The Auditor's Dilemma: AI Adoption, Trust and Regulatory Legitimacy in Auditing

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Abstract: Artificial intelligence (AI) is widely expected to reshape auditing, yet its diffusion within the profession remains uneven and conceptually fragmented. Existing studies have examined adoption, analytics, explainability, governance and ethical concerns, but these elements are rarely integrated into a common account of how AI becomes acceptable in audit practice. This paper addresses that gap by examining the literature through the perspective of the auditor's dilemma: the tension between AI adoption, trust and regulatory legitimacy in a highly regulated profession. It argues that AI in auditing should be understood not merely as a technology adoption issue, but as a broader professional and institutional challenge in which technical capability must be reconciled with explainability, accountability and oversight. Yet these benefits do not remove the human element: auditor experience, professional scepticism and oversight remain essential to interpreting, challenging and validating AI-supported audit evidence (Samiolo et al., 2024). The paper adopts a systematic literature review design guided by a PRISMA 2020-informed approach. Based on a Scopus search, 94 records were identified, screened, and narrowed to a final analytical corpus of 23 studies. The review synthesizes this evidence thematically and develops an integrative conceptual framework. The findings show that AI diffusion in auditing depends on three interrelated conditions. First, adoption requires organizational readiness, including technological maturity, data quality, skills, process compatibility and client readiness. Second, sustained use requires trust-based professional acceptance, supported by explainability, transparency, robustness and compatibility with auditor judgment and professional scepticism. Third, steady dissemination depends on regulatory legitimacy, which is shaped by documentation, traceability, reviewability, governance and compatibility with standards and oversight. The review also shows that AI-enabled procedures may face resistance not only because of technical limitations, but because auditors and regulators may not regard them as legitimate within established audit-quality expectations. This paper contributes in three ways. First, it consolidates a fragmented but rapidly growing body of literature on AI in auditing. Second, it advances an original framework linking organizational readiness, trust-based professional acceptance and regulatory legitimacy. Third, it shifts the debate beyond conventional technology-acceptance reasoning by showing that, in auditing, AI must be not only useful, but also explainable, auditable and institutionally defensible. Overall, the paper concludes that the future of AI in auditing will depend less on technological availability than on whether AI can become trusted, reviewable and regulatorily legitimate within the assurance environment.

Keywords: Artificial intelligence, Auditing, Trust, Explainability, Regulatory legitimacy

1. Introduction

Artificial intelligence (AI) is increasingly viewed as one of the most significant technological developments affecting the auditing profession. Across audit and assurance activities, AI-related tools are expected to support anomaly detection, document analysis, risk assessment, pattern recognition and workflow automation, promising gains in efficiency, broader analytical coverage and enhanced decision support (Kokina *et al.*, 2025; Seethamraju and Hecimovic, 2023; Torroba *et al.*, 2025). At the same time, AI in auditing is no longer a niche technical issue but a broader governance and professional challenge shaped by ethics, transparency, human judgment and institutional oversight (Ahmi and Smidt, 2026; Kassar and Jizi, 2025).

A useful starting point for understanding this development is the technology-acceptance tradition. The Technology Acceptance Model (TAM) explains technology use through perceived usefulness and perceived ease of use (Davis, 1989), while later work stresses the importance of social influence, job relevance, output quality and user experience (Venkatesh and Davis, 2000). In audit settings, this logic remains relevant because firms are more likely to adopt AI when it is perceived as improving efficiency, expanding analytical capability or enhancing audit effectiveness. However, these models are less sufficient in professional environments shaped by organizational routines, external expectations and institutional constraints (Ruhnke, 2023).

Auditing is one such environment. Unlike many other professional domains, auditing is a highly regulated assurance setting in which technology use is constrained by standards, documentation requirements, audit-evidence expectations, regulatory oversight, and legal liability (Larmande and Lesage, 2023; Li and Goel, 2025a; Zhang *et al.*, 2022). AI in auditing is therefore not simply another phase of digital modernization, but a case of technology adoption within a profession where technical capability must be reconciled with audit evidence, professional scepticism, reviewability and accountability. Austin et al. (2021) show that the diffusion of analytics in the financial reporting environment is shaped by interactions among auditors, managers, regulators and technology, while Ruhnke (2023) argues that audit innovation is best understood through the interplay of technology, actors, rules and auditors' judgment and decision-making processes.

This makes AI adoption in auditing fundamentally different from adoption in less regulated settings. Existing studies suggest that uptake is influenced not only by technological benefits, but also by organizational readiness, data quality, trust, standards, regulation and client readiness (Seethamraju and Hecimovic, 2023). Empirical evidence from Spain similarly indicates that although auditors express willingness to implement AI and data analytics, actual adoption remains constrained, with regulation emerging as a particularly influential factor (Torroba *et al.*, 2025). Evidence from Kokina et al. (2025)suggests that firms face challenges related to transparency, explainability, privacy, robustness, bias, overreliance and the need for supporting data and human infrastructure before AI can be used at scale . Thus, the diffusion of AI in auditing depends not only on whether the technology works, but also on whether it can be trusted, governed and defended within the institutional logic of assurance.

A central source of tension is explainability. As AI models become more powerful, they often become less transparent. In auditing, this is especially problematic because auditors must be able to understand, justify and document how conclusions are reached. Zhang et al. (2022) identify lack of explainability as one of the main obstacles to AI adoption in accounting and auditing and argue that explainable AI can help satisfy audit documentation and audit evidence requirements. This is reinforced by Li and Goel (2025), who show that AI auditability depends on transparency, documentation, traceability, governance structures and accessible auditable artifacts. Their findings also suggest growing cross-jurisdictional convergence around accountability, transparency, robustness, privacy and explainability, even if implementation remains uneven.

The challenge, however, extends beyond explainability. AI-enabled procedures must also gain professional and regulatory legitimacy. Emett et al. (2023) show that external auditors may judge analytics-enabled audit procedures as lower in quality than traditional procedures because they appear less effortful, even when the level of assurance is held constant. This suggests that technologically enhanced procedures may fail to gain legitimacy not because they are technically inferior, but because they do not fit conventional cues of what high-quality audit work is expected to look like. In a profession where engagement work is routinely scrutinized by internal auditors, peer auditors and regulators, such perceptions can materially slow innovation.

At the same time, AI reshapes rather than removes professional judgment. Samiolo et al. (2024) argue that even highly standardized audit tasks often contain important elements of deliberation, reflexivity and sensemaking, particularly for junior auditors developing professional scepticism. Lehner et al. (2022) also identify objectivity, privacy, transparency, accountability and trustworthiness as central ethical challenges of AI-based decision-making in accounting and auditing. Together, these studies show that AI in auditing is not simply about replacing human effort with machine capability, but about reorganizing judgment, responsibility and trust in technology-mediated audit work.

Despite rapid growth in this field, the literature remains more cumulative than integrative (Ahmi and Smidt, 2026; Kassar and Jizi, 2025). Existing studies generate valuable insights on adoption, analytics, explainability, automation, governance and ethics, yet these strands are rarely brought together within a common conceptual account of how AI becomes accepted in audit practice. The unresolved issue is therefore not simply whether auditors adopt AI, but under what conditions AI becomes trusted, reviewable, and regulatorily legitimate in a highly regulated profession (Austin *et al.*, 2021; Li and Goel, 2025b; Ruhnke, 2023; Zhang *et al.*, 2022).

In this context,, this paper examines the emerging literature through the perspective of the auditor's dilemma: the tension between AI adoption, trust and regulatory legitimacy in auditing. It argues that AI in auditing should not be understood solely as a technological adoption issue, but as a broader professional and institutional challenge in which technical capability must be reconciled with trust, explainability, accountability and regulatory acceptance. To address this issue, the paper undertakes a systematic review of Scopus-indexed literature and synthesizes the field around three interrelated themes: AI adoption and organizational readiness, trust and explainability and regulatory legitimacy in audit practice. On this basis, it develops an integrative

conceptual framework and proposes a future research agenda for understanding how AI may become not only technically useful, but also professionally acceptable and institutionally legitimate in auditing.

2. Review Design

This study adopts a systematic literature review design guided by a PRISMA 2020-informed logic (Page *et al.*, 2021) to structure the identification, screening, eligibility assessment and reporting of the evidence base. This is a theory-building review, not a meta-analysis. Rather than estimating combined effect sizes, it brings together different conceptual and empirical contributions to explain AI adoption, trust, and regulatory legitimacy in auditing.

The literature search was conducted in Scopus database, selected for its multidisciplinary coverage across business, accounting, decision sciences, economics, and computer science. The search string was:

TITLE-ABS-KEY ("artificial intelligence" AND audit* AND (adoption OR diffusion OR acceptance) AND (explainab* OR regulat* OR liability)) AND (LIMIT-TO (SUBJAREA , "BUSI") OR LIMIT-TO (SUBJAREA , "DECI") OR LIMIT-TO (SUBJAREA , "ECON") OR LIMIT-TO (SUBJAREA , "COMP")) AND (LIMIT-TO (DOCTYPE , "ar") OR LIMIT-TO (DOCTYPE , "cp"))

The search was restricted to Business, Management and Accounting; Decision Sciences; Economics, Econometrics and Finance; and Computer Science. It was also limited to journal articles and conference papers, allowing the review to capture both more mature contributions and relevant frontier work in a rapidly evolving field.

Studies were included when they explicitly addressed AI or closely related digital technologies in auditing, audit firms, public accounting, internal auditing, or assurance, or when they examined AI adoption, acceptance, diffusion, explainability, auditability, trust, liability, regulation, governance, or competitive effects in the auditing or accounting profession. Studies were excluded if they consisted of editorials, book chapters, notes, dissertations, or other non-peer-reviewed outputs; purely technical computer-science papers without clear audit or accounting relevance and papers focused exclusively on education, classroom tools, or student attitudes without direct relevance to professional practice.

The search yielded 94 records. One duplicate was identified. After title and abstract screening, 64 records were excluded. The remaining 29 studies were retained for full-text review and inclusion in the analytical corpus. Of these, 20 were journal articles and 9 were conference papers. Furthermore, six reports were excluded because the full text could not be retrieved: 2 articles and 4 conference papers. The full process is presented in Figure 1.

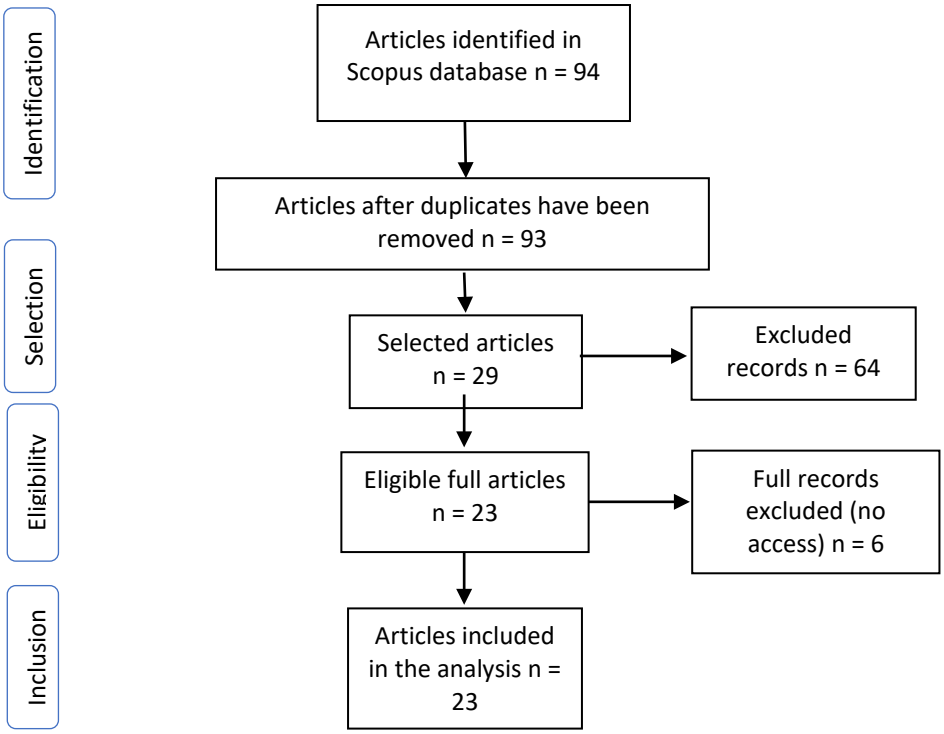


Figure 1: Sample selection process (PRISMA flow diagram)

The studies were then coded thematically, with particular attention to whether they emphasized adoption and diffusion, trust and explainability, auditability and accountability, or regulatory and governance implications. This process led to the three thematic dimensions that structure the remainder of the paper: a) AI adoption and organizational readiness in auditing; b) trust, explainability and professional acceptance; and c) regulatory legitimacy, accountability and the future of audit practice.

3. Theoretical Foundations

Understanding AI in auditing requires more than a single theoretical lens. The literature shows that AI-related change cannot be explained only by technological efficiency or user preference; it emerges at the intersection of individual acceptance, organizational readiness, professional judgment, explainability, and external oversight (Austin *et al.*, 2021; Li and Goel, 2025b, 2025a; Ruhnke, 2023; Seethamraju and Hecimovic, 2023; Zhang *et al.*, 2022). This review therefore combines technology-acceptance and diffusion theories, socio-technical and judgment-oriented perspectives, and trust, explainability, and auditability perspectives.

From a technology-acceptance perspective, AI adoption depends partly on perceived usefulness and perceived ease of use (Davis, 1989). However, later work and the auditing literature show that adoption is also shaped by broader contextual conditions. Diffusion-oriented approaches, especially the Technological – Organizational - Environmental (TOE) framework (Tornatzky *et al.*, 1990) and Innovation Diffusion Theory (IDT) (Rogers, 2003), suggest that adoption in auditing depends on technological factors such as maturity and compatibility, organizational factors such as readiness, knowledge, data quality and trust, and environmental factors such as standards, regulation, and client readiness (Seethamraju and Hecimovic, 2023; Torroba *et al.*, 2025)AI adoption in auditing is therefore better understood as a conditional, institutionally embedded process than as a simple user-choice decision.

Auditing is also a socio-technical and judgment-intensive profession. Austin et al. (2021) show that audit innovation is shaped by interactions among auditors, managers, regulators, and technology, while Ruhnke (2023) argues that technological change is mediated by technology, actors, external rules, and auditors' cognitive processes. AI tools do not create value automatically; their effects depend on how auditors interpret, question, and incorporate them into professional judgment. Samiolo et al. (2024) reinforce this point by showing that even apparently routine tasks involve deliberation and reflexivity, implying that AI reconfigures rather than removes judgment.

Trust and explainability are therefore central. (Zhang *et al.*, 2022) show that opaque AI outputs are difficult to reconcile with audit-evidence and documentation requirements. Li and Goel (2025) extend this argument through an auditability framework based on training data, model, process, governance and people, emphasizing intended-use documentation, logs, traceability, governance structures, and accountability arrangements. Lehner et al. (2022) add an ethical dimension by showing that objectivity, privacy, transparency, accountability, and trustworthiness remain critical concerns.

These perspectives converge on regulatory legitimacy. In this review, regulatory legitimacy refers to the extent to which AI-enabled audit practices are seen as acceptable, defensible, and compatible with the standards, oversight expectations, and evaluative logics of the profession. Technically effective tools may still fail to diffuse if they are not regarded as legitimate by auditors, inspectors, standard setters, or regulators. Emett et al. (2023) illustrate this clearly by showing that external auditors may perceive analytics-enabled procedures as lower in quality when they appear less effortful. AI in auditing must therefore be understood as a process of professional and institutional accommodation, not merely technological implementation.

4. Literature Synthesis

The literature reviewed focuses on three interrelated dimensions which, taken together, explain the emerging role of AI in auditing.

4.1 AI Adoption and Organizational Readiness in Auditing

A first theme concerns the antecedents of AI adoption in auditing. Most studies agree that AI-related tools promise efficiency gains, broader coverage, improved anomaly detection, better risk assessment and more value-adding insights (Austin *et al.*, 2021; Seethamraju and Hecimovic, 2023). Yet adoption is neither automatic nor uniform. It depends on whether firms possess the capabilities needed to integrate AI into auditable workflows. Studies consistently highlight technological maturity, data quality, skills, knowledge, trust, process

compatibility, standards, regulation and client readiness as key conditions for implementation (Seethamraju and Hecimovic, 2023; Torroba *et al.*, 2025).

The literature also shows that AI diffusion may require a rethinking of audit practice itself. Seethamraju and Hecimovic (2023) argue that black-box technologies can make audit work more hidden and more exposed to scrutiny over quality. Austin et al. (2021) similarly describe innovation as a journey shaped by tensions over fees, regulatory ambiguity and independence concerns. Ruhnke (2023) adds that actual use depends on the interaction of actors, technologies and external rules. Overall, adoption is presented as a process of organizational and institutional adaptation rather than a smooth path to modernization.

4.2 Trust, Explainability, and Professional Acceptance

A second theme concerns the conditions under which AI can be trusted and professionally accepted in audit practice. The central issue is not simply whether AI produces useful results, but whether those results can be understood, scrutinized, documented and defended. Zhang et al. (2022) place explainability at the center of this discussion by showing that lack of explainability constrains the extent to which auditors can rely on AI outputs under documentation and evidence requirements. Explainability thus becomes a practical prerequisite for meaningful audit use rather than a technical luxury.

Field evidence from Kokina et al. (2025) reinforces this fact. They identify transparency, explainability, interpretability, bias, privacy, robustness, and fear of overreliance as major obstacles to wider AI use. Torroba et al. (2025) and Seethamraju and Hecimovic (2023) likewise show that trust is a core determinant of adoption. In auditing, trust is not merely user confidence; it depends on whether AI outputs are sufficiently transparent, reliable and controllable to support sceptical reasoning.

Professional acceptance is further complicated by the relationship between AI and auditor judgment. Samiolo et al. (2024) show that even apparently routine tasks often involve deliberation and learning, particularly for junior auditors. AI therefore does not remove judgment from auditing, but relocates and reshapes it. Taken together, the literature suggests that acceptance depends on whether AI supports sceptical inquiry rather than bypassing it.

4.3 Regulatory Legitimacy, Accountability, and the Future of Audit Practice

The third dimension concerns regulatory legitimacy and accountability. This stream asks whether AI-enabled audit procedures are viewed as acceptable by auditors, regulators and other stakeholders who shape the profession's standards of quality and legitimacy. Austin et al. (2021) how that the lack of regulation specific to analytics creates confusion and frustration, while regulators worry that some uses of advanced technology may impair independence or alter the audit function in undesirable ways.

Emett et al. (2023) make this legitimacy problem especially visible by showing that external auditors may regard analytics-based procedures as lower in quality when they appear to require less effort, even if the level of assurance is unchanged. This implies that technologically enhanced procedures may face resistance even when they are not technically inferior. Legitimacy is therefore assessed through review processes and heuristic evaluation criteria, not only through formal rules..

Li and Goel (2025a) address accountability through the concept of AI auditability, arguing that organizations must provide auditable artifacts across model development, data governance, deployment and monitoring. Their framework emphasizes intended-use documentation, provenance information, logs, traceability, governance standards and accountability structures. Overall, this literature suggests that AI becomes practicable in auditing only when it is not only efficient and trusted, but also reviewable, documented, explainable and aligned with the quality expectations of the assurance environment.

5. Conceptual Framework

Figure 2 presents a framework in which AI diffusion in auditing depends on three conditions: organizational readiness, trust-based professional acceptance, and regulatory legitimacy.

First, organizational readiness refers to the technological, human, and procedural conditions required to embed AI in audit processes, including technological maturity, data quality, employee skills and knowledge, process compatibility, and client readiness (Seethamraju and Hecimovic, 2023; Torroba *et al.*, 2025). Without such readiness, AI remains promising rather than practically usable.

Second, trust-based professional acceptance captures the conditions under which auditors can rely on AI outputs in professional judgment. Explainability, transparency, robustness, interrogability, human oversight, and support for judgment and scepticism are central here (Kokina *et al.*, 2025; Zhang *et al.*, 2022). Professional acceptance arises when AI supports, rather than obscures or displaces, sceptical inquiry and judgment.

Third, regulatory legitimacy refers to whether AI-enabled audit practices are seen as acceptable, defensible, and compatible with the expectations of regulators, auditors, standard setters and the wider assurance environment. It depends on documentation, traceability, reviewability, governance, accountability and compatibility with standards and oversight (Li and Goel, 2025b). Emett et al. (2023) further show that legitimacy is also filtered through review heuristics, so AI-enabled procedures must appear credible to those assessing audit quality ex post.

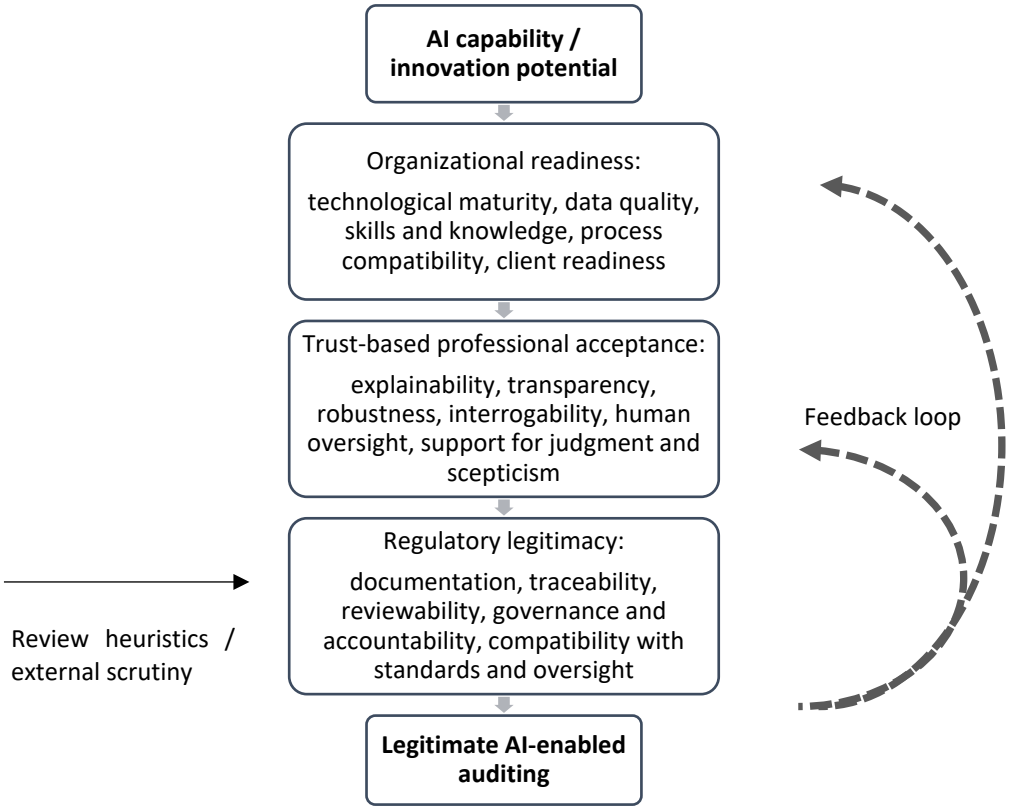


Figure 2: Conceptual framework of AI adoption, trust, and regulatory legitimacy in auditing

The framework is sequential but recursive. AI first faces a readiness question: can the firm implement it? It then faces a professional-acceptance question: can auditors trust and use it consistently with judgment and scepticism? Finally, it faces a legitimacy question: can AI-enabled procedures be justified, documented, reviewed, and accepted within the profession's institutional expectations? Only when all three conditions are met can AI move toward stable diffusion in audit practice.

The framework also includes feedback effects. Greater professional acceptance may stimulate further investment in readiness, while stronger regulatory guidance may enhance both trust and implementation confidence. Conversely, failed reviews, weak explainability, or governance breakdowns may discourage further investment. The outcome is legitimate AI-enabled auditing: AI that is not only available and efficient, but also professionally accepted, auditable, and institutionally defensible.

6. Propositions and Future Research Agenda

Several directions deserve emphasis. First, AI in auditing should be studied through multilevel and comparative designs across countries, firm types and audit settings. Second, greater attention should be given to the human element in AI-enabled auditing, particularly how auditor experience, professional scepticism and human oversight shape the interpretation, challenge, override and validation of algorithmic outputs. Third, future research should develop audit-specific governance and evaluation frameworks linking AI to materiality, risk thresholds, evidence sufficiency, audit trails and reviewability (Ahmi and Smidt, 2026; Li and Goel, 2025b).

The framework developed above suggests that AI in auditing spreads through the joint operation of organizational readiness, trust-based professional acceptance and regulatory legitimacy. This logic can be translated into six propositions.

Proposition 1. *Organizational readiness is positively associated with the adoption of AI in auditing.*

Proposition 2. *The positive association between organizational readiness and AI adoption is strengthened when auditors perceive AI tools as explainable and trustworthy.*

Proposition 3. *Professional acceptance of AI in auditing is higher when AI outputs support, rather than obscure, auditor judgment and sceptical inquiry.*

Proposition 4. *Regulatory legitimacy of AI-enabled auditing is positively associated with the presence of auditable governance mechanisms, including documentation, traceability and clearly defined accountability structures.*

Proposition 5. *The relationship between AI-enabled audit procedures and perceived audit quality is moderated by review heuristics and oversight expectations.*

Proposition 6. *Stable diffusion of AI in auditing is most likely when organizational readiness, trust-based professional acceptance, and regulatory legitimacy are jointly present.*

Future research should refine measures of readiness, examine auditor–AI interaction and scepticism, compare explainability and auditability designs, and study regulatory legitimacy through review, inspection, and cross-jurisdictional variation (Seethamraju and Hecimovic, 2023; Torroba *et al.*, 2025; Samiolo *et al.*, 2024; Zhang *et al.*, 2022; Li and Goel, 2025b; Austin *et al.*, 2021; Emett *et al.*, 2023).

7. Discussion

7.1 Theoretical Implications

AI in auditing should not be treated as a narrow technology-acceptance problem. Auditing is a socio-technical and institutionally constrained profession in which technologies are interpreted through standards, documentation, review routines and public-interest expectations (Austin *et al.*, 2021; Ruhnke, 2023).

A second implication is that trust and explainability should be treated as central mechanisms rather than secondary implementation concerns. In auditing, trust is not simply an attitude toward technology; it is a professional judgment about whether AI outputs can be interrogated, documented, and incorporated into sceptical reasoning (Kokina *et al.*, 2025; Zhang *et al.*, 2022).

A third implication is that regulatory legitimacy is not reducible to formal compliance. Emett et al. (2023) show that review heuristics matter, while Li and Goel (2025b) show that AI auditability requires documentation, traceability, logs, governance structures, and auditable artifacts. AI in auditing is therefore best understood as an object of review-based legitimacy.

Although developed in the auditing context, this logic may extend to other regulated professions in which AI-supported decisions require human oversight, explainability, accountability and institutional legitimacy.

7.2 Practical and Regulatory Implications

For audit firms, AI adoption should be approached as a capability-building and governance challenge, not merely as a technology investment. Effective implementation requires readiness in data quality, skills, process compatibility, client cooperation, governance, documentation and validation (Kokina *et al.*, 2025; Seethamraju and Hecimovic, 2023). Firms should therefore invest not only in models, but also in supporting artifacts such as documentation, provenance records, process logs and governance maps.

For regulators, the central challenge is to reduce the gap between technological practice and the interpretive capacity of oversight frameworks. Clearer guidance is needed on documentation, evidence sufficiency in AI-assisted procedures, model governance and the relationship between explainability and professional scepticism (Kassar and Jizi, 2025; Li and Goel, 2025b). Review and inspection processes may also need updating, since less effortful-looking procedures can be penalized even when assurance is unchanged (Emett *et al.*, 2023).

7.3 Limitations

This review has several limitations. First, it relies on a single database, Scopus, and a focused search string centred on AI, auditing, adoption, diffusion, acceptance, explainability, regulation and liability. Second, it

includes journal articles and conference papers, which is defensible in an emerging field but combines contributions of different maturity levels. Third, the review is interpretive and theory-building rather than meta-analytic, limiting stronger claims about effect sizes or universal causal relationships. Finally, the field remains rapidly evolving, so the patterns identified here should be read as a structured synthesis rather than a definitive map of a stabilized domain (Ahmi and Smidt, 2026).

7.4 Future Directions

Several directions deserve emphasis. First, AI in auditing should be studied through multilevel and comparative designs across countries, firm types, and audit settings. Second, more work is needed on auditor–AI interaction, especially how auditors interpret, challenge, override, or rely on algorithmic outputs. Third, future research should develop audit-specific governance and evaluation frameworks linking AI to materiality, risk thresholds, evidence sufficiency, audit trails and reviewability (Ahmi and Smidt, 2026; Li and Goel, 2025b). More broadly, the most valuable studies will explain how technological capability is, or is not, translated into trusted, reviewable, and institutionally legitimate audit practice.

8. Conclusion

This review examines AI in auditing through the lens of the auditor's dilemma: the tension between adoption, trust, and regulatory legitimacy in a highly regulated profession. It shows that AI diffusion depends on whether firms are organizationally prepared, whether auditors can trust and explain AI outputs in ways consistent with professional scepticism and audit evidence, and whether AI-enabled procedures are reviewable and acceptable within the institutional architecture of auditing. The paper contributes by integrating fragmented literature, proposing a framework linking readiness, trust-based professional acceptance, and regulatory legitimacy, and showing that AI in auditing must be not only useful but also explainable, auditable, and defensible under review and oversight.

Generally speaking, this review claims that the future of AI in auditing will be determined not by whether the technology is available, but by whether it can be integrated into practice in a way that is trusted by auditors, intelligible to auditors and acceptable to regulators. The auditor's dilemma therefore remains central: innovation in auditing must be reconciled with the profession's enduring demands for accountability, scepticism, transparency and legitimacy. By clarifying that dilemma and organizing the literature around it, this paper provides a foundation for future research, practice and regulation aimed at supporting responsible AI-enabled auditing.

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AI Declaration: An AI tool was used language refinement after manuscript development. All literature selection, interpretation, argumentation and final editing were reviewed and validated by the authors, who take full responsibility for the content.

References

Ahmi, A. and Smidt, L. (2026), "AI-driven auditing: trends, themes, and research trajectories", *EDPACS*, Taylor and Francis Ltd., doi: 10.1080/07366981.2026.2637772.

Austin, A.A., Carpenter, T.D., Christ, M.H. and Nielson, C.S. (2021), "The Data Analytics Journey: Interactions Among Auditors, Managers, Regulation, and Technology*", *Contemporary Accounting Research*, John Wiley and Sons Inc, Vol. 38 No. 3, pp. 1888–1924, doi: 10.1111/1911-3846.12680.

Davis, F.D. (1989), "Perceived usefulness, perceived ease of use, and user acceptance of information technology", *MIS Quarterly*, Vol. 13 No. 3, pp. 319–340, doi: https://doi.org/10.2307/249008.

Emett, S.A., Kaplan, S.E., Mauldin, E.G. and Pickerd, J.S. (2023), "Auditing with data and analytics: External reviewers' judgments of audit quality and effort", *Contemporary Accounting Research*, John Wiley and Sons Inc, Vol. 40 No. 4, pp. 2314–2339, doi: 10.1111/1911-3846.12894.

Kassar, M. and Jizi, M. (2025), "Artificial intelligence and robotic process automation in auditing and accounting: a systematic literature review", *Journal of Applied Accounting Research*, Emerald Publishing, doi: 10.1108/JAAR-05-2024-0175.

Kokina, J., Blanchette, S., Davenport, T.H. and Pachamanova, D. (2025), "Challenges and opportunities for artificial intelligence in auditing: Evidence from the field", *International Journal of Accounting Information Systems*, Elsevier Inc., Vol. 56, doi: 10.1016/j.accinf.2025.100734.

Larmande, F. and Lesage, C. (2023), "Auditor's professional judgment, audit efficiency and interplay between legal liability and regulatory oversight", *Journal of Accounting and Public Policy*, Elsevier Inc., Vol. 42 No. 6, doi: 10.1016/j.jaccpubpol.2023.107130.

Lehner, O.M., Ittonen, K., Silvola, H., Ström, E. and Wührleitner, A. (2022), "Artificial intelligence based decision-making in accounting and auditing: ethical challenges and normative thinking", *Accounting, Auditing and Accountability Journal*, Emerald Group Holdings Ltd., Vol. 35 No. 9, pp. 109–135, doi: 10.1108/AAAJ-09-2020-4934.

Li, Y. and Goel, S. (2025a), "Artificial intelligence auditability and auditor readiness for auditing artificial intelligence systems", *International Journal of Accounting Information Systems*, Elsevier Inc., Vol. 56, doi: 10.1016/j.accinf.2025.100739.

Li, Y. and Goel, S. (2025b), "Bridging IT auditors and AI auditing: Understanding pathways to effective IT audits of AI-driven processes", *Advances in Accounting*, Emerald Publishing, Vol. 69, doi: 10.1016/j.adiac.2025.100842.

Page, M.J., McKenzie, J.E., Bossuyt, P.M., Boutron, I., Hoffmann, T.C. and ... (2021), "The PRISMA 2020 statement: An updated guideline for reporting systematic reviews", *BMJ*, Vol. 372 No. 71, doi: https://doi.org/10.1136/bmj.n71.

Rogers, E.M.. (2003), *Diffusion of Innovations*, Free Press.

Ruhnke, K. (2023), "Empirical research frameworks in a changing world: The case of audit data analytics", *Journal of International Accounting, Auditing and Taxation*, Elsevier Ltd, Vol. 51, doi: 10.1016/j.intaccaudtax.2023.100545.

Samiolo, R., Spence, C. and Toh, D. (2024), "Auditor judgment in the fourth industrial revolution", *Contemporary Accounting Research*, John Wiley and Sons Inc, Vol. 41 No. 1, pp. 498–528, doi: 10.1111/1911-3846.12901.

Seethamraju, R. and Hecimovic, A. (2023), "Adoption of artificial intelligence in auditing: An exploratory study", *Australian Journal of Management*, SAGE Publications Ltd, Vol. 48 No. 4, pp. 780–800, doi: 10.1177/03128962221108440.

Tornatzky, L.G.., Fleischer, Mitchell. and Chakrabarti, A.K.. (1990), *The Processes of Technological Innovation*, Lexington Books.

Torroba, M., Sánchez, J.R., López, L. and Callejón, Á. (2025), "Investigating the impacting factors for the audit professionals to adopt data analysis and artificial intelligence: Empirical evidence for Spain", *International Journal of Accounting Information Systems*, Elsevier Inc., Vol. 56, doi: 10.1016/j.accinf.2025.100738.

Venkatesh, V. and Davis, F.D. (2000), "A theoretical extension of the technology acceptance model: Four longitudinal field studies", *Management Science*, Vol. 46 No. 2, pp. 186–204, doi: https://doi.org/10.1287/mnsc.46.2.186.11926.

Zhang, C. (Abigail), Cho, S. and Vasarhelyi, M. (2022), "Explainable Artificial Intelligence (XAI) in auditing", International Journal of Accounting Information Systems, Elsevier Inc., Vol. 46, doi: 10.1016/j.accinf.2022.100572.