk areas] <https://dfe.org.pl/ai-nie-zmienia-zasad-audytu-ai-zmienia-obszary-ryzyka>.

CAQ (2024). *Auditing in the Age of Generative AI*.

planning, or the verification of evidence. It is increasingly posited that artificial intelligence does not alter the key assumptions of the audit but influences areas of risk. The standards remain largely the same; however, their application takes place in a different context, where sources of risk now include information processing algorithms and the data on which they are trained.

Against this backdrop, the question “Will AI replace the statutory auditor?” proves to be an oversimplification. A more adequate question becomes: how are AI systems changing specific tasks performed by the auditor – from planning, through risk assessment and substantive procedures, to final documentation – and what new competencies are necessary to maintain the ability to formulate a reliable opinion?

The aim of this article is to answer this question – both from the perspective of professional standards (such as National Standards on Auditing [KSB] or the Code of Ethics) and the growing importance of IT controls in the audit.

1. The Increased Role of IT Systems Verification

Despite technological advancements and the potential to apply them to the analysis of large data sets, individual transactions are and will continue to be verified by statutory auditors. Due to the increased scope of automated mechanisms in accounting, the statutory auditor must, at the stage of audit planning and risk identification, gain a broader and better understanding of procedures within IT tools. This is addressed in KSB 315 (Revised)², which states that the statutory auditor must identify IT applications and other aspects of the IT environment that are subject to risks arising from the use of IT. The auditor's task becomes not only to check the output but also to verify the correctness of the mechanism generating that result, including the adequacy of input data and IT processes.

In the traditional model, the objective was to detect material misstatements in the ledgers through audit sampling and the assessment of accounting estimates. In an AI-supported model, the importance of answering the following questions grows:

- how the algorithm identifies anomalies and potential errors,
- what training data was used,
- whether unconscious bias or systemic errors have been encoded in the model,
- what mechanisms for human oversight of the algorithm's operation have been provided.

The profession of the statutory auditor is ceasing to be identified with the manual reperformance of records and is increasingly associated with the role of verifying whether the systems applied – including tools utilising AI – operate as intended, in an ethical, transparent, and controllable manner. The subject of attestation shifts from the single transaction to the entire financial information processing chain.

As a consequence of technological changes, new competency requirements for the statutory auditor are taking shape. The auditor must:

- understand business processes and accounting models where IT systems and algorithms are utilized,
- be able to identify critical points where data is processed by IT systems,
- evaluate the adequacy of internal controls (IT General Controls [ITGC]) safeguarding against errors and fraud,
- verify the manner of documenting and monitoring the operation of IT systems so that results can be used as reliable audit evidence.

² PIBR – Krajowe Standardy Badania [National Standards on Auditing], including: Krajowy Standard Badania 315 (zmieniony w 2022 r.) [National Standard on Auditing 315 (Revised in 2022)] https://www.pibr.org.pl/assets/meta/6437,2272.%20Za%C5%82%C4%85cznik%201_KSB%20315%20Z%202022.pdf.

Unlike an IT specialist, the statutory auditor is not responsible for designing technical architecture, but for assessing whether its functioning allows for the preparation of financial statements that are free from material misstatement whether due to fraud or error. AI analytical tools take over tasks of processing large volumes of data, leaving humans with areas requiring professional judgment, interpretation, and understanding of the business context.

2. Transformation of Audit Procedures in Light of AI Technology

The introduction of artificial intelligence into audit practice does not abolish existing professional standards but affects the manner of their implementation. Below, selected audit procedures are discussed where the application of AI is of particular importance.

2.1 Planning and Risk Identification

KSB 315 (Revised) requires the auditor to obtain an understanding of the entity, its environment, and its system of internal control, and subsequently to identify and assess the risks of material misstatement of the financial statements. Traditionally, this process relies on:

- inquiries of management and of others within the entity,
- analytical procedures,
- observation and inspection.

Although still relevant, these methods face limitations in an environment where entities generate millions of records annually and intensively automate processes. Data analytics tools can support this process by:

- identifying unusual combinations of accounts, users, and timestamps,
- detecting transactions that deviate from historical patterns of behaviour,
- indicating areas with an elevated risk of fraud or error.

The result is a risk map supported by a more objective analysis of transactional data, although the final assessment remains within the auditor's competence. The auditor's task becomes assessing whether:

- the assumptions of the analytical model are justified,
- the input data is complete and accurate,
- the system's operation process is appropriately controlled and documented.

In this sense, AI does not replace the risk assessment stage but changes the way risks are identified and prioritised. It should be emphasized that AI tools can be particularly useful in assessing the risk of fraud related to management override of controls.

2.2 Greater Efficiency and Precision of Sampling

KSB 330 requires designing audit procedures responsive to assessed risks, while KSB 530, among others, defines the principles of audit sampling. In the classical approach, the auditor typically relies on a sample – because testing the entire population is, in most cases, unjustified on one hand and unrealistic to perform on the other.

Thanks to AI, full databases can be analysed faster and more effectively against predefined criteria, such as:

- unusual account combinations,
- journal entries posted outside standard business hours,
- operations performed by privileged users,
- transactions that are exceptional relative to the entity's history.

The result is a classification of the population – the majority of records are classified as consistent with the typical pattern, while a portion is flagged as anomalies requiring further analysis. Audit sampling does not disappear but changes its character. The auditor focuses on a sample built from higher-risk transactions indicated by the system, rather than testing randomly selected items from the entire population. This approach increases the probability of detecting material misstatements with less workload on verifying routine operations.

However, the condition for success is the reliability of the analytical system itself. Hence the growing importance of testing IT General Controls and assessing:

- whether the system processes a complete and accurate population of data,
- whether the classification rules applied are adequate for the purpose,
- whether there are controls detecting and correcting potential errors in the system's operation.

2.3 Accounting Estimates

KSB 540 (Revised) requires the auditor to critically evaluate accounting estimates, the selection and application of the method of estimation, significant assumptions, and data used by management in making the accounting estimate. Areas such as allowances for credit losses, measurement of financial instruments, or impairment tests are increasingly based on models, including those utilising Machine Learning.

In such an environment, checking the adequacy of the model's premises and its sensitivity to changes in input data becomes key. AI can significantly support the verification of procedures where the auditor:

- evaluates the clarity and transparency of the model used by management,
- verifies whether the input data is accurate,
- tests the correctness of the computational logic and model parameters,
- analyses whether the model accounts for all relevant risk factors.

This approach shifts the auditor's role from a reviewer of estimates to an active participant in the verification process – not in the sense of technically designing the model, but in assessing its adequacy, transparency, and resilience to manipulation.

2.4 Analysis of Unstructured Data (KSB 500)

KSB 500 establishes requirements regarding the sufficiency and appropriateness of audit evidence. In practice, a significant portion of evidential matter is unstructured: lease agreements, meeting minutes, correspondence with counterparties, documentation in PDF, Word, and Excel formats, and email correspondence. Their traditional analysis required time-consuming reading and manual searching for key information – dates, amounts, special conditions, covenant clauses, or restrictions on contract termination.

Natural Language Processing (NLP) techniques and selected analytical tools enable partial automation of this process. NLP systems can support the analyst, for example, in identifying and extracting information from large document sets, such as:

- key parameters (start and end dates, liability amounts, rent rates, interest rates),
- non-standard clauses (early termination conditions, guarantees, collateral, assignment restrictions),
- deviations from standard contract templates used by the entity.

As a result, the auditor receives structured datasets: lists of contracts with key parameters, a schedule of clauses deviating from the standard, and highlighted fragments requiring further analysis. Their role primarily becomes:

- verifying the correctness of the interpretation made by the system (e.g., whether a clause was correctly identified as a financial covenant),
- assessing the significance of identified risks in the context of the financial statements,
- substantive analysis of non-standard provisions, the interpretation of which requires professional judgment regarding accounting and legal matters.

NLP does not, therefore, replace the auditor but limits the most tedious part of document review, enabling a focus on assessing content relevant to accounting recognition. From a quality control perspective, audit procedures should define to what extent NLP results can be directly used as evidence, and where additional verification is necessary.

3. Managing “Black Box” Risk in Audit Practice

The “black box” risk in artificial intelligence models refers to the lack of transparency regarding the internal decision-making mechanisms of advanced algorithms, particularly deep neural networks. The result generated by such systems does not allow for a full reconstruction of the reasoning path by a human. This poses a significant challenge in auditing, where the verifiability of the basis for decisions, such as the identification of high-risk transactions, is required.

The classical approach to obtaining audit assurance assumes that the auditor builds a conviction about the reliability of the financial statements through a sequence of understandable and executable procedures. The source of the expected level of assurance has primarily been tangible evidence, such as: observation of physical inventory counting, external confirmations, analysis of contracts, or verification of transactions in the ledgers against source documents.

In the context of black box risk, advanced AI models introduce the problem of limited operational transparency – the algorithm generates a result based on a large number of parameters and complex dependencies, while the full decision path is often difficult for a human to reproduce; in other words, there is a lack of an audit trail. The auditor may receive information that a given transaction has been classified as unusual or high-risk without directly understanding all the steps leading to such a conclusion.

This creates a discrepancy between:

- the requirement under KSB 200 to obtain reasonable assurance regarding the absence of material misstatement,

and

- limited information explaining the operating mechanisms of certain AI models, especially those of the deep neural network type.

Practice indicates that auditors show greater reserve regarding basing key conclusions on the results of models with limited transparency unless they receive additional explanations regarding the system’s logic.

In response to the problem of limited transparency, which is key to the occurrence of black box risk, approaches collectively known as Explainable AI (XAI) [4][6] are being developed. These aim to provide information helpful in understanding which data features influenced a specific classification or prediction. Examples of tools include feature importance analysis and quantitative measures of the contribution of individual variables to the obtained result.

From the statutory auditor’s point of view, it is crucial that model results intended to be used as audit evidence are not only reliable but also sufficiently understandable

to assess their adequacy and potential bias. Models without explanation mechanisms may be used more as auxiliary tools for identifying areas requiring further analysis rather than as the sole source of evidence for key audit conclusions.

In practice, this means that the internal policies of audit firms should define requirements regarding the documentation of model operations, the scope of validation testing, and available result explanation mechanisms before AI tools are incorporated into standard audit procedures.

4. Classification of AI Systems in the Context of Financial Audit

Regulation (EU) 2024/1689, the so-called AI Act, introduces a classification of artificial intelligence systems, categorizing a range of applications in the financial sector as high-risk AI systems. This includes, among others, systems used for automatic credit scoring, creditworthiness evaluation models, and solutions used for risk assessment in relation to clients³.

For audit firm employees, it is important to distinguish between:

- AI systems used by the audited entity (which may be subject to the AI Act and must be evaluated within the system of internal control),
- AI tools used by the auditors themselves (where the assessment of compliance with the AI Act depends on whether they are made available to clients or used internally).

An AI-based audit tool may be considered subject to the requirements of the AI Act if it is deployed to clients or used in decision-making processes that may have implications for the financial statements. From the audited entity's perspective, ensuring that the AI systems used comply with the AI Act requirements is crucial, as violations may result in administrative fines and reputational risk. In the context of financial reporting, this may, for example, imply the necessity to consider the recognition of provisions, or disclosures regarding significant litigation or regulatory risks associated with the use of AI.

The statutory auditor, when evaluating the system of internal control and risks of material misstatement, among other things, should consider the compliance of the client's key systems with regulations, including the AI Act, to the extent that it affects the reliability of data and potential misstatements in the financial statements. Thus, the auditor's role gradually expands from assessing traditional accounting processes to assessing whether technological processes – including AI systems used in reporting and risk management – have been designed and are used in compliance with legal requirements.

³ Deloitte Luxembourg (2024). European Artificial Intelligence Act adopted by Parliament. <https://www.deloitte.com/lu/en/Industries/investment-management/perspectives/european-artificial-intelligence-act-adopted-parliament.html>.

5. New Competency Profile and the Future of the Profession

The introduction of AI into auditing requires a fundamental enhancement of competencies within the profession. The statutory auditor of the future combines the role of an accounting and reporting specialist with that of a data analyst, requiring competencies in:

- **data literacy** – the ability to work with large datasets, their selection and interpretation, covering an understanding of data structures, sources, formats, and making decisions based on evidence rather than intuition,
- **model statistics** – understanding the assumptions of predictive models, their limitations, and validation methods,
- **prompt engineering** – precisely formulating queries to generative models to obtain repeatable, documented results, applying techniques such as zero-shot learning, few-shot learning, and chain-of-thought prompting,
- **cybersecurity fundamentals** – awareness of threats related to training data, algorithm integrity, and IT system security.

In the face of technological transformation, traditional proficiency in accounting and financial reporting regulations, as well as in National Standards on Auditing (KSB), remains the foundation; however, it is complemented by the ability to assess whether data used to prepare the financial statements has not been distorted during processing by algorithms. As indicated by the International Auditing and Assurance Standards Board (IAASB)⁴, in the AI era, the use of technology to support the comprehensive audit process by the statutory auditor is becoming a strategic direction.

⁴ IAASB (2022). Digital Technology Market Scan: Artificial Intelligence Primer. <https://www.iaasb.org/news-events/2022-03/iaasb-digital-technology-market-scan-artificial-intelligence-primer>.

6. Conclusions and Summary

The analysis of technological, methodological, and regulatory changes leads to a clear answer to the question posed in the title: artificial intelligence will not replace the statutory auditor in the near future, but it will significantly influence the scope of their work.

Artificial intelligence can take over repetitive and computationally intensive tasks (table below):

Traditional Audit	AI-Supported Audit
Sampling-based inference	Analysis of 100% of the population using advanced algorithms
Manual verification/comprehensive reading of individual contracts and documents	NLP (Natural Language Processing) technologies supporting the identification of relevant data
Verification of estimates: sampling, assessment of model assumptions and data	Challenger models and validation of predictive model assumptions
Review of individual documents	Automatic processing and analysis of the entire documentation.

At the same time, the statutory auditor can preserve and strengthen unique competencies.

Current Competence	Role in the AI Era
Professional judgment	Assessment of the adequacy of algorithm results and their interpretation
Professional scepticism	Control of automation bias and assumptions underlying AI systems
Understanding of the business context	Interpretation of anomalies in a broader operational and strategic context

Human-machine synergy creates a new quality of audit. A statutory auditor who consciously and critically utilizes AI will be more competitive than an auditor ignoring technology or relying entirely on existing tools. In an era where financial statements are created as a result of the operation of advanced IT systems, the ability to evaluate these systems (and not exclusively the data used in them) is the foundation of public trust in the auditor's opinion.

The final word in the financial statement audit process always belongs to the human – not because machines are incapable of calculating or processing data, but because the opinion issued by the statutory auditor requires personal responsibility and professional scepticism. These values are the basis of public trust. AI is a powerful tool in the hands of the statutory auditor. It is crucial not only to learn how to use it fully but also to be able to critically assess its limitations simultaneously.

The statutory auditor of the future is not a competitor to artificial intelligence, but its intelligent user – a professional who understands the capabilities and limitations of technology, is able to assess the reliability of its results, and remains responsible for the final content of the opinion presented in the auditor's report.

