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THE IMPACT OF GENERATIVE ARTIFICIAL INTELLIGENCE ON INTERNAL AUDITING: A CONCEPTUAL LITERATURE-BASED ANALYSIS

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Abstract
Generative Artificial Intelligence (GenAI) is rapidly reshaping auditing practices by extending artificial intelligence capabilities from automation and prediction toward content generation, scenario building, and decision support. Building on a conceptual and literature-based research design, this paper synthesizes recent academic studies, professional reports, and regulatory perspectives to examine how GenAI, particularly large language models such as ChatGPT, is influencing internal auditing. Drawing on illustrative use cases documented in prior research, the paper analyses how GenAI can enhance audit planning, risk assessment, testing, reporting, and continuous auditing, while simultaneously introducing new governance, ethical, and professional risks. The findings indicate that GenAI is more likely to augment rather than replace internal auditors, shifting their role toward higher-value analytical and advisory activities. At the same time, concerns related to data privacy, hallucinations, explainability, and professional judgment necessitate robust governance frameworks and competency development. The paper contributes by integrating fragmented insights into a coherent analytical structure that supports both researchers and internal audit practitioners.

Keywords: *Generative Artificial Intelligence; internal audit; ChatGPT; audit process; governance; ethics; professional judgment*

JEL Classification: *M42, O33, G34*

INTRODUCTION

Internal audit functions (IAFs) have progressively intensified their digitization efforts in response to increasing organizational complexity, data volumes, and expectations from boards and regulators. Recent advances in Generative Artificial Intelligence (GenAI), particularly large language models (LLMs), represent a substantive departure from earlier audit technologies focused mainly on analytics and rule-based automation. GenAI systems are capable of generating narratives, audit procedures, summaries of evidence, and hypothetical scenarios, directly interacting with core internal audit activities (Eulerich & Wood, 2025; Rîndașu et al., 2025).

While research on artificial intelligence in auditing has expanded rapidly, much of the early literature focused on traditional AI applications in external auditing (Fotoh et al., 2025) More recent studies acknowledge that GenAI is beginning to influence both internal and external audit practices, yet conceptual clarity regarding its implications for internal auditing remains limited (Isack, 2024). In particular, there is a need to link GenAI capabilities with internal audit roles (Bostan & Grosu, 2010), governance responsibilities, ethical considerations, and professional competencies.

Research Objectives and Questions:

The main objective of this paper is to conceptually analyse the impact of Generative Artificial Intelligence on internal auditing based on existing academic and professional literature. Specifically, the study aims to:

O1: Examine how GenAI reshapes the traditional role and value proposition of internal auditing;
O2: Analyse documented use cases of GenAI across the internal audit process;
O3: Identify governance, ethical, and professional risks associated with GenAI adoption;
O4: Highlight implications for auditor competencies and future research.

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Accordingly, the study addresses the following *research questions*:

RQ1: How does GenAI influence the scope and strategic relevance of internal auditing?

RQ2: What benefits and practical applications of GenAI are identified in the literature for internal audit functions?

RQ3: What risks and governance challenges emerge from the use of GenAI in internal auditing.

I. LITERATURE REVIEW

2.1. From Traditional AI to Generative AI in Auditing

In recent years, artificial intelligence (AI) has become a central topic in academic and professional debates across multiple disciplines, being described as one of the most transformative technologies created by humanity (Clifford, 2018). Despite this growing interest, literature does not converge toward a single, universally accepted definition of AI. Rather, scholars emphasize its multidimensional and evolving nature. Popenici and Kerr (2017) describe AI as computational systems capable of processes similar to human reasoning, including learning, adaptation, synthesis, and self-correction. Complementarily, Parcalab (2021) and Kim et al. (2025) highlights that AI systems operate through data, which act as informational fuel, and algorithms, which function as the cognitive structure enabling a degree of autonomy from human creators.

From a managerial and business perspective, AI is commonly defined as a system's ability to interpret external data, learn from it, and flexibly adapt to achieve predefined objectives (Kaplan & Haenlein, 2019). The absence of a universal definition is not considered problematic, as many complex scientific concepts mature conceptually over time. Moreover, AI encompasses multiple disciplines, and its interpretation often reflects the specific analytical lens of each field. Within the AI spectrum, machine learning represents one of the most widely adopted technologies, enabling systems to improve performance through experience (JRC Publications Repository, 2018). AI systems are frequently classified as narrow AI, designed to solve specific, predefined problems, or general AI, which aspires to human-level cognitive versatility (Predescu, 2023). In practical terms, contemporary auditing applications predominantly rely on narrow AI systems that support data analysis, anomaly detection, and decision support (Erhan, 2024).

Recent technological advances have led to the emergence of Generative Artificial Intelligence (GenAI), marking a qualitative shift from traditional AI applications. GenAI refers to systems that use generative models to create new content, such as text, images, or scenarios, based on patterns learned from training data. In order to synthesize how these fundamental capabilities are translated into the audit practice and what factors influence the final result, a conceptual framework, illustrated in *Figure 1*, is proposed.

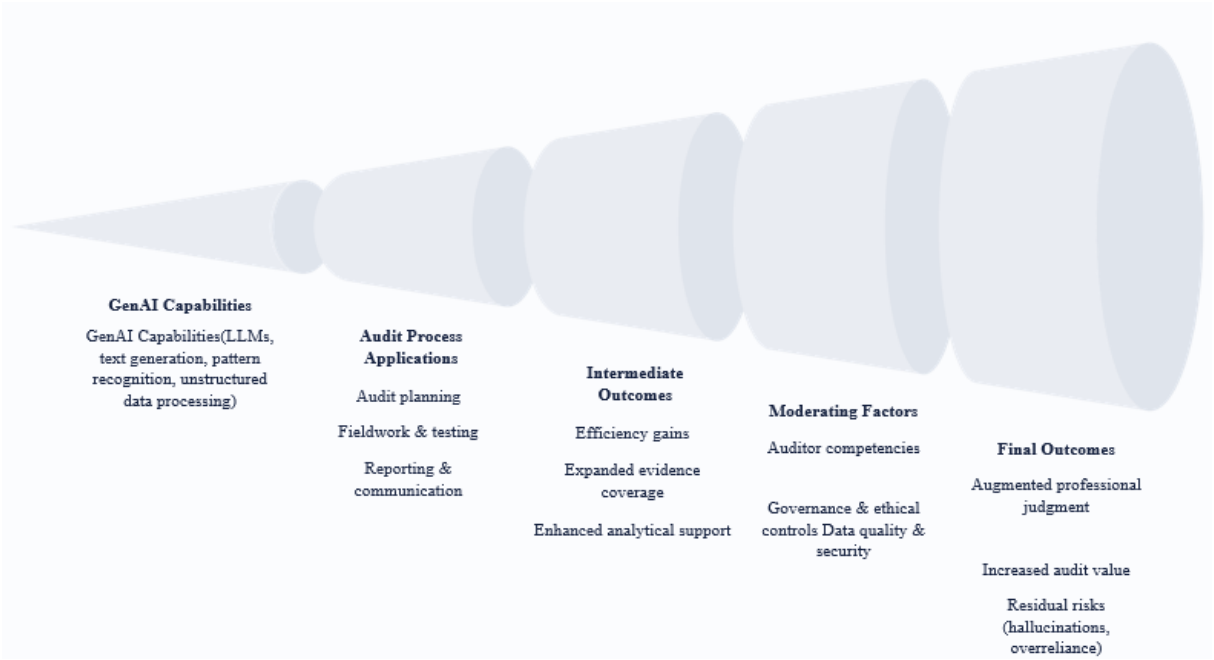

Figure 1. The framework for integrating Generative Artificial Intelligence into the internal audit process

Figure 1 summarises this transformational potential by presenting a framework that organically links GenAI's technical capabilities with the applications in the audit process, while highlighting the key factors (such

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as skills and governance) that drive positive end results such as enhanced professional judgement and increased audit value.

These capabilities stem from the underlying architecture and design of generative models. Unlike traditional AI, which primarily focuses on classification, prediction, or optimization, GenAI is designed to generate novel outputs from limited prompts or instructions. Prominent examples include large language models such as OpenAI's ChatGPT and systems developed by Google DeepMind. ChatGPT is built on a transformer-based deep neural network architecture that uses self-attention mechanisms to capture contextual relationships within text data. Pretrained on large-scale corpora, such models are capable of producing coherent and contextually relevant natural language responses (Huang & Tan, 2023). It is precisely this ability to process language and generate context-aware content that has expanded the potential applications of AI in knowledge-intensive professions, including auditing, where narrative explanation, judgment, and interpretation play a critical role. Consequently, GenAI has become increasingly relevant for internal auditing, where it can support planning, analysis, documentation, and decision-making processes (Dragomir, 2025).

2.2 Benefits and limitations identified in prior research

Prior research identifies several benefits associated with the adoption of GenAI in auditing. Studies demonstrate that GenAI can enhance efficiency by automating repetitive and time-consuming tasks, such as drafting audit documentation, summarizing evidence, and structuring unstructured data (Eulerich & Wood, 2025). By processing large volumes of structured and unstructured information, GenAI tools can support more comprehensive risk assessments and enable auditors to focus on higher-value analytical and advisory activities (Sachan & Liu, 2024).

Empirical and conceptual studies further indicate that GenAI can improve audit quality by facilitating full-population analysis and scenario generation, thereby reducing reliance on sampling and enabling more forward-looking risk identification (Lin & Maginnis, 2024; Abu-Allan & Alabady, 2025). In this context, GenAI is increasingly viewed as an augmentation technology that enhances, rather than replaces, professional judgment.

However, the literature also emphasizes significant limitations and risks. Otero and Agu (2024) highlight concerns related to data security, privacy, regulatory compliance, and the reliability of AI-generated responses. The probabilistic nature of large language models introduces the risk of hallucinations, plausible but incorrect outputs, which may undermine audit evidence if not properly controlled Isack (2024) further warn that overreliance on GenAI may erode professional skepticism and accountability if auditors fail to critically evaluate AI-generated insights.

Beyond operational risks, governance and ethical challenges remain underexplored. Scholars stress the importance of explainability, transparency, and human oversight to ensure responsible GenAI adoption in auditing (Mökander et al., 2025). In parallel, research on professional competencies underscores the need for auditors to develop new skills related to AI oversight, risk awareness, and ethical judgment to effectively integrate GenAI into audit practice (Anica-Popa et al., 2024).

Overall, prior research suggests that while GenAI offers substantial opportunities to enhance internal auditing, its benefits can only be realized if technological adoption is accompanied by appropriate governance frameworks, competency development, and sustained professional judgment. These findings, together with emerging directions in the literature, can be synthesized to provide an overview of the central themes, methods, and practical implications identified in recent research. The following table consolidates these perspectives, highlighting key contributions from relevant studies published between 2024-2025 (see *Table 1*).

Table 1. Meta-Synthesis of Generative AI Research Relevant to Internal Auditing

Authors, Year	Key Constructs / Focus Areas	Main Objective	Research Design	Main Findings Relevant to Internal Auditing	Utility / Implications for Internal Auditors
Eulerich & Wood (2025)	Generative AI, ChatGPT, audit process, prompt design	To demonstrate how GenAI can support the internal auditing process	Illustrative case-based analysis with practical examples	GenAI can support all audit stages by enhancing efficiency and analytical coverage when used as decision-support	Provides actionable guidance for integrating GenAI into audit planning, testing, and reporting while preserving professional judgment
Otero & Agu (2024)	ChatGPT, audit efficiency, data security, reliability	To assess benefits and drawbacks of ChatGPT in auditing	Narrative literature review	Efficiency gains coexist with risks related to privacy, compliance, and response reliability	Helps auditors evaluate trade-offs between efficiency and risk when adopting GenAI tools

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Lin & Maginnis (2024)	Generative AI, edge AI, full-population analysis	To explore practical GenAI adoption in audit practice	Mini-cases and AI maturity framework	GenAI enables analysis of unstructured data and broader evidence coverage	Supports internal auditors in expanding audit scope and moving beyond traditional sampling
Abu-Allan & Alabady (2025)	Automation, augmentation, ethics, fraud risk	To review GenAI applications in auditing and assurance	Comprehensive literature review	GenAI augments professional judgment but introduces ethical and bias-related risks	Encourages auditors to balance efficiency gains with ethical safeguards and professional skepticism
Anica-Popa et al. (2024)	Competencies, skills, GenAI risks	To identify competencies required for GenAI adoption	Systematic literature review (103 papers)	Benefits of GenAI depend on auditors' skills, risk awareness, and governance	Highlights training and competency development as prerequisites for effective GenAI use
Mökander et al. (2025)	Governance, AI audits, ethical risk	To propose a blueprint for auditing GenAI systems	Conceptual framework	Multi-layered audits are required to manage ethical and social risks	Offers a governance reference for internal audit functions overseeing GenAI use

Source: Own elaboration

Thus, in order to enhance analytical clarity and avoid a simple description, previous studies have been synthesized through a structured meta-synthesis approach, focusing on research objectives, methodological designs and essential conclusions relevant to internal audit. This synthesis underlines an emerging consensus from recent literature: the effective and responsible integration of generative artificial intelligence into internal auditing is not a mere technical but a multidimensional problem, the success of which depends on a balanced approach that capitalizes on opportunities for efficiency and extensive analysis, while managing the essential risks through proper governance, skills development and critical exercise of professional judgment. This foundation provides a solid basis for the development and discussion of the proposed conceptual framework in the next section.

III. METHODOLOGY

This paper is based on a conceptual research methodology based on literature analysis (literature-based conceptual research), aiming at the synthesis and integration of existing knowledge. The approach followed a structured protocol, similar to a systematic narrative review, to ensure rigour and transparency. The study adopts non-empirical, qualitative and interpretive design. It is based on critical analysis and synthesis of secondary documents (academic and professional literature) to build an integrated conceptual framework. Clear criteria for the selection of sources have been established. The inclusion focused on academic papers (articles in indexed journals, conference proceedings) and relevant practical reports, published mainly between 2023-2025. The search used academic databases (Scopus, Web of Science, Google Scholar) with combinations of key terms: ("generative AI" OR "large language model" OR ChatGPT) AND ("internal audit" OR "auditing"). Works that only dealt with traditional AI were excluded or concerned exclusively with external audit without transition to internal audit.

- For qualitative topic synthesis, a meta-synthesis methodology (meta-synthesis) was applied. Stages included: Thematic extraction and coding: Identification of key constructs, conclusions and methods from each selected study;
- Ccross-study synthesis: Aggregating similar themes and contrasting different perspectives to identify points of consensus, contradictions and gaps in literature;
- Conceptual integration: Theme synthesis was the basis for the construction of the original proposed conceptual framework (Figure 1), which integrates the identified variables into a logical structure.

The proposed analysis and framework is based on two main theoretical pillars, namely the Human Augmentation Theory (Human-AI Augmentation), the perspective that GenAI is a tool for enhancing (augmenting) judgment and professional productivity, not a substitute for human expertise; and frameworks for Technology Governance (IT Governance) and AI Ethics, principles from the areas of corporate governance and artificial intelligence ethics (transparency, responsibility, responsibility, and human oversight) are applied to analyse the conditions necessary for safe and responsible implementation.

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II. RESULTS AND DISCUSSIONS

3.1 Implications for the Role of Internal Auditing

The reviewed literature suggests that GenAI contributes to a gradual reconfiguration of the internal audit role. By enabling scenario generation, narrative synthesis, and continuous risk sensing, GenAI supports a shift from retrospective assurance toward more forward-looking and advisory activities (Eulerich & Wood, 2025; Abu-Allan & Alabady, 2025). This orientation reflects a broader strategic use of artificial intelligence within organizations, where AI-supported functions, including internal auditing, are increasingly positioned in relation to governance structures and strategic risk management processes (Cosmulese & Macovei, 2025).

Importantly, studies consistently emphasize that GenAI does not replace auditors. Instead, it increases reliance on professional judgment, ethical reasoning, and oversight, as auditors remain accountable for conclusions and recommendations (Isack, 2024).

3.2 Practical Applications and Benefits of GenAI

Documented applications of Generative Artificial Intelligence (GenAI) in auditing span several core stages of the internal audit process, as evidenced by recent peer-reviewed studies. The literature consistently frames GenAI not as a standalone solution, but as a support technology that complements existing audit methods across planning, fieldwork, and reporting activities.

Audit planning emerges as one of the most clearly articulated areas of application. Eulerich and Wood (2025) provide detailed illustrative examples showing how large language models (LLMs), such as ChatGPT, can assist internal auditors in synthesizing information from prior audit reports, internal policies, and risk registers to support the development of risk-based audit plans. Their analysis demonstrates that GenAI can help structure audit objectives and propose preliminary audit procedures aligned with identified risk areas. Importantly, the authors emphasize that these outputs are intended to support, rather than replace, professional judgment, primarily contributing to efficiency gains during the planning phase.

In the fieldwork and testing stage, GenAI is primarily associated with enhanced data analysis capabilities. Lin and Maginnis (2024) document how generative and edge AI technologies enable auditors to analyze full populations of data rather than relying solely on sampling techniques. A key contribution highlighted in their study is the ability of GenAI tools to process unstructured data sources, such as contracts, emails, and narrative documents, which are increasingly relevant for audit evidence but difficult to analyze using traditional audit software. This functionality supports more comprehensive audit coverage, particularly in environments characterized by complex and heterogeneous data.

GenAI applications are also evident in audit documentation and reporting, an area traditionally associated with high levels of standardization and manual effort. Eulerich and Wood (2025) show that LLMs can be used to draft audit working papers, executive summaries, and preliminary audit reports based on structured audit findings. While these drafts require subsequent review and validation by auditors, their use can reduce administrative workload. Similar conclusions are drawn by Abu-Allan and Alabady (2025), who note that GenAI can improve the consistency and clarity of audit reporting, particularly in communications directed toward senior management and audit committees.

Across these stages, the literature consistently identifies efficiency gains and expanded analytical capacity as the primary benefits of GenAI adoption. However, these benefits are explicitly described as conditional. Anica-Popa et al. (2024) underline that effective use of GenAI in auditing depends on auditors' competencies in data interpretation, risk awareness, and ethical reasoning. Without such competencies and appropriate governance arrangements, GenAI may reinforce existing limitations rather than improve audit outcomes. Consequently, prior research portrays GenAI as an enabling technology whose value materializes only when embedded within robust professional, organizational, and control frameworks.

III. CONCLUSION

This study sets out to examine the role of Generative Artificial Intelligence (GenAI) in internal auditing through a structured review and critical synthesis of recent academic literature and professional commentaries. The analysis confirms that GenAI is already influencing internal audit practices, not as a disruptive replacement of auditors, but as an enabling technology that augments analytical capabilities, operational efficiency, and the strategic relevance of internal audit functions. From a theoretical perspective, the findings contribute to the growing body of auditing literature by clarifying the distinction between traditional forms of artificial intelligence and generative models based on large language architectures. Prior research consistently demonstrates that GenAI extends beyond automation by enabling advanced text generation, contextual interpretation, and integration of structured and unstructured data. This shift supports a conceptual transition in internal auditing—from rule-based and sample-driven approaches toward more holistic, data-intensive, and insight-oriented audit processes.

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From a practical standpoint, the review highlights several concrete applications across the internal audit lifecycle, including risk-based audit planning, full-population analysis during fieldwork, enhanced audit documentation, and improved communication with stakeholders. These applications are shown to generate efficiency gains and support more informed decision-making, particularly in complex organizational environments characterized by large volumes of heterogeneous data. At the same time, the literature emphasizes that GenAI outputs are inherently probabilistic and context-dependent, reinforcing the continued centrality of professional judgment and auditor accountability. Overall, this study contributes to the ongoing debate on digital transformation in internal auditing by providing a balanced and evidence-based assessment of GenAI's opportunities and limitations. Rather than portraying GenAI as a panacea, the analysis positions it as a socio-technical innovation whose value depends on thoughtful design, governance, and human oversight. For practitioners, the findings suggest that incremental and well-controlled adoption strategies are more likely to yield sustainable benefits than rapid, technology-driven implementation. For researchers, the study reinforces calls for future empirical research to examine the long-term impacts of GenAI on audit quality, professional judgment, and organizational trust.

In conclusion, GenAI represents a significant, yet evolving, development in internal auditing. Its successful integration has the potential to enhance both the efficiency and strategic contribution of internal audit functions, provided that its adoption is guided by rigorous governance, ethical considerations, and continuous professional development.

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