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Striking the Balance: How Ethiopian Audit Firms Align Digital Transition Investments with Professional Skepticism

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This research investigates how audit firms in Ethiopia navigate the integration of information technology (IT) amid a broader digital transition, while preserving professional skepticism, a fundamental characteristic of effective auditing. Through a quantitative methodology, the study assesses the influence of IT investments on auditors' decision-making and judgment. The study gathered data via surveys completed by auditing professionals working in Ethiopian audit firms. The findings indicate that although IT investments improve efficiency and precision, they also create challenges in sustaining professional skepticism. The study underscores the importance of adopting a balanced strategy to IT implementation within the broader digital transformation context to uphold the quality and integrity of auditing practices. By grounding the Ethiopian audit sector's digital journey in empirical analysis and aligning it with global trends, this research offers a roadmap for sustainable, integrity-driven audit modernization.

Keywords: Auditing, Digital transition, Auditors' judgment, Information technology, IT investments, Professional skepticism

1. Introduction

The digital transformation of economies and industries has become a defining feature of the 21st century. Integrating digital technologies from manufacturing and healthcare to education and finance reshapes operational models and decision-making processes (European Commission 2021, World Bank 2021). Within this broader transformation, the auditing profession is undergoing its version of the digital shift. The incorporation of technologies such as artificial intelligence (AI), machine learning, robotic process automation, and advanced data analytics is not only modernizing audit practices but also redefining the competencies and mindsets required of auditors (Appelbaum et al. 2017, Han et al. 2022).

In Ethiopia, a country currently undergoing significant digital reforms in both the public and private sectors (World Bank 2021), the auditing industry is similarly transitioning toward technology-driven approaches. As part of this national digitalization effort, audit firms invest in information technology (IT) to improve audit quality, efficiency, and compliance with international standards (Wassie 2024, AICPA 2017). However, this shift also brings a critical challenge: maintaining the essential professional quality of skepticism in an environment increasingly dominated by automated processes and data-driven algorithms.

Professional scepticism – a questioning mindset and a critical assessment of audit evidence – remains a cornerstone of effective auditing (Bhimani–Willcocks 2014, Guthrie–Parker 2016). Its preservation is essential for ensuring audit quality, detecting fraud, and maintaining the integrity of financial reporting (IAASB 2020, Nolder–Kadous 2018). The current study explores the delicate balance that Ethiopian audit firms must

strike between leveraging IT for operational benefits and safeguarding professional skepticism to maintain audit credibility. The research aims to contribute to academic literature and practical guidance by situating the Ethiopian audit sector within the broader global discourse on the digital transition of professional services.

2. Literature Review and Hypothesis

Digital transition refers to the large-scale integration of digital technologies into organizations' operational and strategic fabric, often accompanied by organizational restructuring, workforce upskilling, and changes in regulatory frameworks (European Commission 2021). In the audit domain, this transition manifests in adopting technologies such as continuous auditing systems, blockchain for transaction verification, cloud-based auditing platforms, and cognitive computing (Alles 2015, Sutton et al. 2016). These advancements promise to enhance audit speed, precision, and overall effectiveness.

Global literature reflects a growing interest in how digital transformation affects auditing. According to Bierstaker et al. (2014), Braun and Davis (2003), and Zhang et al. (2022), the use of computer-assisted audit tools and techniques (CAATTs) has significantly increased audit efficiency, allowing auditors to process and analyze large datasets with greater accuracy. Similarly, Siew et al. (2020) and Al-Okaily et al. (2022) highlight how digital tools reduce human error and streamline complex audit procedures, especially in the post-COVID-19 digital acceleration.

However, a counter-narrative within this literature cautions against the uncritical adoption of digital technologies. Ahmi and Kent (2013), Allbabidi (2021), and Nolder and Kadous (2018) point out that reliance on automated systems may lead to "automation bias," whereby auditors place undue trust in system-generated outcomes. It can result in diminished professional skepticism, reduced critical analysis, and potentially overlooked audit anomalies.

The Theory of Professional Judgment (TPJ), articulated by Libby and Luft (1993), provides a valuable framework for analyzing this dynamic. The theory posits that judgment performance is a function of individual ability, task complexity, motivation, and environmental factors. Within a highly digitized audit environment, the risk is that auditors may become cognitively disengaged, relying on technology rather than their professional intuition and analytical skills (Hosseini–Rasouli 2019).

In emerging markets such as Ethiopia, the digital transformation of auditing is in its nascent stages (Wassie 2024). Limited infrastructure, evolving regulatory standards, and gaps in technological training create a complex environment in which IT adoption can empower and undermine auditors (Yigitbasioglu 2015, ISACA 2023). This study, therefore, seeks to assess two interrelated hypotheses empirically:

H_1: *Higher IT investments are positively associated with improved audit quality.*
H_2: *Excessive reliance on IT tools negatively impacts professional skepticism.*

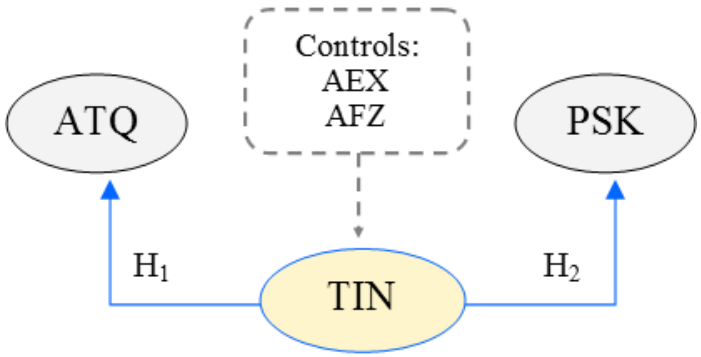
3. Research Methodology

The study employs quantitative research to examine the relationship between IT investments and professional skepticism. A cross-sectional survey was conducted to collect primary data from audit professionals in Ethiopia. The survey focused on how IT tools influence audit quality, auditors' judgments, decision-making processes, and their ability to maintain skepticism.

The target population for the study included auditors from audit firms operating in Ethiopia (a homogenous population), and the study used G*Power (version 3.1) software to determine the minimum sample size (Hair et al. 2012). The medium effect is deemed appropriate in social science studies (Verma–Verma 2020, Siew et al. 2020), and the following settings are applied: f2 = 0.15 (medium), significance level α = 0.05, power = 0.95, and the number of predictors = 1. The formula provided a minimum sample size of 74, and the researcher distributed 100 questionnaires using a random sampling method. The study gathered eighty-one valid responses, which gives the study an 81% response rate. The survey instrument was a structured questionnaire consisting of 5-point Likert-scale items. It was designed to measure the extent of IT investments in the audit process and auditors' perceptions of their professional skepticism and audit quality (Hosseini–Rasouli 2019).

As shown in Figure 1, the key variables in the study include the independent variable IT investment level (TIN), measured by the level of technology adoption, such as audit software, data analytics tools, and automation systems (Al-Okaily et al. 2022).

Figure 1. The research framework



Source: own construction

The dependent variables are audit quality (ATQ), measured through auditors' attitudes toward IT role in routine tasks, analyzing large datasets, and improving report accuracy; and professional skepticism (PSK), measured through auditors' attitudes toward evidence evaluation and decision-making. Moreover, the control variables in the study were the auditor's experience (AEX) and audit firm size (AFZ). Descriptive statistics and regression analysis were employed to examine the relationships.

4. Results and Discussion

The survey found that 78% of respondents reported that IT investments significantly impacted the quality of their audits. However, only 42% believed that these technologies facilitated better professional skepticism. The regression analysis provided in Table 1 provided strong support for both hypotheses. In Model 1, IT investments (TIN) were found to have a statistically significant positive effect on audit quality (ATQ), with a standardized coefficient (β) of 0.850 ($p \leq 0.01$). The result confirms that digital tools contribute to higher audit quality by enabling auditors to process complex data, minimize manual errors, and generate more accurate reports. These results are consistent with global findings on the positive effects of audit digitalization (Siew et al. 2020, Zhang et al. 2022; Hair et al. 2012).

Table 1. Multivariate regression result

Model	***Independent Variable***	**Unstand. Coef.**		**Stand. Coef.**	
		B	SD	Beta	t
1 *Dependent Variable ATQ*	*(Constant)*	0.605***	0.193		3.138
	TIN	0.850***	0.035	0.933	24.230
	AEX	0.066	0.063	0.040	1.045
	AFZ	0.034	0.065	0.020	0.532
	Observations	81			
	R-squared	89.1			
	F-Statistics	219.247***			
	Model VIF	1.090			
	Tolerance	0.918			
2 *Dependent Variable PSK*	*(Constant)*	5.943***	0.230		25.794
	TIN	–0.852***	0.042	–0.939	–20.313
	AEX	0.154**	0.075	0.095	2.054
	AFZ	–0.128	0.077	–0.073	–1.657
	Observations	81			
	R-squared	84.3			
	F-Statistics	144.413***			
	Model VIF	1.090			
	Tolerance	0.918			

Source: own construction based on data
Note: *p-values <0.10; **p-values <0.05; ***p-values <0.01

However, Model 2 revealed a statistically significant negative relationship between IT investments and professional skepticism (PSK), with a standardized coefficient (β) of −0.852 ($p \leq 0.01$). The result indicates that while digital tools enhance operational outcomes, they may inadvertently reduce auditors' critical engagement with audit evidence. In other words, the more auditors depend on technology, the less likely they are to maintain a questioning mindset, a trend that reflects the risks of automation bias discussed in the literature (Ahmi–Kent 2013, Nolder–Kadous 2018, Bierstaker et al. 2014).

These findings reflect the broader dilemmas of the digital transition. While technology can augment human capabilities, it may also supplant essential professional behaviors if not integrated carefully (Autor 2015). The risk is more pronounced in the Ethiopian context, where digital maturity is still developing. Audit firms may be eager to adopt IT tools for competitiveness and compliance, yet may lack the organizational infrastructure or cultural readiness to ensure that professional skepticism remains intact (Wassie 2024, Verma–Verma 2020).

Moreover, auditor experience (AEX) positively and significantly affected professional skepticism, indicating that more experienced auditors are better equipped to balance technology use with critical judgment (Libby–Luft 1993). However, audit firm size (AFZ) showed no significant influence, suggesting that organizational scale alone does not determine effective IT integration. The study's results were robust, and the data passed required tests such as normality, scale reliability, multicollinearity, and heteroskedasticity tests.

5. Conclusion and Implications

This study contributes to the ongoing discourse on the digital transition of auditing by empirically examining how IT investments influence audit quality and professional skepticism within Ethiopian audit firms. The results underscore the double-edged nature of digital adoption: while IT enhances audit efficiency and output quality, it may erode the critical mindset vital to audit integrity (Nolder–Kadous 2018).

Ethiopian audit firms must adopt a balanced approach to navigate this complex terrain, which includes investing in digital tools and human capital through continuous training, ethical awareness programs, and cultural reinforcement of professional skepticism. Regulators and professional bodies should update auditing standards to explicitly address digital audit environments and encourage auditors to apply skeptical inquiry alongside technological outputs.

In a broader sense, this study reinforces the need to view the digital transition as a technical upgrade and a profound organizational and cultural shift. Future research could delve into the long-term implications of IT on auditing practices and examine how Ethiopian auditors adapt to the rapidly evolving technological environment. Additionally, further studies could focus on specific technologies such as artificial intelligence and blockchain to assess their impact on auditing. Exploring these areas will help ensure that technological advancements enhance, rather than undermine, the foundational principles of the auditing profession.

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