Article 1 “From Tradition to Technology: Rethinking Professional Skepticism in the Age of AI-Technologies”

Abstract: This study intends to explore how the use of artificial intelligence (AI) in auditing reshapes the concept of professional skepticism. As both auditors and auditees increasingly rely on AI systems, audit evidence becomes more complex and algorithmic, challenging traditional assumptions underlying skeptical judgment. Drawing on affordance theory, the study intends to develop a conceptual framework that explains how the technological characteristics afford and constrain the evaluation of audit evidence and the exercise of professional skepticism. The paper aims to contribute by reconceptualizing professional skepticism in AI-assisted audit environments, offering a framework that can guide future empirical research. The study also intends to outline implications for audit quality, stakeholder trust, and the evolving role of auditors.

Background

The rapid rise of Artificial Intelligence (AI) is not merely adding efficiency to audit practice but is also redefining the epistemic foundations of auditing. Defined as "a hybrid set of technologies supplementing and changing auditing" (Issa et al., 2016), AI encompasses systems capable of imitating human cognitive functions (Al-Sayyed et al., 2020; Aljazeeri & Al-Sartawi, 2023), enabling machines to perform tasks once considered exclusive to humans, such as complex analytics, language interpretation, and pattern recognition (Kokina & Davenport, 2017; Ryan, 2020). These technologies now shape what auditors attend to, how evidence is evaluated, and the judgments they form, fundamentally altering the audit process.

Professional skepticism has long been regarded as the cornerstone of audit quality, underpinning how auditors gather, interpret, and challenge audit evidence (International Auditing and Assurance Standards Board [IAASB], 2012). Traditionally conceived as a human cognitive disposition grounded in critical thinking, questioning mind, and professional judgment (Nelson, 2009), skepticism now faces new challenges as audit evidence becomes increasingly AI-collected and AI-assessed (Appelbaum et al., 2017; Rose et al., 2017). When machines identify anomalies, assess risks, and draw conclusions, the auditor's role shifts from evidence collection and evaluation toward interpreting and evaluating AI outputs, raising questions about how skepticism is exercised in AI-assisted audits.

AI technologies offer clear benefits, including enhanced efficiency, analytical precision, and more comprehensive risk assessments (Dai & Vasarhelyi, 2017; Koivunen et al., 2021; Munoko et al., 2020). Yet these advances introduce new epistemic challenges. For instance, overreliance on AI outputs may alter auditors' critical mindset, while the opacity, unexplainability, embedded biases, and limited interpretability of algorithms, the so-called "black box" problem (CPA Canada & AICPA, 2020; Eschenbach, 2021; Haenlein & Kaplan, 2019; Munoko et al., 2020; Pasquale, 2015; Stix, 2022), can undermine transparency and verifiability. Consequently, while AI promises more reliable audits, its integration raises questions about trust, accountability, and the maintenance of professional skepticism, highlighting the need to reconceptualize skepticism as a construct shaped by the affordances and constraints of technology.

Despite growing research on AI adoption in auditing, including machine learning, data analytics, and blockchain, a theoretical gap remains in understanding how AI-specific affordances influence auditors' skeptical behavior. Current professional standards and training frameworks largely treat skepticism as an individual, judgment-based attribute, overlooking how technology influences skeptical inquiry in practice in such an era. Drawing on affordance theory, this conceptual study shall examine how AI reshapes professional skepticism. Affordance theory provides a lens to understand how technological features create new opportunities for skeptical engagement while also imposing constraints. For instance, AI-assisted audits can enhance skepticism through more accurate anomaly detection and pattern recognition, but they may also introduce risks such as automation bias and cognitive displacement.

Building on established constructs of professional skepticism (e.g., Nelson, 2009; Hurtt, 2010), this study seeks to develop a framework to illustrate the evolving dynamics of skepticism in AI-assisted audits. By framing skepticism as a technology-mediated, dynamic construct, the research contributes to theoretical debates on the human–machine interface in professional judgment and offers insights with implications for audit quality, professional practice, and standard-setting in the digital era. By framing professional skepticism as an evolving, AI-assisted construct, the study contributes to emerging debates on how AI is transforming the cognitive and behavioral foundations of auditing. It also aims to advance the theoretical understanding of the auditor–AI systems interface in professional judgment, offering insights relevant to both academics and the ongoing development of auditing standards in the digital era.

Research Question

How do the affordances and constraints of AI technologies shape the practice of professional skepticism in auditing?

Professional Skepticism

Professional skepticism continues to underpin the trust placed in auditors and the quality of audit outcomes (Arifin, 2022; Hurtt, 2010; Nelson, 2009; Nolder & Kadous, 2018; Quadackers et al., 2014). If the need for trust justifies the need for auditing, skepticism defines its practice by ensuring the reliability of financial information. Auditing standards describe it as "an attitude

that includes a questioning mind, being alert to conditions which may indicate possible misstatement due to error or fraud, and a critical assessment of audit evidence" (ISA 200). Scholars conceptualize skepticism as both a situational state and a personality trait (Hurtt, 2010; Nelson, 2009; Quadackers et al., 2014), serving as the auditor's guiding framework for evaluating risk and evidence (Deliu, 2024).

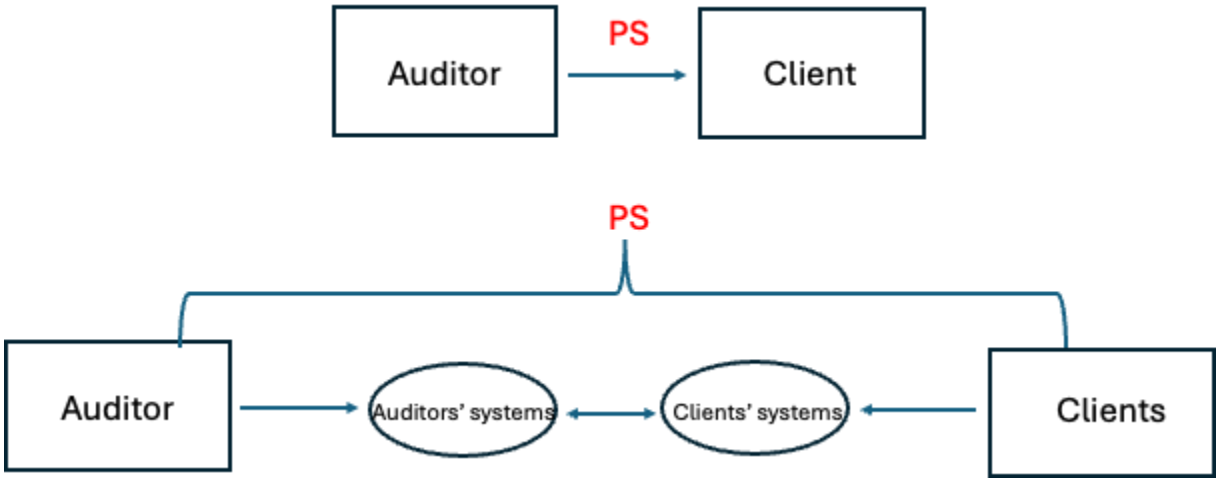
The development of professional skepticism mirrors the growing complexity of financial systems and the increasing trust society places in the auditing profession to safeguard the integrity of financial statements and reinforce public confidence in audit practices. As financial data environments become increasingly automated and digitized, auditors must adapt their skeptical inquiry to contexts where evidence generation and analysis are AI-assisted. This creates a pressing need to reassess what constitutes acceptable audit evidence and how skepticism should be exercised in technologically advanced environments.

The rapid integration of AI technologies into auditing has transformed the profession, introducing new complexities and challenges to traditional practices. As AI systems increasingly supplement and, in some cases, replace human judgment in evidence gathering, analysis, and decision-making, the foundational concept of professional skepticism is being tested in unanticipated ways. Although AI tools enhance auditors' capacity to analyze large volumes of data with greater precision, these technologies also present challenges in maintaining appropriate levels of professional skepticism (Li, 2022). AI's opaque "black box" nature and the potential for embedded system biases (CPA Canada & AICPA, 2020; Eschenbach, 2021; Haenlein & Kaplan, 2019; Pasquale, 2015; Stix, 2022), combined with growing reliance on algorithms for critical audit tasks, raise concerns regarding auditors' ability to sustain independent and critical judgment (Goodman & Tréhu, 2022).

Auditors must now assess evidence derived from advanced technological tools, navigate trust in AI-generated outputs, and address the dual role of AI in both audit clients' and auditors' processes. These developments require a redefinition of professional skepticism to ensure it evolves alongside technological sophistication and rapid change. While the profession remains optimistic about AI's potential to enhance audit quality, efficiency, and risk assessment, research on how auditors engage with AI technologies or how these tools affect evidence evaluation

remains limited (Commerford et al., 2022). This lack of understanding poses implications for the profession's integrity and its societal role as a guardian of trust. As Knechel (2024) asserts, the value of auditing resides in the trust it creates, necessitating a reevaluation of auditing traditions to preserve this trust amid technological and business complexities. The preceding discussion demonstrates that while professional skepticism remains central to audit quality, the emergence of AI technologies introduces conceptual ambiguity around how skepticism should be understood and exercised. These gaps highlight the need for renewed theoretical attention to the nature of professional skepticism in technology-mediated auditing contexts.

Figure 1



Own construction. This figure shows the shift from direct auditor–client interactions to AI-mediated processes, highlighting the growing complexity in exercising professional skepticism.

Affordance Theory

Affordance theory originated in ecological psychology through the work of James J. Gibson, who proposed that objects and environments are not merely passive entities but present potential actions linked to an agent's capabilities (Gibson, 1977, 1986). Gibson (1977) defined affordances as "anything is a specific combination of the properties of its substance and its surfaces taken

with reference to an animal" (p. 67). In other words, affordances describe the possibilities for action that arise from the relationship between an object's properties and the abilities of the actor. In this view, affordances are real, relational properties: they exist independently of perception but are defined by what an actor can do with them.

In information technology (IT), this concept has been extended to describe the actions technologies enable for users, whether individuals, groups, or organizations (Strong et al., 2014; Strauss et al., 2024; Volkoff & Strong, 2013). Affordances are socio-technical and emergent, arising from the interplay between users, technologies, and organizational context. A system's potential for action does not exist in isolation but only through interaction with a user's skills, goals, and understanding. For example, a chair affords sitting only to those physically capable of doing so. Similarly, an IT system affords certain actions depending on user capabilities and design (Norman, 2013).

Donald Norman (2013) expanded Gibson's concept into human–computer interaction, emphasizing perceived affordances, what users believe a system allows them to do. Effective design ensures that correct actions are visible while inappropriate ones remain hidden. For instance, knobs suggest turning, slots suggest inserting objects, and plates suggest pushing. When affordances are unclear, users may misinterpret cause and effect, leading to errors. Norman highlighted that affordances, along with constraints and mappings, guide user behavior. Affordances indicate possible actions, constraints limit them, and mappings link controls to outcomes. Importantly, affordances differ from mere system features; they are co-constructed, emerging from the interaction between a system's capabilities and the user's understanding. Perceived affordances may diverge from actual affordances, underscoring that a technology's value is not inherent but relational.

Affordance theory reframes technology as part of a dynamic interaction rather than a static tool. In auditing, this perspective is particularly valuable for examining how AI technologies enable, constrain, and reshape auditors' practices. Recognizing AI affordances allows designers and practitioners to optimize usability, support effective human–AI collaboration, and align digital tools with professional needs in real-world auditing contexts.

Research Design

This paper shall adopt a conceptual research design aimed at advancing theoretical understanding rather than testing empirical relationships. The study explores how AI technologies afford or constrain auditors' professional skepticism by integrating insights from affordance theory and the auditing literature on professional skepticism. Conceptual studies of this type are appropriate when the goal is to synthesize, extend, or recontextualize existing theories to address emerging phenomena (Jaakkola, 2020).

The conceptual analysis will draw on two primary theoretical foundations. First, affordance theory (Gibson, 1977; Leonardi, 2011; Volkoff & Strong, 2013) provides a lens for examining how technological artifacts enable or constrain human actions depending on users' goals, capabilities, and the organizational context. Affordances are understood as relational; they do not reside solely in the technology or the user but emerge through interaction between the two.

Second, the study relies on the auditing literature on professional skepticism (e.g., Hurtt, 2010; Nelson, 2009; International Auditing and Assurance Standards Board [IAASB], 2020), which defines auditors' traits that shape their skepticism, including cognitive and behavioral elements, an attitude of doubt, and the actions taken to seek persuasive evidence. Combining these perspectives allows for a theoretically grounded exploration of how AI-assisted auditing shapes auditors' skeptical mindset and behavior.

Expected Contribution

This study offers both theoretical and practical contributions to the understanding and practice of professional skepticism in AI-assisted auditing.

From a theoretical perspective, the research aims to advance the conceptualization of professional skepticism by offering an understanding of how it is reshaped in an AI-assisted auditing. By drawing on affordance theory, the study highlights how AI technologies simultaneously afford and constrain auditors' judgment, providing a nuanced understanding of the conditions under which skepticism is exercised or compromised. This reconceptualization challenges traditional assumptions that professional skepticism is a purely human, context-independent trait, instead framing it as a dynamic construct that emerges in interaction

with technological systems. The proposed framework thus contributes to audit theory by offering a lens through which future empirical research can investigate the evolving nature of skeptical judgment, the interplay between human auditors and AI, and the conceptual boundaries of professional skepticism in the digital era.

In practice, the findings shall provide actionable guidance for audit firms and regulators. By highlighting how AI's affordances and constraints shape auditors' skeptical evaluation of evidence, the study informs the design of audit workflows and AI systems that support critical judgment rather than replace it, safeguarding audit quality. Audit firms can develop training programs that foster hybrid competencies, enabling auditors to interpret algorithmic outputs critically and maintain reflective engagement. Furthermore, regulators and standard-setting bodies can draw on the findings to update guidance on professional skepticism, ensuring expectations remain robust in AI-assisted audits and reinforcing stakeholder trust.

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