
CHALLENGES FACED BY ACCOUNTANTS IN ADAPTING TO ENHANCED ACCOUNTING INFORMATION SYSTEMS.

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The integration of Artificial Intelligence (AI) and enhanced Accounting Information Systems (AIS) has significantly transformed the accounting profession, requiring accountants to adapt to evolving technological and organizational environments. This study aims to identify the key challenges faced by accountants in adapting to enhanced AIS, examine the factors influencing this adaptation, and develop a thematic framework explaining these challenges. The study adopts a qualitative exploratory approach based on a thematic analysis of secondary data obtained from recent scholarly literature. The findings reveal that accountants' adaptation is influenced by interconnected technological, behavioral, organizational, regulatory, and cultural factors, with continuous skill development and effective change management playing a pivotal role. The proposed thematic framework provides a holistic understanding of the adaptation process and offers practical insights for organizations, educators, policymakers, and accounting professionals to facilitate successful AIS implementation and support the digital transformation of the accounting profession.

Keywords: Accounting Information Systems, Artificial Intelligence, Accountant Adaptation, Digital Transformation, Thematic Analysis.

The rapid integration of Artificial Intelligence (AI) and advanced Accounting Information Systems (AIS) within the accounting profession has significantly transformed traditional practices. Pinho, Oliveira, Maldonado, and de Campos Amorim (2026) provide empirical evidence from Portuguese industrial companies illustrating the profound impact of AI on accountants' roles, underscoring the challenges they face in adapting to evolving expectations. Their study highlights the necessity for accountants to develop new competencies to remain relevant in an AI-driven environment.

Rodrigues et al. examine the evolution and future trajectory of AIS, emphasizing the coexistence of traditional accounting responsibilities with emerging technological demands. They identify unresolved technological challenges, such as integrating cloud computing, business intelligence, big data analytics, and Computer-Assisted Audit Tools (CAATs), which complicate accountants' adaptation processes and contribute to resistance within the profession.

The European Journal of Business and Management Research explores AIS implementation challenges, noting parallels with broader organizational transitions from manual to automated systems. This study highlights the critical role of organizational change management, revealing that fear of job loss and mistrust in AI outputs are significant barriers to successful adoption, especially within small and medium-sized enterprises.

Alamin and Yeoh's empirical investigation into AIS adoption factors identifies key behavioral determinants influencing accountants' acceptance of new technologies. Effort expectancy, perceived technology fit, facilitating conditions, and coercive pressures emerge as pivotal factors shaping adoption decisions. Their findings suggest that self-efficacy and management support are essential to foster positive attitudes toward AIS integration.

Finally, institutional theory research contextualizes AIS adoption within the accounting profession's highly regulated environment. Regulatory frameworks and compliance requirements impose constraints on the pace and modality of digital transformation, necessitating AI and AIS solutions that ensure transparency, auditability, and adherence to established standards.

Although prior studies have examined the adoption of Accounting Information Systems and the impact of Artificial Intelligence on accounting roles, limited research has integrated these challenges into a single conceptual framework focusing on accountants' adaptation. Existing literature tends to address technological, behavioral, or organizational issues separately, rather than explaining how these dimensions interact in shaping adaptation. This study addresses that gap by synthesizing the literature into a thematic framework that captures the multidimensional nature of accountant adaptation to enhanced AIS.

Research Objectives

1. To identify the key challenges faced by accountants in adapting to enhanced Accounting Information Systems (AIS) and Artificial Intelligence (AI)-enabled accounting environments.
2. To examine the technological, behavioral, organizational, regulatory, and cultural factors influencing accountants' adaptation to enhanced AIS.
3. To develop a thematic framework that explains the interrelationship among the factors influencing accountants' adaptation to enhanced Accounting Information Systems.

Proposed Analytical Propositions

- P1: Accountants' adaptation to enhanced AIS is shaped by interconnected technological, behavioral, organizational, regulatory, and cultural factors.
- P2: Role transformation and continuous professional development are central to successful adaptation to enhanced AIS.
- P3: An integrated thematic framework provides a comprehensive understanding of the multidimensional challenges affecting accountants' adaptation to enhanced AIS.

RESEARCH METHODOLOGY

This study adopted a qualitative exploratory research design based on a structured literature review and thematic analysis of existing scholarship to examine accountants' adaptation to enhanced Accounting Information Systems (AIS) and Artificial Intelligence (AI)-enabled environments. The review drew exclusively on secondary sources, including peer-reviewed journal articles, conference proceedings, book chapters, and reputable academic databases, with a focus on literature addressing AIS implementation, AI in accounting, digital transformation, technology adoption, and accountant role change. Studies were selected according to their direct relevance to accounting practice and their substantive discussion of adaptation challenges, while sources that were unrelated to the accounting context, lacked analytical depth, or did not contribute meaningfully to the study objectives were excluded. The retained literature was systematically reviewed, coded, and organized into recurring conceptual patterns, allowing the emergence of seven major themes: role transformation and skill development, technological complexity, organizational change management, behavioral and adoption influencers, perception as a mediator, regulatory and institutional constraints, and cultural and workforce implications. These themes were then synthesized to develop a conceptual thematic framework that explains the multidimensional factors shaping accountants' adaptation to enhanced AIS.

THEMATIC ANALYSIS**1. Role Transformation and Skill Development**

The automation of routine accounting functions by AI compels a redefinition of professional roles. Accountants must acquire advanced skills in data analytics, interpretation of AI outputs, and strategic decision-making. Pinho et al. (2026) demonstrate that bridging skill gaps is a significant challenge, emphasizing the need for targeted training programs and continuous professional development to equip accountants for these new demands.

2. Technological Complexity and Integration Challenges

The deployment of advanced AIS technologies, including cloud computing, big data analytics, and CAATs, introduces substantial technical complexities. Rodrigues et al. highlight persistent integration issues that foster uncertainty and resistance among accountants. Effective adoption depends on robust IT infrastructure and seamless system interoperability to minimize disruption.

3. Organizational Change Management and Resistance

Transitioning from manual to automated systems involves overcoming organizational inertia and resistance. The European Journal of Business and Management Research identifies fear of job displacement and mistrust in AI as key resistance factors. Transparent communication, inclusive implementation processes, and comprehensive training are essential to foster acceptance and cultivate a culture supportive of innovation.

4. Behavioral and Adoption Influencers

Behavioral determinants such as effort expectancy, perceived technology fit, facilitating conditions, and coercive pressures significantly influence AIS adoption (Alamin & Yeoh). Self-efficacy and managerial support further shape willingness to engage with new technologies (Alquhaif & Al-Mamary, 2025). These findings underscore the importance of fostering positive perceptions and institutional backing to enhance adoption.

5. Perception as a Mediator of Adoption and Efficiency

Accountants' perceptions mediate the relationship between technology adoption and process efficiency. Studies applying the Technology Acceptance Model reveal that active involvement of accountants in adoption processes alleviates concerns, thereby improving operational efficiency. Participatory approaches in AIS implementation align technological capabilities with user expectations.

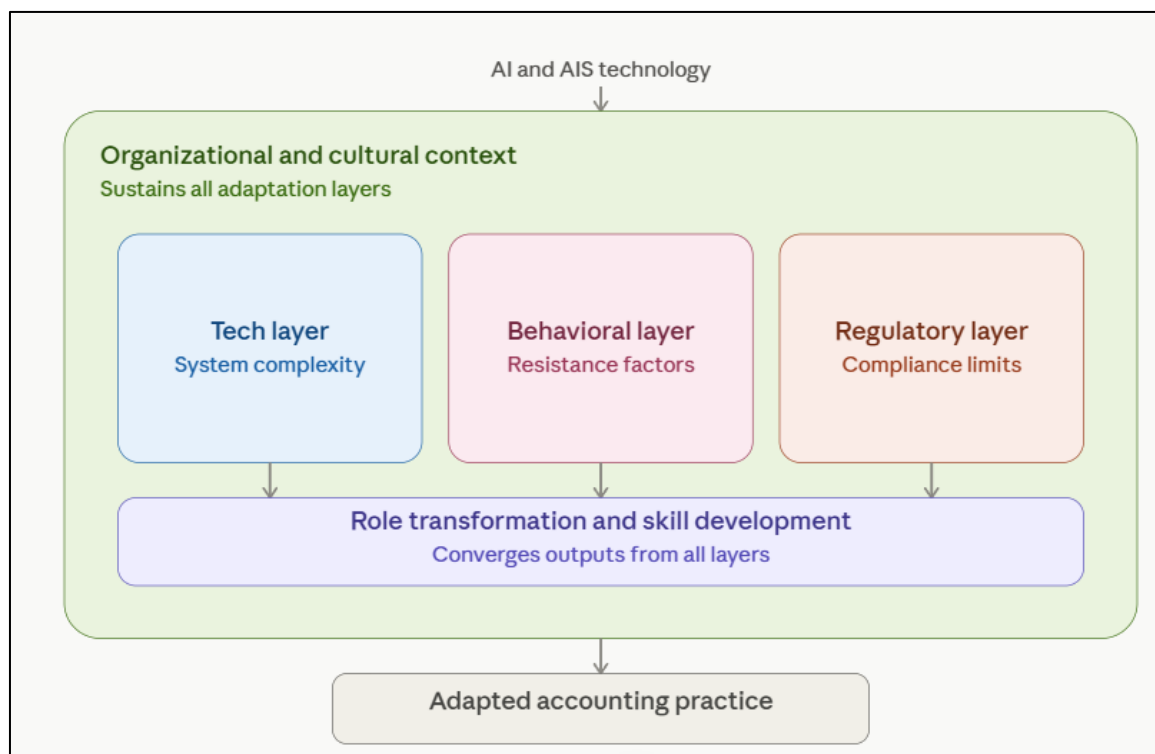
6. Regulatory and Institutional Constraints

The accounting profession's regulatory environment imposes stringent requirements on AI and AIS adoption. Institutional theory research indicates that these frameworks influence digital transformation's speed and form, mandating AI systems that guarantee compliance, auditability, and transparency. Collaboration among developers, regulators, and professionals is critical to ensuring trustworthy AI applications.

7. Cultural and Workforce Implications

Digital transformation affects organizational culture and workforce mindset. The evolution of digital accounting necessitates continuous learning and collaboration between human accountants and AI systems. Aligning culture with technological progress is vital for sustained adaptation and maximizing AI benefits.

Thematic Framework Visual Representation



This diagram presents a **structural view** of how accountants adapt to enhanced accounting information systems, complementing the network-style framework shown earlier. Rather than mapping influence pathways between themes, it shows *where* each factor operates within the broader organizational system - a "things inside things" model.

Input: The process begins with the introduction of **AI and AIS technology** into the organization, entering from outside the system as an external driver of change.

Outer container - Organizational and cultural context: Everything else in the framework is nested inside this container, reflecting the finding that organizational culture, workforce norms, and cultural readiness are not a separate theme but the *environment* within which all adaptation occurs. This framing emphasizes that technical and behavioral challenges cannot be understood in isolation from the organization's culture - it sustains and conditions every layer beneath it.

Three parallel layers (first-order challenge domains):

- **Technological layer** - system complexity, integration difficulty, and the technical learning curve accountants face.
- **Behavioral layer** - resistance factors, attitudes, and psychological responses to change.

- **Regulatory layer** - compliance obligations and institutional rules that constrain how freely new systems can be adopted.

These three layers operate side by side because they represent distinct but co-occurring sources of friction an accountant may simultaneously struggle with a system's complexity, feel resistant to changing established routines, and be bound by regulatory reporting requirements.

Convergence layer - Role transformation and skill development: All three upstream layers feed into this single node, illustrating that technological, behavioral, and regulatory pressures ultimately converge on the same outcome: accountants must transform their professional roles and acquire new skills to remain effective. This is the mechanism through which challenges are resolved (or not).

Output: The end state **adapted accounting practice** sits outside the organizational container, representing the practical result once role transformation has taken place.

DISCUSSION

The thematic analysis reveals that accountant adaptation to AI and AIS is a complex, multidimensional process shaped by interrelated technical, behavioral, organizational, regulatory, and cultural factors. Central to this adaptation is the profound transformation of accountants' roles. Automation of routine tasks redefines professional expectations, demanding advanced analytical and strategic competencies. This shift necessitates comprehensive skill development programs tailored to bridge existing gaps, as empirical evidence from Pinho et al. (2026) underscores.

Technological complexity presents a formidable barrier. Despite advances, unresolved integration challenges with cloud computing, big data, and audit tools create uncertainty and resistance, as Rodrigues et al. emphasize. This highlights the critical need for robust IT infrastructures and seamless interoperability frameworks to ensure smooth transitions and minimize operational disruptions.

Organizational change management emerges as a pivotal mechanism to address resistance rooted in fear of job displacement and mistrust towards AI outputs. The literature stresses transparent communication, inclusive implementation processes, and extensive training as essential strategies to foster acceptance and cultivate a culture receptive to innovation. This aligns with findings from the European Journal of Business and Management Research, emphasizing that change management is not merely procedural but deeply cultural.

Behavioral factors significantly influence adoption outcomes. Effort expectancy, perceived technology fit, facilitating conditions, and coercive pressures shape accountants' willingness to embrace new systems. Self-efficacy and managerial support further enhance this engagement, suggesting that institutional backing and positive user perceptions are critical levers. The mediating role of perception, as demonstrated by Technology Acceptance Model studies, indicates that active involvement of accountants in adoption processes alleviates apprehensions and improves operational efficiency. This participatory approach ensures alignment between technological capabilities and user expectations, fostering sustainable adoption.

Regulatory and institutional constraints impose an additional layer of complexity. The accounting profession's stringent compliance requirements necessitate AI and AIS solutions that guarantee transparency, auditability, and adherence to standards. Institutional theory research highlights that these frameworks not only regulate but also shape the pace and modality of digital transformation. Collaborative efforts among technology developers, regulators, and professionals are imperative to design trustworthy and compliant AI applications that meet professional and legal standards.

Finally, cultural and workforce implications are fundamental to long-term adaptation. Digital transformation transcends technological adoption, requiring shifts in organizational mindset towards continuous learning and collaborative human-AI interaction. Aligning culture with technological progress is essential to sustain momentum and fully realize AI's potential benefits. This cultural realignment supports resilience and adaptability in a rapidly evolving professional landscape.

Together, these themes underscore the necessity for holistic, integrated adaptation strategies. Addressing skill gaps without technological support or ignoring behavioral resistance will yield suboptimal outcomes. Similarly, technological investments must be coupled with regulatory compliance and cultural transformation to achieve enduring success. Future research should focus on operationalizing this integrated framework, providing actionable guidelines and tools to assist accounting professionals and organizations in navigating the complexities of AI-driven change.

SIGNIFICANCE OF THE STUDY

This study contributes to the growing body of knowledge on Accounting Information Systems by providing a comprehensive understanding of the challenges accountants face in adapting to AI-enabled and technologically advanced accounting environments. It offers a thematic framework that integrates technological, behavioral, organizational, regulatory, and cultural dimensions influencing adaptation. The findings provide valuable insights for accounting professionals, organizations, software developers, educators, and policymakers in designing effective training programmes, implementation strategies, and change management initiatives to facilitate successful AIS adoption. Furthermore, the study establishes a conceptual foundation for future empirical research on accountants' adaptation to emerging accounting technologies.

LIMITATIONS OF THE STUDY

The study is limited to a qualitative analysis of secondary data and does not incorporate primary data collected from accounting professionals. Consequently, the findings are based on the interpretation of existing literature and may not fully capture industry-specific or region-specific challenges. Additionally, the proposed thematic framework is conceptual in nature and has not been empirically validated. Given the rapid evolution of AI and Accounting Information Systems, the findings may require periodic revision to reflect emerging technological developments and changing professional practices.

FINDINGS

Accountants face complex adaptation challenges amid the proliferation of AI and advanced AIS technologies. Addressing these challenges requires comprehensive strategies encompassing skill enhancement, technological integration, behavioral engagement, organizational change management, regulatory compliance, and cultural transformation. Developing and implementing such frameworks will ensure that technological innovations translate into enhanced professional capabilities and improved organizational performance in the accounting domain.

CONCLUSION

The increasing integration of Artificial Intelligence (AI) and advanced Accounting Information Systems (AIS) has fundamentally transformed the accounting profession, creating both opportunities and significant adaptation challenges for accountants. This study demonstrates that successful adaptation extends beyond technological implementation and is influenced by an interrelated set of technological, behavioral, organizational, regulatory, and cultural factors. The thematic analysis reveals that role transformation and continuous skill development serve as the central mechanisms through which accountants respond to these multidimensional challenges.

The proposed thematic framework contributes to the existing body of AIS literature by providing a holistic understanding of the factors that influence accountants' adaptation to enhanced accounting environments. It emphasizes that effective digital transformation requires not only robust technological infrastructure but also supportive organizational practices, continuous professional development, proactive change management, regulatory compliance, and a culture that encourages innovation and lifelong learning.

From a practical perspective, the findings offer valuable insights for organizations, accounting professionals, educators, software developers, and policymakers in designing strategies that facilitate the successful adoption of enhanced AIS. By addressing both technical and human dimensions of digital transformation, organizations can improve user acceptance, strengthen professional competencies, and enhance the overall effectiveness of accounting information systems.

Although the study is conceptual and based on secondary literature, it provides a comprehensive foundation for future empirical investigations. Further research may validate the proposed thematic framework across different organizational settings, industries, and geographical contexts using quantitative, qualitative, or mixed-method approaches. Such studies would contribute to a deeper understanding of accountants' evolving roles and support the development of resilient, intelligent, and future-ready accounting practices in the era of digital transformation.

Overall, the study shows that successful adaptation to enhanced AIS depends on the alignment of technology, people, processes, and institutional expectations. Organizations that invest only in systems without addressing human and cultural dimensions are unlikely to achieve sustainable digital transformation.

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