

Adoption of Audit Technologies in Cameroonian Firms: An Integrated Framework of Technological, Organisational, and Environmental Influences

Michael Forzeh Fossung, Ronice Ngouamene Manfo

Department of Accounting, University of Buea, Buea, Cameroon

Email: michael.fossung@fomicgroup.cm

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Abstract

This study investigates the current state of technology adoption in Cameroonian audit firms, identifies key challenges, and explores the role of professional accounting bodies and socio-cultural factors in influencing this process. Using a mixed-methods approach, quantitative and qualitative data were collected from various audit firms via questionnaires and analysed using descriptive and inferential methods. The findings reveal a high adoption rate of audit automation software and data analytics tools, alongside a lower adoption of cloud computing and robotic process automation. Key barriers to adoption include financial constraints, lack of technical expertise, and cybersecurity concerns. The influence of professional bodies and socio-cultural factors on technology adoption was also evident. Future investments should prioritise staff training, cloud-based solutions, strategic planning, advanced audit software, cybersecurity measures, and enhanced data analysis tools to facilitate broader technology adoption. Support from regulatory bodies and professional organisations is essential to overcome these barriers and ensure widespread technology integration across the sector.

Keywords

Technology Adoption, Audit Firms, Cameroonian Audit Firms, Challenges, Professional Accounting Bodies, Socio-Cultural Factors, Future Priorities

1. Introduction

The audit profession is transforming, driven by increasingly integrating advanced technologies into traditional audit processes. Globally, audit firms are adopting

tools such as artificial intelligence (AI), data analytics, and continuous auditing, which promise to enhance audit efficiency, accuracy, and quality. These technological innovations reshape the auditing landscape by allowing firms to process larger volumes of data, automate repetitive tasks, and gain deeper insight into financial performance. The adoption of big data analytics in auditing, as explored by Qiao (2020), illustrates the global trend of integrating advanced technology to enhance audit efficiency and depth of insights. However, this shift towards digitalisation also brings significant challenges, such as managing associated risks, developing technical expertise, and overcoming organisational resistance to change.

In Cameroon, the audit sector finds itself at a pivotal moment, balancing the need to modernise its practices with the realities of a challenging business environment. While technology has the potential to transform audit firms in Cameroon, improve operational efficiency, and enhance global competitiveness, its adoption is challenging. Economic instability, inadequate infrastructure, and regulatory ambiguities pose unique challenges that audit firms must navigate to harness the full potential of technological advancement. Furthermore, the influence of socio-cultural factors and the role of professional accounting bodies in shaping technology adoption remain underexplored in the context of developing countries such as Cameroon.

This study aims to fill this gap by investigating the current state of technology adoption among audit firms across Cameroon. Specifically, it explores how audit firms integrate key technologies such as audit automation software, data analytics tools, cloud computing, and robotic process automation (RPA) into their practices. Additionally, the study identifies the primary challenges hindering adoption, including financial constraints, lack of technical expertise, and cybersecurity concerns. This study provides a holistic understanding of the factors influencing technology adoption in Cameroonian audit firms by employing a comprehensive framework that integrates the technology-organisation-environment (TOE), Diffusion of Innovation (DOI), and institutional theories.

The findings of this research contribute to the ongoing discourse on technology adoption in auditing, offering practical insights for audit firms, policymakers, and professional bodies in Cameroon. By understanding the barriers and drivers of technology adoption, stakeholders can develop targeted strategies to facilitate the modernisation of the audit sector, ultimately enhancing the quality of audit services and competitiveness of Cameroonian audit firms globally.

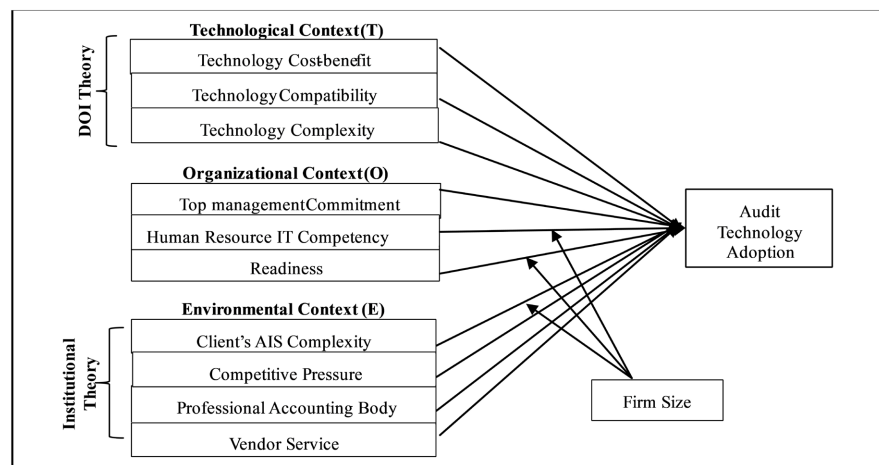
The paper is organised as follows: After the introduction, Section 2 presents the theoretical framework, followed by the methodology in Section 3, detailing the data collection and analysis methods. Section 4 discusses the results, highlighting technology adoption patterns, challenges, and professional body roles. The discussion in Section 5 contextualises these findings within existing literature, and Section 6 concludes with implications and recommendations for practice.

2. Theoretical Framework

This study is grounded in the *Technology-Organization-Environment (TOE)*

framework proposed by Tornatzky and Fleischer (1990), which examines the technological, organisational, and environmental factors that influence the adoption of audit technologies. This framework is essential for addressing the research question as it identifies the key determinants of technology adoption. To enhance the explanatory power of the framework, this study also incorporates *the Diffusion of Innovation (DOI) theory* (Rogers, 2003) and *Institutional theory* (DiMaggio & Powell, 1983). These additional theoretical lenses provide a more comprehensive understanding of the technological and environmental contexts that affect firms' adoption of audit technologies.

The TOE framework broadly categorises factors influencing technology adoption but does not delve into the specific characteristics of the adopted technologies (Rosli et al., 2012). This gap is addressed by DOI theory, which adds granularity by focusing on the attributes of the technology itself, such as its perceived benefits and complexity. Furthermore, Institutional theory is particularly relevant in the audit profession, in which environmental factors such as regulatory pressure and professional norms play a crucial role. By integrating these three frameworks, this study offers a holistic view of the factors driving or hindering the adoption of audit technologies.



Source: Rosli, K., Yeow, P. & Eu-Gen, S. (2013). Adoption of audit technology to auditing firms.

Figure 1. Research framework for audit technology adoption.

The research framework (**Figure 1**) explores how technological factors, such as cost-benefit, compatibility, and complexity, influence the adoption of audit technologies. The perceived cost-benefit of technology, based on DOI theory (Rogers, 2003), refers to the relative advantage technology offers over traditional methods, such as improved efficiency and accuracy in audit tasks. Technology compatibility refers to how well a technology aligns with an audit firm's existing practices and requirements (Rogers, 2003; Goodhue & Thompson, 1995). Additionally, technology complexity affects adoption because technologies perceived as too difficult to understand or integrate into current systems are less likely to be adopted

(Rogers, 2003). Firms in Cameroon face challenges in balancing the benefits of new technologies with their complexities, especially when integrating them into existing systems.

Organisational factors, such as top management commitment, organisational readiness, and human resource IT competency, play a significant role in adopting audit technologies. Top management commitment refers to the leadership's support and involvement in technology adoption decisions, positively impacting adoption rates (Bradford & Florin, 2003; Mahzan & Lymer, 2009; Ramamurthy & Premkumar, 1995). Organisational readiness includes the financial and technological resources available to a firm, where firms with more resources are more likely to adopt new technologies (Venkatesh & Bala, 2012). However, financial constraints remain a significant barrier for Cameroonian auditing firms (Janvrin et al., 2008; Mahzan & Lymer, 2009). Finally, human resource IT competency is crucial, as employees with higher levels of IT knowledge and skills are more likely to drive the adoption of new systems (Thong, 1999; Tornatzky & Fleischer, 1990).

Environmental factors, including client AIS complexity, competitive pressure, professional accounting bodies' support, and vendor services, impact technology adoption in audit firms. The complexity of a client's AIS (Janvrin et al., 2008) refers to the volume and difficulty of transactions processed, which affects how audit technologies are integrated (Hall, 2011). Competitive pressure pushes firms to adopt technology to stay competitive in the market (Iacovou et al., 1995; Tornatzky & Fleischer, 1990; Zhu et al., 2003), and this pressure is heightened when competitors adopt the same technologies (Cartman & Salazar, 2011). Professional accounting bodies are critical in supporting technology adoption by providing guidelines, training, and resources (DiMaggio & Powell, 1983; Swan & Newell, 1995). Finally, vendor services, such as training and maintenance, further facilitate the adoption of new technologies by offering the necessary support (Tornatzky & Fleischer, 1990).

3. Methodology

This study uses a mixed-methods approach to examine the extent of technology adoption in Cameroonian audit firms. It combines quantitative and qualitative data collection techniques to provide a comprehensive understanding, with quantitative data offering an overview of adoption trends and qualitative data delivering more profound insights into stakeholder experiences.

3.1. Research Design

The study is framed by the technology-organisation-environment (TOE) framework (Tornatzky & Fleischer, 1990), which examines the technological, organisational, and environmental factors affecting technology adoption. This is complemented by the Diffusion of Innovation (DOI) theory (Rogers, 2003) and institutional theory (DiMaggio & Powell, 1983), providing a more robust understanding of how regulatory, technological, and professional contexts influence

adoption decisions.

3.2. Sample

To ensure a comprehensive and representative analysis, a diverse sample of 50 audit firms was selected for this study. The selection was carried out using a combination of stratified random and convenience sampling methods. The sample included a diverse representation of Cameroonian audit firms, ensuring varying perspectives on technology adoption. Stratified random sampling captured firms across different sizes, such as large firms with extensive resources and smaller firms facing more constraints. Convenience sampling supplemented this by including firms with accessibility for research, providing a holistic view of the technology adoption landscape in the audit sector.

3.3. Data Collection

Quantitative Data: A structured questionnaire, meticulously designed following established questionnaire design principles, was used to explore technology adoption within audit firms. These principles include clarity to ensure questions are easily understood, relevance to ensure each item is directly related to the research objectives, and comprehensiveness to cover all aspects of the measured constructs. Additionally, neutrality was maintained to avoid leading questions, and simplicity ensured that questions were straightforward and concise.

Based on the TOE framework, the questionnaire focused on technological factors (cost-benefit, complexity, and compatibility), organisational factors (management commitment, IT competency, and readiness), and environmental factors (competitive pressure, client AIS complexity, and professional body support). Following these principles, the questionnaire was pilot-tested and refined for clarity and reliability before being distributed to 50 audit firms through stratified random and convenience sampling, ensuring a diverse sample across different firm sizes and practice areas.

Qualitative Data: Semi-structured interviews were conducted with 15 senior auditors, IT specialists, and representatives from professional accounting bodies to explore key drivers and barriers to technology adoption. Participants were selected based on their expertise and involvement in adopting or managing audit technologies. The interview guidelines included sections on the role of professional accounting bodies and institutions, focusing on their importance, support mechanisms, specific initiatives, and related challenges. Additionally, the interviews delved into socio-cultural attitudes and willingness to embrace technology, examining prevailing attitudes and their influence on technology adoption, differences observed between Cameroon and other cultures, and factors affecting employees' willingness to adopt new tools. The final section addressed the future of technology adoption, prioritising future investments and identifying how regulatory bodies and professional organisations can better support audit firms in adopting new technologies. This structured approach ensured comprehensive coverage of the

relevant factors influencing technology adoption in the audit sector.

3.4. Validity and Reliability of the Instruments

The questionnaire underwent pilot testing to enhance reliability and validity, allowing for adjustments that increased consistency and ensured that questions effectively measured the intended constructs. Internal consistency was checked using Cronbach's alpha, yielding a good reliability score (see **Table 1** below), while construct validity was assessed through expert review. These measures confirmed the questionnaire's robustness, making it fit for comprehensive analysis.

Table 1. Reliability of test.

Variables	Number of Items	Cronbach's Alpha Value	Remark
Technology Usage	7	0.768	Good
Challenges of Technology Adoption	12	0.761	Good

Source: Authors' calculations based on survey data

The reliability test results for the study indicate a good level of internal consistency for both the "Technology Usage" and "Challenges of Technology Adoption" variables. Specifically, the Cronbach's Alpha value for "Technology Usage," which includes 7 items, is 0.768. This value signifies a good level of reliability, suggesting that the items consistently measure the extent of technology adoption among Cameroonian audit firms. Similarly, the "Challenges of Technology Adoption" variable, encompassing 12 items, has a Cronbach's Alpha value of 0.761, also indicating good reliability. This suggests that the items reliably assess the primary challenges audit firms face in adopting new technologies. These reliability values, demonstrate that the questionnaire items are well-designed and provide consistent data, enhancing the credibility and robustness of the study's findings. Such reliable measures are crucial for drawing meaningful insights and making informed recommendations to improve the adoption of new technologies in auditing practices within Cameroonian audit firms.

Validity was used to ensure the data collection instruments accurately measured the intended concept. Ensuring the instrument's validity involves several key steps to guarantee that the questionnaire accurately measures the intended constructs. Initially, content validity was achieved through consultations with experts in auditing and technology adoption, refining the questionnaire items to cover all relevant aspects. Construct validity was assessed through a pilot study, confirming that the items grouped logically to measure the intended constructs. Criterion validity was evaluated by comparing the result with existing benchmarks, ensuring consistency with established measures. Face validity was ensured by having auditors and technology experts review the questionnaire for clarity and relevance. Pilot testing and subsequent feedback helped identify and correct any ambiguities,

ensuring the final instrument was clear and concise. These steps collectively enhanced the overall validity of the questionnaire, ensuring it accurately captured the necessary data for the study on technology adoption in Cameroonian audit firms.

3.5. Data Analysis

Quantitative Analysis: Data were analysed using SPSS, employing descriptive statistics to summarise general trends and inferential statistics (Pearson correlation) to examine the relationships between variables such as firm size, practice areas, and technology adoption levels.

Qualitative Analysis: Thematic analysis was used to analyse the interviews and identify patterns related to adoption challenges, the role of professional bodies, and socio-cultural influences. A manual coding process was employed to identify the recurring themes.

The triangulation of quantitative and qualitative data ensured a comprehensive understanding of the factors influencing technology adoption, offering a broad overview and deeper contextual insights into barriers to adoption.

4. Results

The study's findings are presented in two main sections: the quantitative survey results and qualitative interview insights. These results are organised thematically to address the key dimensions of technology adoption in audit firms in Cameroon, including the types of technology adopted, challenges faced, the role of professional accounting bodies, and socio-cultural factors in influencing adoption.

4.1. Extent of Technology Adoption

The survey data indicate that audit firms in Cameroon have adopted various technologies to different extents. The most widely adopted technologies are audit automation software and data analytics tools, whereas cloud computing and robotic process automation (RPA) have lower adoption rates.

The findings in **Table 2** indicate that 90% of firms use audit automation software, such as ACL and Caseware, to streamline audit processes. This high adoption rate suggests that automation tools are essential for enhancing audit efficiency and reducing manual errors. In contrast, 82% of firms have adopted data analytics tools, including Tableau and Power BI, highlighting the importance of advanced

Table 2. Technologies adopted by audit firms.

Technology	Yes (%)	No (%)
Audit Automation Software	90	10
Data Analytics Tools	82	18
Cloud Computing Platforms	54	46
Robotic Process Automation	28	72

data analysis in improving audit quality and decision-making. This finding aligns with Qiao (2020), who highlighted the transformative potential of big data technology in the audit field, enabling improved accuracy and decision-making in audit processes.

However, adopting cloud computing platforms such as Microsoft Azure and Amazon Web Services is comparatively moderate, with only 54% of firms using these technologies. Concerns about data security and the initial costs of cloud migration may account for the relatively low adoption rate. Additionally, robotic process automation (RPA) tools have the lowest adoption rate of 28%, indicating that many firms are in the early stages of exploring the potential of RPA to automate repetitive tasks.

4.2. Frequency and Purpose of Technology Integration

The survey further explored how frequently audit firms integrate technology into their processes and the primary reasons for doing so (Table 3).

Table 3. Frequency of technology integration into audit processes.

Frequency	Firms (%)
Never Used	4
Rarely Used	2
Sometimes Used	14
Often Used	50
Extensively Used	30

The results (Table 3) show that 50% of firms “often” use technology in their audit processes, while 30% “extensively” integrate it. These figures indicate that a significant proportion of audit firms actively incorporate technology into their functions. However, 14% of firms report only “sometimes” using technology and 6% rarely or never use it, suggesting that there are still barriers preventing full technological integration in a minority of firms.

The most common reason for using technology in audits is to automate audit procedures (32%), followed by enhancing accuracy, consistency, and effectiveness (20%) and supporting risk assessment (20%). This suggests that automation and improved audit quality are key drivers of technology adoption in Cameroonian audit firms (Table 4).

Table 4. Primary purposes for utilising technology.

Purpose	Firms (%)
To automate audit procedures	32
To improve accuracy, consistency, and effectiveness	20
For risk assessment	20
To improve the quality of reporting	14
To improve data analysis	14

4.3. Challenges to Technology Adoption

This study identifies several challenges that hinder the full adoption of technology in audit firms. These challenges are both technical and organisational, with financial constraints and a lack of technical expertise emerging as the most significant barriers.

Technology investment cost was identified as the most prevalent challenge, with 90% of firms acknowledging it as a significant barrier (Table 5). The high cost of acquiring and implementing advanced technologies, such as data analytics and RPA tools, makes it difficult for many firms, particularly small and medium-sized ones, to adopt these technologies. Additionally, 76% of firms cited a lack of technical expertise as a significant challenge, underscoring the need for specialised IT skills to manage and integrate new technologies into audit processes.

Table 5. Key challenges to technology adoption.

Challenge	Yes (%)	No (%)
Cost of investment	90	10
Lack of technical expertise	76	24
Cybersecurity concerns	72	28
Resistance to change	30	70
Difficulty in integrating new technologies	56	44
Lack of awareness and training	66	34

Cybersecurity concerns were another critical issue, with 72% of the firms expressing concerns about data security and privacy when using cloud-based platforms or other online technologies. This highlights the importance of robust cybersecurity measures for mitigating these risks.

30% of the firms reported resistance to change from personnel, indicating that while some firms face internal resistance, the majority (70%) do not perceive it as a significant issue. However, 56% of firms reported difficulties in integrating new technologies with existing systems, suggesting that technical compatibility remains challenging for many audit firms.

4.4. Role of Professional Accounting Bodies

Qualitative data from the interviews reveal that professional accounting bodies are crucial in facilitating or hindering technology adoption in audit firms. The respondents highlighted the importance of these bodies in setting standards, providing guidelines, and offering training programs that help audit firms understand and implement new technologies. However, smaller firms often need help accessing the resources and support provided by these bodies because of financial and logistical constraints.

4.5. Socio-Cultural Factors and Technology Adoption

The qualitative interviews also revealed that socio-cultural attitudes towards

technology play a significant role in shaping adoption patterns. Younger employees were generally more open to embracing new technologies, whereas older employees displayed greater scepticism. This generational divide slows the pace of adoption of some firms. Additionally, interviewees noted that technology adoption in Cameroon is slower than in other countries, partly due to limited infrastructure and a lack of government incentives to encourage technological innovation.

4.6. Inferential Results

The inferential analysis conducted in this study sought to determine whether there is a significant relationship between audit firm characteristics (e.g., firm size and primary area of practice) and the level of technology adoption. To explore these relationships, Pearson's correlation coefficients were calculated to assess the strength and direction of the associations between these variables.

4.6.1. Correlation between Firm Size and Technology Adoption

Correlation analysis between **firm size** and **technology adoption** yielded a Pearson correlation coefficient of **0.096**, indicating a weak positive relationship. However, with a *p*-value of **0.507**, this correlation is not statistically significant at the commonly accepted alpha level **0.05** (Table 6).

Table 6. Correlation between firm size and technology adoption.

	Technology Adoption	Firm Size
Pearson Correlation Coefficient	0.096	1
Sig. (2-tailed)	0.507	-
N	50	50

This result suggests that audit firm size, as measured by the number of employees, does not significantly influence the likelihood of adopting new technologies. This finding contrasts with studies conducted in more developed regions, where larger firms are often found to be early adopters of technology because of greater access to financial and human resources. In the Cameroonian context, other factors such as financial constraints, regulatory pressure, and managerial commitment may play a more decisive role than firm size.

This finding can be attributed to the fact that medium-sized firms dominate the audit landscape in Cameroon, as identified in the descriptive analysis. The relatively homogenous size of firms might reduce the potential of size to be a significant differentiator in terms of technology adoption.

4.6.2. Correlation between Primary Area of Practice and Technology Adoption

The correlation between a firm's primary practice area (e.g., statutory, external, and internal audits) and technology adoption resulted in a Pearson correlation coefficient of 0.000 (Table 7). This indicates no relationship between the primary audit practice area and the technology adoption level. The significance value (*p*-

value) was 1.000, which far exceeded the typical threshold for statistical significance.

Table 7. Correlation between primary area of practice and technology adoption.

	Technology Adoption	Primary Area of Practice
Pearson Correlation Coefficient	0	1
Sig. (2-tailed)	1	-
N	50	50

The absence of a correlation between the primary area of practice and technology adoption implies that the specific services provided by audit firms (e.g., statutory or external audits) do not drive decisions regarding technology adoption. This is a noteworthy finding, particularly in a developing context, as it suggests that all audit practice areas, whether compliance-focused or external, are equally likely to adopt or resist technology.

This result also reflects all firms' external pressures within the Cameroonian audit sector, where financial barriers, infrastructural constraints, and regulatory frameworks apply universally across practice areas. Firms may prioritise technology adoption based on external pressures, such as competitive forces or regulatory requirements, rather than the nature of their audit services.

Both sets of correlation results indicate that neither firm size nor the primary area of practice significantly affects the adoption of new technologies in Cameroonian audit firms. This contrasts with findings from developed economies, where larger firms and specific practice areas such as external audits are often at the forefront of technology adoption because of their higher complexity and regulatory demands.

This lack of differentiation suggests that other factors may be more central in driving technology adoption in the Cameroonian context. These factors likely include the following.

- **Management Commitment:** The Leadership's willingness to invest in and champion new technologies can be a critical driver of adoption. Firms with proactive management that recognise the strategic importance of technology may adopt new tools, regardless of firm size or practice area.
- **Regulatory and Professional Body Influence:** The role of professional accounting bodies and regulators in promoting or mandating the use of technology can also drive adoption across all firms, irrespective of their specific service lines.
- **Financial Resources and Organisational Readiness:** Even smaller firms that are well prepared and financially ready to invest in technology may be just as likely to adopt new tools as their larger counterparts. Overcoming cost-related barriers can be a more decisive factor than firm size.

These findings emphasise the need to look beyond firm demographics when assessing technology adoption in developing economies. Instead, a more holistic

approach that considers organisational culture, leadership, and external support is necessary to understand the complexities of technology adoption in the Cameroonian audit sector.

5. Discussion

This section synthesises the findings using the theoretical framework of the study and compares them with the existing literature. It critically examines the factors influencing technology adoption in audit firms in Cameroon, the challenges identified, and the role of professional bodies and socio-cultural factors.

5.1. Technological Adoption in Cameroonian Audit Firms

The primary aim of this study is to assess the extent of technological adoption in Cameroonian audit firms. The data revealed a high adoption rate of audit automation software, with 90% of firms using tools such as ACL and Caseware. This widespread adoption underscores the recognition of the efficiency and accuracy benefits offered by automation software among audit firms, which are crucial for streamlining audit processes and reducing manual errors. In contrast, while slightly lower, adopting data analytics tools such as Tableau and Power BI still represented a substantial majority (82%). This suggests that many firms leverage data analytics to gain deeper insights and improve decision-making. These tools enhance audit quality by enabling more sophisticated data analysis and visualisation, which are essential for identifying trends and anomalies. This finding supports the work of Muiruri (2021), who observed that investment in big data analytics enables firms to reduce error margins when analysing data.

Cloud computing platforms, such as Microsoft Azure and Amazon Web Services, were adopted by 54% of firms, reflecting the growing recognition of the benefits of cloud computing, including scalability, cost savings, and enhanced collaboration. However, nearly half of the firms have yet to embrace cloud solutions, possibly because of data security concerns and initial migration costs. This aligns with the findings of Kadry et al. (2023), who highlight that the most significant risks associated with cloud computing are data security and the lack of regulation around information access, which poses a significant threat to user data.

Robotic process automation (RPA) tools have a relatively low adoption rate of 28%, indicating that, while some firms are beginning to explore the potential of RPA to automate repetitive tasks and improve efficiency, many are still in the early stages of adoption. The lower adoption rate could be attributed to the complexity of implementing RPA and the need for specialised skills. This finding is consistent with Huang and Vasarhelyi (2019) and Moffitt et al. (2018), who argued that the use of RPA requires several sequential steps, such as selecting appropriate processes, modifying audit programs, obtaining licenses from RPA providers, developing in-house solutions, and conducting field tests. Vitali and Giuliani (2024) found that the use of RPA and AI is not widespread in auditing firms, and their impact remains controversial.

The overall data on technology integration indicate that 50% of firms often use technology, while 30% use it extensively. This demonstrates the high level of technological integration among most firms. However, the variation in usage suggests that while many firms recognise the benefits of technology in enhancing audit efficiency and accuracy, some firms have yet to integrate it into their audit processes. This aligns with the findings of the (Simon & Maggie Mc, 2019) which highlights the potential of technology to produce higher-quality audits that better fulfil their intended purpose.

5.2. Primary Challenges in Adopting New Technologies in Auditing

This study also seeks to identify the primary challenges faced by Cameroonian audit firms in adopting new technologies. The data indicate that technology investment cost is a significant challenge, with 90% of firms acknowledging it as a barrier. This finding suggests that financial constraints are a major hindrance to the adoption of new technologies. Furthermore, 42% of the firms rated this issue as highly significant, underscoring the need for financial support or incentives to encourage technology investment. This is consistent with the studies by Dincă et al. (2024) and Islam et al. (2022), which call for cost-effective solutions and flexible licensing models to promote wider technology adoption.

Another major challenge is the need for more technical expertise, with 76% of the firms identifying this as an issue. Many firms needed help with the technical skills required to implement and manage new technologies, and 52% of the respondents considered this challenge significant. This highlights the importance of ongoing training and development programs to build technical expertise within firms, in line with the findings of Zhang et al. (2023), which emphasise the growing need for auditors skilled in data analysis, programming, and AI algorithms.

Cybersecurity concerns also pose a significant challenge, with 72% of firms identifying cybersecurity as a key issue. This finding suggests that data security remains a critical concern for many firms when adopting new technologies. The significance of this challenge is highlighted by the fact that 32% of the firms rated it as significant. Ensuring robust cybersecurity measures is essential for fostering greater adoption of technology. Additionally, 56% of firms reported integration difficulties with existing systems, with 48% of respondents considering this a significant barrier. These findings align with Patel and Chauhan (2022), who stress that auditors and organisations must view technology as a transformative force rather than a simple tool.

5.3. Role of Professional Accounting Bodies and Institutions

The findings highlight the importance of professional accounting bodies in facilitating technology adoption within the Cameroonian audit sector. These results align with Yigitbasioglu, Green, and Cheung (2023) research, emphasising professional bodies' critical role in setting standards and providing guidelines for technology adoption in professional service firms. Both studies underline the

necessity for continuous professional development and training to keep auditors updated with technological advancements.

Furthermore, the findings resonate with Ken Tysiac's (2022) exploration of the shift towards a digital-first approach in audit engagements. Tysiac underscores the urgency and benefits of adopting digital tools, a view echoed by the participants in this study, who acknowledged the role of professional accounting bodies in advocating for technology adoption and providing essential resources and networking opportunities. This consistent recognition across contexts highlights the global importance of digital transformation in auditing.

However, the study also identifies audit firms' specific challenges in Cameroon, particularly resource constraints and resistance to change, which are less frequently discussed in studies from more developed regions. While Tysiac (2022) and Yigitbasioglu et al. (2023) emphasise the benefits of digital tools and the support provided by professional bodies, they must extensively address the practical barriers that smaller firms encounter in developing countries. This divergence underscores the Cameroonian audit sector's unique context and the need for tailored strategies to overcome these obstacles.

The study's findings on the initiatives and programs led by professional accounting bodies, such as technology-focused curricula and partnerships with technology providers, align with the broader literature on technology adoption. Previous studies have highlighted the importance of such initiatives in promoting digital transformation. However, this study adds that such initiatives must be accessible and relevant to smaller firms with limited resources, an aspect often overlooked in research on larger, more resource-rich firms.

5.4. Socio-Cultural Attitudes and Willingness to Embrace Technology

The study also reveals diverse perspectives on the prevailing socio-cultural attitudes towards technology in Cameroon and their impact on audit firms' willingness to embrace new technological tools. These findings align with previous research, such as that of Mohamed El Adib and Mohamed Achraf Nafzaoui (2023), who identified key determinants, such as performance expectancy, effort expectancy, social influence, and facilitating conditions, as critical in understanding how audit firms decide to adopt digital technologies.

Moreover, the generational divide observed in attitudes towards technology adoption is consistent with Tysiac's (2022) findings, which note that younger employees tend to drive technology adoption because of their tech-savviness and openness to innovation. This dynamic is also evident in the Cameroonian context, where younger employees are more willing to embrace new technological tools, whereas older employees are often more resistant to change.

When comparing technology adoption between Cameroon and more developed countries, participants observed that Cameroon generally has more proactive and supportive environments for technology adoption, driven by both cultural attitudes and institutional support. In contrast, the adoption process in

Cameroon is slower because of socio-cultural resistance and limited resources. Participants with international experience noted that supportive policies and infrastructure in developed regions significantly facilitated technology adoption, underscoring the importance of a conducive environment. These findings are comparable with those of [Eu-Genie Siew, Khairina Rosli, and Paul H. P. Yeow \(2019\)](#), who assert that technological, organisational, and environmental contexts influence the adoption process.

Additionally, participants noted that employees were more willing to adopt new tools in environments with a positive attitude towards technology and innovation. Conversely, the adoption process is often hindered in environments characterised by scepticism and resistance. This aligns with the findings of [Anita Dennis \(2024\)](#), who emphasises the necessity of creating and communicating a clear vision for audit technology transformation. Effective communication before, during, and after the change process is essential for mitigating resistance and ensuring that both the staff and leaders understand how new technologies can enhance their work. This aspect is particularly relevant in the Cameroonian context, where socio-cultural attitudes towards technology may significantly influence the adoption process.

5.5. Correlation Analysis and Implications for Firm Size and Practice Areas

Correlation analysis revealed no statistically significant relationship between firm size or practice area and the level of technology adoption. This finding challenges the assumption that larger firms or specific practice areas, such as external auditing, are more likely to adopt new technologies.

While the results of the correlation analysis may appear surprising, they underscore the importance of non-structural factors, such as management commitment, regulatory support, and organisational culture, in driving technology adoption. This aligns with previous studies (e.g., [Ramamurthy & Premkumar, 1995](#)) that highlight the role of top management support and strategic vision in technology implementation.

The lack of significant variation in adoption across practice areas suggests that technology adoption in Cameroonian audit firms is more broadly influenced by external pressures (e.g., competitive pressure and professional body recommendations) than the specific nature of the audit services provided. This points to a broader need for regulatory bodies to implement more generalised support and initiatives to enhance technology adoption across all sectors of the auditing profession.

The findings highlight both the progress and ongoing challenges in technology adoption among audit firms in Cameroon. While automation software and data analytics tools are widely adopted, financial constraints, technical expertise gaps, and cybersecurity concerns remain major barriers to adopting more advanced technologies. The role of professional accounting bodies, though critical, needs to be expanded to include more targeted support for smaller firms, and the influence of socio-cultural factors must be addressed to encourage a more widespread

embrace of technological innovation.

By recognising these challenges and leveraging institutional support, audit firms in Cameroon can better position themselves for future technological advancements, ensuring their global competitiveness in an increasingly digital world.

5.6. Implications of Inferential Findings

The results of the correlation analysis have important implications for policy and practice in the Cameroonian auditing industry.

1) Targeted Support Programs: Given that firm size and practice area do not significantly influence technology adoption, professional accounting bodies and regulators should focus on offering broad-based support that addresses common barriers, such as financial constraints and a lack of technical expertise, rather than tailoring initiatives only for large firms or specific practice areas.

2) Management-Focused Initiatives: Leadership within audit firms should be a focal point of technology adoption programs. Initiatives aimed at raising awareness and providing strategic guidance to firm leaders regarding the benefits of technology could help overcome resistance and increase adoption rates across the sector.

3) Uniform Regulatory Requirements: The need for more variation across practice areas suggests that regulatory bodies should consider implementing uniform requirements for technological use in audits. Mandating specific technologies, particularly in audit automation and data analytics, could drive widespread adoption and improve audit quality.

4) Enhancing organisational readiness: Regardless of size, firms should improve their internal capacity to adopt and integrate new technologies. This includes investing in staff training, upgrading the technological infrastructure, and fostering a pro-technology culture within the firm. Professional bodies can assist with providing targeted training programs and financial support.

6. Conclusion

This study offers a comprehensive examination of the current state of technology adoption in Cameroonian audit firms, focusing on the extent of adoption, the barriers encountered, and the roles played by professional bodies and socio-cultural factors. This research employed a mixed-methods approach, integrating the *Technology-Organization-Environment (TOE)* framework, *Diffusion of Innovation (DOI) theory*, and *Institutional theory* to provide a well-rounded understanding of the drivers and inhibitors of technology adoption in the audit profession.

The findings reveal that audit firms in Cameroon are in the early to middle stages of adopting advanced technology. Audit automation software and data analytics tools have been widely embraced, with 90% and 82% of firms adopting these technologies. This reflects a broader global trend in which automation and data analytics are essential tools for improving audit accuracy and efficiency. However, more sophisticated technologies such as cloud computing (adopted by

only 54% of firms) and robotic process automation (RPA) (adopted by 28%) are underutilised. This discrepancy highlights a significant gap between basic and advanced technology adoption in Cameroon's audit sector, underscoring the need for targeted interventions to bridge this gap.

The adoption of technology is not only a matter of technical capability but also reflects broader organisational and environmental factors. This study's integration of the *TOE framework* confirms that organisational readiness, including financial capacity and IT expertise, plays a critical role in determining whether firms can adopt new technologies. Lack of technical expertise emerged as a major barrier, with 76% of firms reporting that their staff needed to gain the necessary skills to implement and manage advanced technologies. This challenge is compounded by financial constraints, with 90% of the firms identifying the cost of technology as a significant barrier. These findings align with previous research highlighting the role of financial and human capital in facilitating technology adoption, particularly in resource-constrained environments.

Moreover, 72% of the firms highlighted cybersecurity concerns, reflecting the growing importance of data security in a digitalised audit landscape. This is especially pertinent for cloud computing adoption, where the perceived risks associated with data breaches and privacy violations act as deterrents despite cloud technologies' long-term cost savings and scalability benefits.

Another critical finding is the role of professional accounting bodies and regulatory institutions in facilitating technology adoption. While these bodies provide the necessary training and set industry standards, their impact is uneven, especially among smaller firms that need help to access these resources. This study's application of *Institutional theory* revealed the importance of normative pressures in driving technology adoption, as firms tend to follow the guidance and norms set by these bodies. However, smaller firms are disproportionately affected by financial and logistical barriers, reducing their ability to benefit from institutional support.

A significant socio-cultural factor influencing technology adoption is the generational divide among firms. Younger employees are more inclined to adopt new technologies, whereas older staff members tend to resist change. This divide mirrors global patterns in which younger generations, who have grown up in a digital world, are more receptive to innovation. The findings of this study indicate that overcoming resistance to change requires targeted leadership development and change management strategies to ensure a firm-wide embrace of digital tools.

Correlation analysis found no significant relationship between firm size, practice area, and technology adoption. This suggests that, in the Cameroonian context, technology adoption is less influenced by structural factors such as the number of employees or the types of audits conducted and is more dependent on managerial commitment, organisational culture, and the availability of external support from professional and regulatory bodies. The lack of variation based on firm size further reinforces the need for sector-wide strategies that include both large and small firms.

6.1. Theoretical and Practical Implications

This study's findings have several theoretical implications. First, they extended the application of the *TOE framework* and *DOI theory* to the context of a developing country, where financial and infrastructural constraints are more pronounced than in more developed economies. This highlights the importance of organisational readiness, including financial capacity and technical expertise, as being central to the adoption process. Furthermore, this study's integration of *Institutional theory* demonstrates the critical role of regulatory and normative pressures in shaping technology adoption behaviours, even when firm size or practice area does not play a significant role.

From a practical perspective, this study provides actionable insights for auditing firms, policymakers, and professional bodies. Identifying cost and technical expertise as key barriers suggest that efforts to enhance technology adoption should focus on financial incentives, training programs, and affordable technological solutions tailored to the needs of smaller firms. Additionally, the emphasis on cybersecurity concerns highlights the need for stronger regulatory frameworks and robust data protection measures that can help audit firms mitigate the risks associated with digital transformation.

Thus, the role of professional accounting bodies in standard settings and training cannot be overstated. However, this study suggests that these bodies must expand their efforts, especially in providing subsidies for software, promoting Cameroon-specific solutions, and enforcing technological standards across the sector. This study also underscores the importance of fostering a pro-technology mindset within firms through leadership development and generational collaboration, ensuring that firms remain competitive in the face of global digital trends.

6.2. Broader Context and Future Outlook

In a broader context, the findings of this study contribute to the growing body of literature on technology adoption in professional services in developing economies. The Cameroonian audit sector is at a critical juncture, where the adoption of technology can significantly improve audit firms' efficiency, accuracy, and global competitiveness. However, without targeted interventions, the sector risks lag behind their counterparts in other regions where digital transformation is more advanced.

This study provides a foundation for future research on the long-term impacts of technology adoption on audit quality and performance. Emerging trends like artificial intelligence (AI) and blockchain technology will further transform the audit profession. Future studies should explore Cameroonian audit firms' readiness to adopt these technologies and assess their potential to reshape the audit landscape. Additionally, further research could investigate the effectiveness of policy interventions in reducing the financial and technical barriers identified in this study.

In conclusion, technology adoption in Cameroonian audit firms holds great promise; however, significant challenges remain. By addressing these challenges through targeted policies, capacity-building initiatives, and increased collaboration

between professional bodies and audit firms, the sector can navigate digital transformation better and enhance its competitiveness in a rapidly evolving global market.

Conflicts of Interest

The authors declare no conflicts of interest regarding the publication of this paper.

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