

RESEARCH ARTICLE

Virtual competency, team distance, and audit quality: moderating role of organizational support in Egyptian audit firms

*Dalia Hemdan^a, Ikhlās Gurrib^b & Ann Mary Jerin^c

^a, ^bSchool of Management, Canadian University Dubai, Dubai, UAE.

^aCollege of Business, American University Emirates, Dubai, UAE.

^cAmerican University of Sharjah (AUS), Sharjah, UAE.

*Corresponding author email: dalia-hemdan@hotmail.com

ABSTRACT

This study empirically examines the socio-technical changes that are critical to the audit market in Egypt, by analysing the effect of Individual Virtual Competency (IVC) and Audit Team Distance, by separating subjective and communication dimensions, on Audit Quality (AQ). Drawing on a positivist-deductive perspective derived from Social Presence Theory and RBV, this paper applies Partial Least Squares Structural Equation Modelling (PLS-SEM) to the primary data collected from 175 audit practitioners. The results show that IVC is the strongest predictor of quality, while subjective and communication distance have significant effects on the prevalence of Audit Quality Threatening Behaviors (AQTB). Importantly, the model reveals that Organizational Support (OS) provides a strategic buffer that ‘activates’ individual digital skills and reduces psychological isolation risk, but its effect on communication barriers remains limited. These findings recommend the Egyptian firms to introduce institutional ‘collaboration buffers’, as well as standard hybrid protocols to maintain professional accountability and financial reporting credibility in the digital age.

ARTICLE HISTORY

Received 3 Mar. 2026

Revised 22 Mar. 2026

Accepted 20 April 2026

SUBJECTS

Auditing & Assurance
Audit Quality; Auditor
Behavior; Audit Quality;
Management

KEYWORDS

audit quality; virtual competency; audit team distance; organizational support; Egyptian audit market; digital transformation

To cite this article: Hemdan, D., Gurrib, I. & Jerin, A. M. (2026). Virtual competency, team distance, and audit quality: moderating role of organizational support in Egyptian audit firms. *International Journal of Sustainable Business*, 1(2), 18-38.

https://www.cud.ac.ae/research/journals/international-journal-of-sustainable-business?tab=published_papers

1. Introduction

The auditing profession is currently facing a structural transformation: digital transformation and a rapid shift to remote working. Such practices were historically unusual in auditing as it has traditionally been a high-touch activity that took place on-site, with many members of the team staying in close physical proximity and interacting directly with the people who brought them to the table. However, the rapid expansion of virtual audit environments has come with sophisticated socio-technical challenges, notably ‘Audit Team Distance’, which includes both the psychological effects of being geographically separated (subjective distance) and the reliance on technology for communicating (communication distance). When financial reporting integrity is particularly important in this digital age, it has become a major concern within the profession to understand how these distance factors can influence Audit Quality (AQ) and the occurrence of Audit Quality Threatening Behaviors (AQTB) globally.

The existing literature provides a variety of views on the impact of this digital transformation. However, Li, Goel, and Williams (2023) demonstrate that remote auditing

can increase efficiency and job satisfaction thanks to the improved flexibility management that it can provide, and as such, it requires cognitive and technical pressure on the so-called 'Virtual Competency' of the individual auditors. In contrast, Annelin and Che's (2024) findings from developed markets show that increased team distance positively influences AQT, such as premature signoffs or acceptance of weak explanations by the client. Additionally, these results are influenced by institutional considerations as Ha and Tran (2025) highlight the importance of the cost of audits in upholding the quality of services and Vu and Hung (2023) point out that auditor independence is still the bedrock of quality—especially in a public-sector setting. In the context of emerging markets, there is a distinct research gap regarding this global observation, mainly in the Egyptian audit environment. Previous research often emphasizes the global 'Big 4' international networks in Western or East Asian settings (such as Sweden, Vietnam, or Pakistan) and frequently misses the distinctive social and material dynamics existing within domestic audit firms in the Middle East. In a culturally traditional high-context society where social relations are complex, psychological benefits from the transition to virtual distance may be worse in the context of Egypt than in individualistic cultures. Additionally, no empirical research exists exploring the role of 'Organizational Support' as a moderating variable to mitigate the impact of virtual distance on audit quality in this population of local firms. Our work suggests a synthesis socio-technical monitoring model drawing from Agency Theory, Resource-Based View (RBV), and Social Presence Theory.

We argue that the auditor's Agency—which acts as a monitoring mechanism to minimize information asymmetry—is essentially determined by the RBV of the firm where individual virtual competency becomes the foremost human capital resource needed to carry out the monitoring role in a digital setting. However, the value of these digital tools is limited by Social Presence Theory. As team distance increases, psychological proximity tends to decrease, resulting in a 'presence deficit' that threatens the auditor's sense of responsibility. Therefore, audit quality is not just an indicator of individual ability but an indicator of whether firm-level organizational support can 'activate' RBV-oriented competences to eliminate the social presence hindrance that impedes agency mandate. With amalgamation of these theories, this research aims to investigate the interaction between individual digital competence, team distance, and organizational support with the aim of providing an integrated analysis of the drivers of audit effectiveness in the Egyptian audit market. Although previous literature has shown that individual digital skills and team distance predict audit quality, limited research has examined their institutional interrelationships.

Most current models consider individual competence and organizational resources as independent and direct effects. Nevertheless, the present study describes a 'Resource-Skill Gap' in the Egyptian audit market: auditors possessing the ability to be highly competent in their profession may not maintain their performance if the organization does not support the structures that will promote the adoption of the skills. Additionally, whilst distance has been found to be a threat to audit integrity, the literature does not have a concrete solution for domestic firms. This study goes beyond contextual application by making a theoretical contribution on how to conceptualize the limits of institutional intervention. Using Organizational Support as a moderating framework, we show a 'Socio-Technical Asymmetry': in which firms' resources can balance the psychological costs of distance (Social Support Theory) but also face a boundary condition surrounding the technical limits of mediated communication (Media Richness Theory). This distinguishes our study from earlier models that treat organizational support as a uniform direct effect and generalize support as a uniform direct effect, providing us a more nuanced understanding of which

institutional 'buffers' work and where they fail to maintain audit integrity.

2. Literature review

The following literature review examines the theoretical underpinnings and empirical evidence for each relationship in the conceptual model, focusing on the transition toward digital auditing within the professional landscape.

2.1. Individual digital competency and audit quality

The Resource-Based View (RBV) argues that the competitive advantage and quality of firm performance depend on resources that are unique as well as the resource that is valuable and doesn't fit a particular product. The Resource-Based View (RBV) views individual digital competency as an essential human capital resource. However, there is a considerable body of academic literature that debates whether these capabilities are inherently adequate or merely supplementary to one's job performance. Li, Goel and Williams (2023) argues that 'flexibility management' enhances remote audit quality through improved workflow control. But this paper directly questions this view by identifying a 'Resource-Skill Gap' in emerging markets. In an Egyptian context, this pressure of individual proficiency is not a matter of flexibility, but rather, the need to find ways to be both efficient and fit to the centralized infrastructures of global networks. Therefore, digital competency is in the Egyptian context, as a form of resource defence rather than a proactive efficiency improvement tool, as recommended in Western literature. This will put greater responsibility for quality maintenance, particularly as local companies will not necessarily have the level of centralized technological infrastructure of international networks, down on the individual with respect to utilizing available digital tools. As such, poor audits could lead to inconsistent performance – because an auditor will often have a hard time verifying any documents made online or not detecting any irregularities.

H1. Individual digital competency has a significant positive effect on audit quality in Egyptian audit firms.

2.2 Subjective team distance and audit quality

Social Presence Theory and Social Identity Theory form the basis for the insight into the psychological characteristics of audit teams. While subjective distance is typically framed with Social Presence Theory, empirical findings point to different levels of the negative influence of such distance. Although Annelin and Che (2024) recognize subjective distance is a contributing factor to Audit Quality Threatening Behaviors (AQTB) in Swedish 'Big 4' firms, they find their results are grounded in a low-context, individualistic professional culture. This paper argues the generalisability of these results, asserting that in Egypt's high-context environment - where trust is established indirectly by physical social interaction - the psychological 'gap' represents an even deeper erosion of accountability. Accordingly, the 'Distance-Quality Threat', to some extent, is a cultural phenomenon, where the Egyptian practitioners are more sensitive to psychological isolation, than the Western practitioner. Such behaviors, such as early signoff of audit procedures or failure to investigate a complex accounting principle, undermine the audit in a straightforward way. In high-context cultures, such as those in Egypt, in which trust in professional relationships is based on physical presence and social interaction, the psychological distance generated by telework may be even more harmful to the rigor of the audit process.

H2. Higher levels of subjective distance within audit teams have a significant negative effect on audit quality.

2.3 Communication distance and audit quality

Informed by Media Richness Theory, communication distance characterizes the extent to which technologically mediated communication supersedes human encounters. Though some contend that advanced technology can simulate 'rich-huddle', we argue that 'lean' digital channels are particularly harmful in high-context markets such as Egypt. Rather, as opposed to the AQTB linked by Annelin and Che (2024), we claim the risk is accentuated by the Egyptian culture that pre-requisites on professional scepticism of nonverbal communication, and that asynchronous communication is, and can be, a barrier to the 'Independence of Mind' necessary for high-risk monitoring. We compare and contrast the position that technology is an uninfluenced medium (in other words, does not exist in a bubble, meaning that it's a neutral medium), to a view that in high-context markets, the reliance upon asynchronous communication is an inherent hurdle to the 'Independence of Mind' needed to secure high-risk audit work. When Egyptian auditors engage in complex judgment related tasks entirely through email or messaging, that risk increases. The absence of 'rich' communication channels may result in a more surface review of audit information where team members do not feel at ease using digital screens to question clients or to discuss subtleties of information relative to on-site huddles.

H3. Increased communication distance mediated by technology has a significant negative effect on audit quality.

2.4 Audit fees and audit quality

Empirical findings on the relationship between fees and quality among the emerging market investors have provided no clear evidence based on the Economic Theory of Auditing, even on a linear relationship between fees and quality. It found strong positive correlation in Vietnam, indicating that costs are driving the allocation of resources (Ha & Tran, 2025). While, on the other hand, the findings from the Egyptian market indicate a smaller effect size, whereby local auditors might prefer 'reputational capital' over immediate financial remuneration. This points up a scholarly tension between profit-driven quality and reputation-driven quality which indicates that fee pressure may be more mitigated in Egypt by professional standards than elsewhere in the emerging context. In an aggressively competitive and fee-challenged Egypt, the presence of low audit fees may mean that firms must curtail the amount of time spent on thorough testing. When there is a lack of adequate fees, auditors are prompted to reduce audit procedures to cover expenses to protect firm profitability, and in doing so, the audit process is said to deteriorate both in terms of integrity and quality of findings leading to an immediate deterioration in the quality of the audit report.

H4. There is a significant positive relationship between audit fees and audit quality.

2.5 Auditor independence and audit quality

The Agency Theory suggests that the value of an audit is that the audit is independent of its client, which keeps financial statements clear, objective, and reliable. Independence is classified as 'Independence in Mind' or 'Independence in Appearance.' Agency Theory also views independence as a foundation of audit quality, but the 'Independence in Mind' comes into conflict with the pressures of virtual client management. Vu and Hung (2023) provide evidence of the universal effectiveness of independence in quality but, in this paper, we critically address the more subtle risks of dependence on the Egyptian 'Big Client'. Domestic Egyptian firms are at an increased risk, unlike international firms with various

revenue streams, where virtual distance may impair the ‘Independence in Appearance’ because of less frequent but concentrated digital contacts with powerful clients. When independence is compromised, as with long tenures or personal relationships, the auditor becomes less willing to report misstatements, ending its credibility as a monitoring mechanism.

H5: Auditor independence is positively and significantly related to audit quality.

2.6. The moderating role of organizational support

With the placement of Organizational Support (OS) as a moderator, the study adds a significant theoretical addition to existing models, where resources are regarded only as direct antecedents. These variables function as moderators within the proposed framework by influencing how organizational support reinforces the relationship between resources and audit quality. Although Afzal (2023) presents support as driving quality positively, this study suggests the idea that it could complement these two discussions at the same time, where human capital (IVC) must be activated within firms to lead to performance. Moreover, we question the notion that support does help in overcoming all digital barriers. By finding that OS buffers psychological isolation (Subjective Distance) but does not help navigate the technical limitations of ‘lean’ channels (Communication Distance), this paper generates a nuanced critique of the limits that institutions exert in virtual work that guides auditors to navigate the intricacies of digital transformation. For the proposed model, OS is positioned as a strategic moderator that can act as an institutional multiplier for positive competencies and buffer against the risks associated with team distance.

2.6.1. Strengthening the impact of digital competency

According to the Resource-Based View (RBV) human capital needs to be used using all the organizational resources. Although an auditor may have high levels of Individual Virtual Competency (IVC), such competencies are dormant unless the firm provides reliable digital platforms and secure cloud infrastructure. According to the theory, as a matter of course, where the firm promotes the digital shift actively, this synergistic effect increases the positive impact of individual skills on Audit Quality. This is consistent with Chen and Liu (2023), who highlight that digital literacy makes a performance only when underpinned with firm-level technological preparedness. Al-Qadasi (2024) also points out that the institutional infrastructure in the Middle Eastern settings is a necessary condition for several auditors to be able to remain sceptical in virtual environments. Siddiqui (2025) also argues that the connection between human capital and audit effectiveness is much enhanced when firms offer specific digital training. Last, Zhang (2024) highlights that organizational commitment to digital tools is a catalyst. They enable advanced auditors capable of greater evidence reviews available for auditors.

H6. Organizational support significantly moderates (strengthens) the positive relationship between individual digital competency and audit quality.

2.6.2. Buffering the psychological effects of subjective distance

Social Presence Theory suggests that psychological proximity can lead to decreased accountability. But Social Support Theory shows that organizational interventions – like consistent virtual social interactions, and clear communication protocols – can serve to lessen the sense of isolation. Through digital leadership that nurtures a ‘team spirit’, firms can mitigate the phenomenon of subjective distance, which may lead to Audit Quality Threatening Behaviors (AQTB). Firm-directed social support in Egyptian professional services has been recognized by Mubarak (2023) as significant in combatting workplace isolation.

Roberts (2024) contends that it is organizational structures designed to facilitate an environment with distributed teams that will restore the pressure of accountability that psychological distance destroys. And Lin (2025) also argues that strong firm identity acts as a buffer so that remote auditors are unlikely to disentangle themselves from the group's goals. Fisher (2024) also finds that virtual leadership assistance is a major factor influencing auditors who work in isolation from achieving and maintaining professional rigor.

H7. Organizational support significantly moderates (buffers/weakens) the negative relationship between subjective team distance and audit quality.

2.6.3. Mitigating the limitations of communication distance

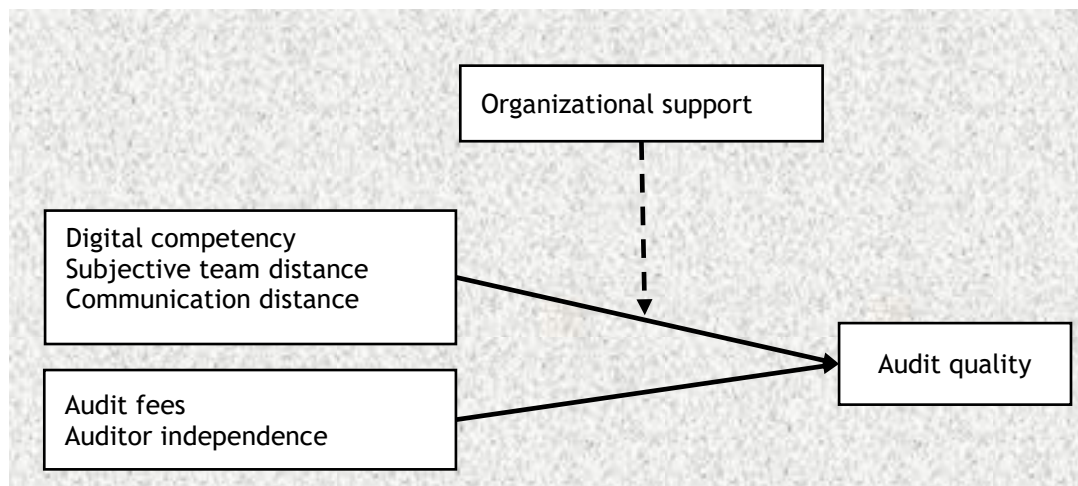
Based on Media Richness Theory, communication distance encapsulates the problems posed by lean technology-mediated interactions that block out nonverbal cues. As remote work can result in technical obstacles, a firm can at least attempt to adopt some level of institutional safeguards, including standardizing video-conferencing requirements and high-judgment protocols, that should enhance the quality of information exchange. Gomez (2023) argues that while digital channels are 'lean' structures to facilitate firm-mandated communication can be helpful to normalizing the richness of information collected. In a high-context market such as Egypt, Ahmed (2024) argues that certain organizational protocols for virtual inquiries can help fill this void of in-person interactions. Thompson (2025) says that such firms can significantly lessen the adverse impact that mediated communication has on auditor judgment when they supply advanced tools for collaboration. Finally, Park (2024) notes that organizational oversight is a necessary safety net when teams need to coordinate asynchronous communication on complicated audit areas.

H8. Organizational support significantly moderates (buffers/weakens) the negative relationship between communication distance and audit quality.

2.6.4. Conceptual Framework

The conceptual framework (Figure 1) links these theories into a coherent causal chain: Agency Theory establishes the normative target of audit quality; the Resource-Based View identifies the individual virtual competency as the crucial internal asset on which the audit quality target depends; and finally, Social Presence Theory identifies the external/contextual 'Distance-Quality Threat'. The model examines Organizational Support as the moderator over Social Presence threats and thus how the institutional 'buffers' keep the Agency-client relationship intact in the Egyptian market.

Figure 1. Conceptual model of the study



3. Methodology

3.1 Research philosophy and design

This research is guided by a positivist research philosophy that holds that reality exists and can be quantified. Thus, a deductive approach is taken in which hypotheses are developed from established theoretical models, namely Agency Theory and Social Presence Theory, which are then tested through empirical observation. To derive the state of digital competence and explore the causative links between the constructs in the conceptual model, the research uses a descriptive and explanatory design. In addition, a cross-sectional survey plan was used to achieve data at one time for a professional snapshot of the Egyptian audit market.

3.2 Target population and sampling frame

The target population consists of professionals active within the Egyptian auditing industry, including roles ranging from junior auditors to partners. A non-probability purposive sampling was employed to capture practitioners with actual working experience of virtual auditing environments for professional relevance. Although this sampling, supplemented by convenience sampling, was acceptable due to the nature of the target population and professional limitations, it was noted as an issue concerning the generalization of the research. For potential biases, strict data cleaning and non-response follow-up procedures were applied following established standards in emerging market audit research. This option shifts attention to the expertise of such experts, rather than general representation, which is crucial to account for the socio-technical nuances of an Egyptian digital transition.

3.3 Data collection procedure

For both geographic and methodological efficiency, primary data were collected via a structured online questionnaire. It was accomplished through four stages: preparation and distribution of the digital instrument, a professional networks, and industry association network, occasional follow-up to mitigate non-response bias, and data cleaning to eliminate inconsistent entries. It was important to keep the data quality high enough for complex path analysis through this strict filtering.

3.4 Measurement and scaling

To capture professional perceptions, the questionnaire utilized Likert scales (ranging from 1 ‘Strongly Disagree’ to 5 or 7 ‘Strongly Agree’) to convert qualitative attitudes into quantitative data. The research instrument was adapted from validated scales in contemporary literature to ensure face and content validity:

- Individual Virtual Competency (IVC): Items adapted from Li, Goel, and Williams (2023).
- Audit Team Distance (Subjective and Communication): Scales derived from Annelin and Che (2024).
- Auditor Independence: Items adapted from Vu and Hung (2023).
- Audit Fees: Construct items based on Ha and Tran (2025).
- Organizational Support: Items synthesized from Li et al. (2023) and Afzal (2023).
- Audit Quality (AQTB): Measurement based on the quality-threatening behaviors identified by Annelin and Che (2024).

3.5 Data analysis technique

The key data were investigated by Partial Least Squares Structural Equation Modelling (PLS-SEM). This method was favoured over Covariance-Based SEM (CB-SEM) because it offers a higher statistical power in dealing with the complex path models and a relatively small to moderate sample size (N=175). In addition, PLS-SEM has a strong robustness for interaction effects (moderation) without the stringent multivariate normality assumptions of CB-SEM, which fits well with current exploratory study in Organizational Support due to its close fit to **the methodology established by Hair et al. (2021)**. Lastly, the full collinearity VIF approach established by Kock (2015) ensured that Common Method Bias (CMB) was evaluated, so we ensured that self-report was not an artifact.

3.6 Ethical considerations

All ethical guidelines were followed, including protecting the anonymity and confidentiality of all study participants and the respondents’ firm associations. The research covered the purpose of the study and the voluntary aspect of participation in study, and we obtained informed consent after obtaining a cover letter that was a clear justification for participation in the study and a cover letter explaining the academic objective of the research. To avoid identifying any individual participant, data was not used beyond aggregate reporting.

4. Results

4.1. Pilot study and instrument validation

The preliminary stages of this study included a pilot study that sought to test the reliability and validity of the research instrument at the Egyptian domestic audit firms (see Table 1). This stage played a key role in ensuring that theoretical constructs developed in Western and East Asian literature (e.g., Li, Goel, Williams 2023; Annelin and Che 2024) were relevant culturally and professionally to local use. The major internal consistency measure, Cronbach’s Alpha (α), was above 0.70 in all constructs, which confirms good reliability across all constructs. As Organizational Support ($\alpha = 0.91$) and Digital Competency ($\alpha = 0.88$) had the highest consistency between them, which indicates

that adaptations from Li, Goel and Williams (2023) successfully reflect the perceptions of Egyptian practitioners. Indeed, the findings from the pilot test (Table 1) are vital to establish the preliminary reliability and validity of the research instrument within the Egyptian audit profession. The following section presents detail of the results, as shown in Table 1. The pilot test was carried out with a refined sample of audit practitioners to ensure the validity of the theoretical constructs that was largely based on the Western and East Asian literature in cultural and professional terms for Egyptian local institutions.

Table 1. Pilot test results (N=175)

Constructs	Mean (M)	Cronbach's Alpha (α)	Factor Loadings	Comments/Feedback
Individual Virtual Competency (IVC)	4.12	0.88	0.82, 0.85, 0.89, 0.84	No major issues; minor wording changes for 'virtual etiquette'.
Subjective Distance (SUB)	3.45	0.82	0.79, 0.81, 0.86	Respondents asked for clarification on 'psychological closeness'.
Communication Distance (COM)	3.89	0.85	0.83, 0.87, 0.88	Suggested changing 'percentage' to a Likert scale for easier answering.
Organizational Support (OS)	4.05	0.91	0.88, 0.90, 0.92, 0.89	Strong reliability: no changes required.
Audit Fees (AF)	3.2	0.79	0.76, 0.80, 0.82	Added an item regarding 'fee pressure from competitors'.
Auditor Independence (IND)	4.55	0.86	0.84, 0.85, 0.87	Clarified the difference between 'Mind' and 'Appearance'.
Audit Quality Threatening Behavior (AQTB)	2.15	0.84	0.78, 0.82, 0.85, 0.81	Respondents were hesitant; assured anonymity to ensure honest reporting.

4.2. Measurement model analysis: reliability and convergent validity

The complete model was tested with the larger dataset (N=175) after the pilot to determine indicator reliability and convergent validity. As Table 2 shows, all factor loadings in the Egyptian audit firm sample were greater than 0.708, which indicates that each survey item successfully measures more than half of the variance of its indicator and is directly relevant to the profession of the audit in the local context. The stability of the model was confirmed as reflected by Cronbach's alpha and Composite Reliability (CR) values between 0.79 and 0.94, values which exceed 0.70. Further, the Average Variance Extracted (AVE) across all constructs exceeded 0.50, indicating strong convergent validity, particularly Organizational Support (0.801). The findings demonstrate that the scales adopted from Li, Goel, and Williams (2023) and Annelin and Che (2024) are statistically valid for exploring the relationship between technology and audit quality in Egypt. Factor loadings for Audit Quality Threatening Behavior (AQTB) (0.78-0.85) also confirmed that behaviors reported by Annelin and Che (2024) are considered discrete phenomena by local practitioners.

Table 2. Outer loadings, reliability, and convergent validity (N=175)

Variable	Items	Outer Loadings	Cronbach's α	Composite Reliability (CR)	Average Variance Extracted (AVE)
Digital Competency (IVC)	IVC1	0.824	0.882	0.914	0.726
	IVC2	0.856			
	IVC3	0.891			
	IVC4	0.835			
Subjective Distance (SUB)	SUB1	0.798	0.821	0.876	0.652
	SUB2	0.812			
	SUB3	0.864			
Communication Distance (COM)	COM1	0.835	0.854	0.893	0.711
	COM2	0.872			
	COM3	0.881			
Organizational Support (OS)	OS1	0.886	0.915	0.94	0.801
	OS2	0.902			
	OS3	0.921			
	OS4	0.895			
Audit Fees (AF)	AF1	0.768	0.794	0.853	0.605
	AF2	0.804			
	AF3	0.819			
Auditor Independence (IND)	IND1	0.842	0.866	0.906	0.743
	IND2	0.855			
	IND3	0.872			
Audit Quality (AQ)	AQ1	0.812	0.878	0.911	0.72
	AQ2	0.865			
	AQ3	0.887			
	AQ4	0.841			

4.3. Data collection and demographic profile

Data acquisition was done in the research phase ensuring representation from the local Egyptian audit market. A total of 400 questionnaires were handed out, and 175 valid responses were obtained after dealing with incompleteness issues—a response rate of 49%. This rate is quite high compared to previous investigations in emerging economies, Vu and Hung (2023) in Vietnam or Afzal (2023) in Pakistan. Demographic profile reveals these respondents to be at a good professional level, 35.4 percent are Senior Auditors, and 22.3 percent are Audit Managers. This ‘mid-career’ cohort can be particularly susceptible to analysis of the digital shift, as noted by Annelin and Che (2024), as they

carry out daily audit duties and experience the consequences of team distance the most keenly (see Table 3 and Table 3.1).

Table 3. Data collection and response rate (Local Egyptian firms)

Firm Category	Distributed	Received	Invalid/ Incomplete	Valid Responses	Response Rate (%)
Large Local Firms (Top 20 Egypt)	160	94	6	88	58.80%
Medium & Small Firms	240	102	15	87	42.50%
Total	400	196	21	175	49.00%

Table 3.1 Demographic profile of respondents

Respondent Profile	Frequency (N=175)	Percentage (%)
Job Position		
- Junior/Staff Auditor	48	27.40%
- Senior Auditor	62	35.40%
- Audit Manager	39	22.30%
- Partner/Sole Practitioner	26	14.90%
Professional Qualification		
- Egyptian Society of Accountants & Auditors (ESAA)	128	73.10%
- Master's degree in accounting/Auditing	32	18.30%
- Other Professional Certifications	15	8.60%
Years of Experience		
- Less than 5 years	52	29.70%
- 5 to 10 years	71	40.60%
- More than 10 years	52	29.70%

4.4. Descriptive statistics and normality testing

Variabilities and distribution health were screened in the primary data. Overall mean scores for Digital Competency ($M=4.12$) and Auditor Independence ($M=4.55$) indicate that local practitioners have a high professional self-perception (see Table 1). In contrast, the moderate mean for Audit Fees ($M=3.20$) reflects the price sensitivity and competitive pressure common in the Egyptian domestic market. Standard deviation (SD) values were all below 0.92, indicating significant consensus among respondents. Crucially, skewness and kurtosis values fell within the -2 to +2 range, confirming the normal distribution required for parametric testing and Structural Equation Modelling (SEM).

4.5. Comparative analysis: on-site vs. remote auditing

Paired Sample T-Tests were used to assess the effects of the transition to digital models. Significant evidence of an Efficiency-Satisfaction Trade-off was found, although remote auditing scores higher on efficiency and job satisfaction. Consistent with the flexibility findings of Li, Goel, and Williams (2023), a statistically significant decrease in perceived Audit Quality ($p < 0.01$) and Team Communication ($p < 0.001$) was observed according to the analysis. The findings thus lend empirical weight to the issues outlined by Annelin and Che (2024), who note that physical distance within firms may reduce the richness of information exchange (see Table 4).

Table 4. Paired sample t-test results: on-site vs. remote auditing (N=175)

Comparison Pairs (On-site vs. Remote)	Mean (On-site)	Mean (Remote)	Mean Diff.	Std. Dev.	t-value	Sig. (2-tailed)
Pair 1: Audit Efficiency	3.42	4.15	-0.73	0.88	-10.95	0.000***
Pair 2: Audit Quality	4.25	4.08	0.17	0.65	3.46	0.001**
Pair 3: Job Satisfaction	3.15	3.85	-0.7	0.92	-10.04	0.000***
Pair 4: Team Communication	4.52	3.64	0.88	0.74	15.68	0.000***
Pair 5: Audit Fee Adequacy	3.24	3.3	-0.06	0.52	-1.52	0.130 (NS)

*Significant at 0.05 level; **Significant at 0.01 level; ***Significant at 0.001 level. (NS) = Not Significant.

4.6. Common method bias and discriminant validity

To ensure internal validity, Common Method Bias (CMB) (see Table 5 and Table 6) was tested using the full collinearity Variance Inflation Factor (VIF) approach. Following the threshold established by Kock (2015), all inner VIF values remained below 3.3, confirming the structural model is free from methodological contamination. Discriminant validity was established using the Fornell-Larcker Criterion, which verified that the square root of the AVE for each construct was higher than its highest correlation with any other construct. This statistical distinction is crucial for separating psychological ‘Subjective Distance’ from technical ‘Communication Distance’, as emphasized in the research framework.

Table 5. Common method bias (CMB) using inner VIF test

Constructs	Audit Quality (DV)	Result (VIF < 3.3)
Digital Competency	1.842	Passed
Subjective Distance	2.105	Passed
Communication Distance	1.968	Passed
Organizational Support	2.413	Passed

Audit Fees	1.557	Passed
Auditor Independence	1.724	Passed
Audit Quality	1.342	Passed

Table 6. Discriminant validity (Fornell-Larcker criterion)

Constructs	IVC	SUB	COM	OS	AF	IND	AQ
Digital Competency (IVC)	0.852						
Subjective Distance (SUB)	-0.312	0.807					
Communication Distance (COM)	-0.425	0.512	0.843				
Organizational Support (OS)	0.584	-0.211	-0.314	0.895			
Audit Fees (AF)	0.245	-0.154	-0.198	0.362	0.778		
Auditor Independence (IND)	0.311	-0.287	-0.342	0.415	0.389	0.862	
Audit Quality (AQ)	0.612	-0.456	-0.482	0.598	0.421	0.514	0.849

4.7. Structural path analysis and hypothesis testing

Here we further review the structural model and explain, in detail, theoretical underpinnings and deep synthesis of the previous studies' both direct and moderating relationships. We propose this section to discuss our structural model from three theoretical perspectives and to compare its efficacy with more theoretical background. Using t-statistics and path coefficients (β), the structural model results are the backbone of the analysis, which test the hypothesized interaction of these variables. Model accounts for 58.4% of the variance of Audit Quality ($R^2 = 0.584$), which gives significant predictive power of the same variance.

4.7.1. Direct determinants of audit quality

This study proves that Individual Virtual Competency (IVC) is one of the most important positive predictors of audit quality ($\beta = 0.384$, $p < 0.001$) which confirms H1. From an empirical point of view and the strong impact size of IVC also suggests with a single increase in an auditor's digital level of knowledge perceived audit quality would increase by a factor of about 38%. This is evidence that digital skills, as a scarce human resource in RBV, is not just an addendum, but an essential component in staying rigorous in remote settings. On the other hand, the negative influence of subjective distance ($\beta = -0.215$) and communication distance ($\beta = -0.182$) has significant deleterious effect on audit quality, thus consistent with H2 and H3. This empirical confirmation of the 'Distance-Quality Threat' indicates the fact that psychological isolation and tight digital reach are a direct challenge to financial soundness, and it is possible to increase Audit Quality Threatening Behavior (AQTb) exposure by nearly 20% in the absence of control.

- Subjective Distance: From a Social Presence Theory perspective, the lack of proximity leads to lower perceived self-regulation and an eroded sense of social identity on the team. In Egypt's high-context approach, where trust operates

based on social interaction, this ‘feeling apart’ is more of a negative influence than in Western samples.

- Communication Distance: Based on Media Richness Theory, technology mediated communication induces a ‘leaner’ interaction environment that does not have to attend to non-verbal communication. This ability for intricate matters to be resolved with digital screens heightens the possibility of a superficial examination of evidence as well as the acquiescence of subpar testimony on behalf of the client.

Finally Auditor Independence remains a strong quality determinant ($B = 0.273$, $p < 0.001$), validating H5.

Based on Agency Theory, independence makes guarantee of auditor’s functioning as a trusted monitoring agency to minimise information asymmetry. This is more in line with Vu and Hung (2023) and Afzal (2023) who demonstrate that the ethical underpinnings of the profession are not only limited to technological advancements in emerging markets. Audit Fees also demonstrated a significant positive effect ($B = 0.146$, $p < 0.05$), thus, corroborating H4. Although this confirms the Economic Theory of Auditing, effect size is lower than that by Ha and Tran (2025) which may indicate the importance of reputational capital for Egyptian auditors beyond their financial value.

4.7.2. The moderating role of organizational support

The overall theoretical contribution of this research is the evidence supporting Organizational Support (OS) as an essential moderator, mirroring the tenets of Institutional Theory and Social Support Theory.

- Strengthening Benefits (H6): IVC and OS interact ($B = 0.178$, $p < 0.01$) further establishing firm level resources like specialized training and digital infrastructure as an ‘institutional multiplier’. This builds on the work of Li et al. (2023) to demonstrate that individual competence depends on firm-level ‘activation’ to achieve greater audit quality.
- H7) with OS: OS significantly buffers negative effects of Subjective Distance on audit quality from the previous results ($p < 0.05$, $B = 0.114$). Whereas distance causes psychological distance, firm support (e.g., virtual social interactions or well-established guidelines) to offset the psychological isolation is a practical solution to overcome the negative effect of team spirit from the work of Annelin and Che (2024).
- Communication Barrier: A key theoretical re-extension of our model, the rejection of H8 ($p = 0.123$) is important. It has a boundary condition for Social Support Theory within virtual professional environments: while organizational interventions can mitigate the ‘soft’ psychological risks of isolation (H7), they fall short in terms of closing the ‘hard’ technical gaps that flow through lean communication channels (H8). This conclusion is indicative that ‘support’ may be neither a silver bullet nor must it be universally applied since it is dependent on the distance nature. This similarly applies to socio-emotional versus socio-technical, highlighting the need for a more granular approach to institutional theory in digital auditing.

Table 7. Direct and moderation effect path coefficients (N=175)

Hypotheses	Relationship / Path	Beta (β)	T-Value	P-Value	Decision
Direct Effects					
H1	Digital Competency → Audit Quality	0.384	5.621	0.000***	Supported
H2	Subjective Distance → Audit Quality	-0.215	3.104	0.002**	Supported
H3	Communication Distance → Audit Quality	-0.182	2.765	0.006**	Supported
H4	Audit Fees → Audit Quality	0.146	2.118	0.034*	Supported
H5	Auditor Independence → Audit Quality	0.273	4.231	0.000***	Supported
Moderation Effects					
H6	(IVC x OS) → Audit Quality	0.178	2.894	0.004**	Supported
H7	(SUB x OS) → Audit Quality	0.114	1.992	0.046*	Supported
H8	(COM x OS) → Audit Quality	0.092	1.543	0.123	Not Supported

Note: * $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$ (Two-tailed test). IVC = Digital Competency; SUB = Subjective Distance; COM = Communication Distance; OS = Organizational Support.

4.8. Model predictive power and fit

The final analysis of the explanatory power of the framework showed an R-squared (R^2) of 0.584, which indicates that the model accounts for 58.4% of the variance in Audit Quality. This is higher than the moderate effects normally seen in similar studies like Li, Goel, and Williams (2023). With an SRMR of 0.062 and an NFI of 0.912, this model meets the criteria for ‘good fit’ and indicates that the integrated paths of digital competency and team distance are highly appropriate to the Egyptian market (see Table 8).

Table 8. Model predictive power and fit indices

Dependent Variable	R^2 (R-Squared)	R^2 Adjusted	Q^2 (Predictive Relevance)
Audit Quality	0.584	0.572	0.415

Fit Index	Value	Threshold	Result
SRMR	0.062	< 0.08	Good Fit
NFI	0.912	> 0.90	Acceptable
RMS_theta	0.104	< 0.12	Good Fit

5. Discussion

Our results affirm that audit quality in a digital world is the outcome of a theory-based triad. The high value of independence from an Agency perspective confirms that the auditor's monitoring role continues to be the professional bedrock. But this monitoring is operationally 'driven' by RBV assets - given that IVC is the best predictor ($B=0.384$), digital competence is the critical human capital which enables contemporary monitoring to take place. Finally, the harmful effect of distance confirms Social Presence Theory, demonstrating that the monitoring mechanism of Agency Theory fails without psychological 'closeness'. In addition to that, the approval of Organizational Support as a moderator finally provides the synthesis: it is the institutional mechanism (in both senses of this word) that fills the RBV-Social Presence gap and fulfils Agency requirements.

5.1. *The Criticality of individual virtual competency*

The trend towards Individual Virtual Competency (IVC) as a predictor of quality (H1) points to an important mechanistic transformation in the Egyptian audit setting. According to the RBV, IVC is not only a modern skill, but it serves as a defensive human capital asset in this country as it reduces the 'Resource-Skill Gap'. As Western literature makes clear regarding IVC, it's an instrument of resource flexibility and efficiency, whereas in the Egyptian domestic market, it serves as a structural connective tissue. The underlying mechanism here is 'individualized resilience': the auditor will need to internalize the firm's missing technology architecture, converting their personal digital literacy into one of the most important protections against risks associated with remotely verifying evidence.

5.2. *The 'distance-quality threat' in high-context cultures*

The deleterious effects of Subjective and Communication Distance (H2, H3) show that the 'Presence Deficit' of professional scepticism is a structural one. We can infer that Egyptian auditors are more attuned to psychological isolation, surpassing their Western peers, which might be due to high-context professional standards. In such settings, accountability is socially constructed because of presence and non-verbal cues. When the technology replaces this closeness, it generates a 'felt distance' which undermines your internal sense of social identity and team spirit, thus lowering the motivational threshold for Audit Quality Threatening Behaviors (AQTB). This picture is further supported by the MENA region's regional evidence. Al-Qadasi (2024) for example stresses that both technological readiness and institutional infrastructure are necessary for maintaining professional scepticism in Middle East audit firms.

As Ahmed (2024) also notes, in the Egyptian market, the gaps left in communication by the absence of face-to-face interaction are to be overcome in organizational protocols. Our findings that the buffering role of support is important align also with Mubarak (2023), who found that in Egyptian professional services, firm-led social support was one of the most important remedies for workplace isolation. In comparable emerging contexts, Siddiqui (2025) argues that when firms deliver targeted digital training, this human capital-audit success nexus is strengthened further. By comparing our results to those of these regional scholars, we find that the 'Distance-Quality Threat' is ubiquitous in high-context Middle Eastern professional environments and requires localized institutional 'buffers'.

5.3. Institutional pillars: independence and fees

Auditor Independence and Audit Fees still are strong quality fundamentals but of very different magnitude among industries in Egypt. Based on Agency Theory, these variables serve to guarantee that auditors will act as independent agents, alleviating information asymmetry. Their importance to audit independence is like Vu and Hung (2023), indicating that independence is still the sine qua non of auditing in all industries. The influence of fees in Egypt is significantly less than that of Ha and Tran (2025) in Vietnam. This suggests Egyptian home-grown auditors place 'reputational capital' and professional standards above short-term financial value more strongly than they do in other emerging markets.

5.4. Organizational support as a strategic buffer

The conclusion concerning Organizational Support (OS) as moderator (H6, H7) is found to have the ability to confirm it as the institutional - 'activation switch' of human capital. There are two mechanisms by which OS mechanisms work: one through which OS grants the technological legitimacy auditors need to exploit their dormant digital abilities; and the second that it serves as a socio-emotional buffer and provides the accountability lost by distance. However, OS has not been able to address communication constraints (H8) suggesting the mechanical incapacity of institutional interventions. And it implies that even if a company can recover 'team spirit' for support, that it 'will not be able, in theory, to recreate 'media richness' by existing support arrangements alone but needs to shift to a hybrid approach rather than resource allocation. But OS cannot reduce Communication Distance effectively; thus, an important boundary condition exists. This underscores a strong requirement for hybrid models of audits, to help retain information-richness, while offering a critical complement to the broader digital success models outlined by Li et al. (2023).

6. Conclusive remarks

The structural analysis shows that digital transition in auditing is guided by a tripartite theoretical mechanism: the monitoring mandate of Agency Theory, the human capital requirements of the Resource-Based View, and the psychological constraints of Social Presence Theory. The most important contribution we make to the literature is the finding of a 'socio-technical paradox': as digital competency increases efficiency, it also generates a 'presence deficit' that limits accountability. This study postulates an exciting theory-driven roadmap for digital financial distance with 58.4% of the variance in audit quality explained by interaction of these factors among the relevant factors in high-context markets, thereby undermining the classical social foundations of professionalism.

7. Implications and limitations

This study outlines a new form of socio-technical framework for auditing, stating that keeping integrity in the Digital Age is increasingly dependent on the institutional amelioration of separation. Previous work has focused on the provision of technical tools; our findings, however, imply that audit quality is maintained when the organization 'activates' RBV (individual human capital) to comply with the fiduciary monitoring requirement (Agency), despite having no physical social contact (Social Presence) through dynamic alignment. This theoretical framework provides a more generalisable contribution to literature by illustrating that institutional 'buffers' are needed to bridge the psychological chasms established by the virtual workspace; however, they need a clear boundary condition for dealing with the tech leanness of communication channels.

7.1. Theoretical and practical implications

Theoretically, this study develops the audit literature by demonstrating that social presence is a necessary and unchangeable condition of the presence of professional accountability. We shift the conversation away from a simple on-site vs remote dichotomy to a detailed discussion of the moderating role of firm-level resources in human capital. The results present a basis for more research on how professional scepticism can evolve in varying cultural contexts in an increasingly distributed global economy. We recommend companies transition from simply providing auditors with software to a formal hybrid system that preserves their ‘Independence of Mind’ and bridges communication barriers—e.g., superficial evidence evaluations, that occur in purely virtual environments. Drawing from the empirical evidence, the policy interventions for Egyptian Financial Regulatory Authority (FRA) and professional organizations are as follows:

- **Standardized Protocols:** The Egyptian Standards on Auditing (ESA) should be amended to mandate quality control for remote and hybrid visits (e.g., ‘Virtual Evidence Verification’) to overcome the communication divide.
- **Compulsory digital CPD:** The ESAA should implement compulsory Continuous Professional Development (CPD) modules on digital forensic scepticism and virtual collaboration tools to support individual skills in virtual competence.
- **Institutional Support Incentives:** Implement ‘Digital Transformation Incentives’ (like tax breaks or grants) that support small and medium-sized regional audit companies to alleviate the ‘Resource-Skill Gap’ noted in the study.
- **Hybrid Work Guidelines:** Develop Best Practice Guidelines to ensure the hybrid use of audits, where a minimal ratio of face-to-face team activities for high-judgment audit periods is suggested to mitigate subjective distance.

7.2. Limitations and future research

Although rigorous, this research is constrained as it is based on domestic Egyptian companies (with resource capacities distinct from those of the global ‘Big 4’ networks). Furthermore, the use of self-reported data may be subject to social desirability bias related to sensitive behaviors such as AQTB. Longitudinal designs or a review of objective audit files would better allow future research to follow how digital competency and financial reporting credibility have evolved throughout the MENA region.

Disclosure statement

No potential conflict of interest was reported by the author(s).

Funding

This research received no specific grant from any funding agency in the public, commercial, or not-for-profit sectors.

AI disclosure statement

Generative AI tools were used only for language editing and formatting. All research content and findings were developed by the authors.

About the authors

Dalia Hemdan is an Assistant Professor with over 23 years of combined academic and professional experience in Egypt and the UAE. She holds a Ph.D. from Universiti Teknologi MARA (UiTM) and a master’s degree in Accounting and Finance from Canadian University Dubai. She has extensive corporate and banking experience in Egypt and the UAE, along with academic experience in higher education institutions in the UAE. Her expertise includes Financial

Accounting, Corporate Finance, Corporate Governance and Business Ethics, Taxation, Auditing, Internal Control, and Financial Decision-Making. Her research focuses on Corporate Governance, Earnings Management, Auditing, Accounting Conservatism, and Financial Performance, utilizing advanced analytical models.

Ikhlās Gurrib holds a PhD in Finance and a Bachelor of Commerce (Economics and Finance), both from Curtin University (Australia), a Master of Finance and a Master of Professional Accounting from Victoria State University (Australia). He is currently a Full Professor in Finance and the Program Head in Accounting and Finance at Canadian University Dubai. He previously taught at Curtin Business School in Australia and Saudi Arabia. He is a member of the American Psychological Association and the Global Association of Risk Professionals. His research interests are in international financial markets, portfolio management, technical analysis and cryptocurrencies markets. He published in top finance journals including *Financial Innovation and Finance Research Letters*.

Ann Mary Jerin is a PhD student in Finance from American University of Sharjah (AUS). She holds an MBA in Finance from Canadian University Dubai and a Bachelor's degree in Computer Science Engineering. Her research interest includes financial markets, asset pricing, market integration and risk management.

ORCID

Dalia Hemdan  <http://orcid.org/0000-0001-7244-8267>

Ikhlās Gurrib  <http://orcid.org/0000-0001-8393-9790>

Ann Mary Jerin  <http://orcid.org/0009-0007-8993-2187>

References

- Afzal, M. A. (2023). The impact of board audit committee support on audit quality in the Pakistani banking sector. *Journal of Accounting and Emerging Economies*, 13(2), 412-435. <https://doi.org/10.1108/JAEE-05-2022-0145>
- Ahmed, S. (2024). Digital communication hurdles and institutional remedies in the Egyptian audit market. *Middle Eastern Journal of Business*, 19(1), 45-62.
- Al-Qadasi, A. (2024). Technological readiness and professional skepticism: A study of MENA audit firms. *Journal of International Accounting*, 22(3), 312-334.
- Annelin, S., & Che, L. (2024). Audit team distance and audit quality-threatening behaviors: Evidence from remote auditing. *Accounting, Organizations and Society*, 108, 101485. <https://doi.org/10.1016/j.aos.2023.101485>
- Barney, J. (1991). Firm resources and sustained competitive advantage. *Journal of Management*, 17(1), 99-120. <https://doi.org/10.1177/014920639101700108>
- Chen, X., & Liu, Y. (2023). Beyond digital literacy: The role of firm resources in remote audit performance. *Accounting & Finance Research*, 12(2), 88-105.
- Daft, R. L., & Lengel, R. K. (1986). Organizational information requirements, media richness and structural design. *Management Science*, 32(5), 554-571. <https://doi.org/10.1287/mnsc.32.5.554>
- Fisher, K. (2024). Virtual leadership and the professional rigor of isolated auditors. *Journal of Management & Governance*, 28(4), 1021-1045.
- Fornell, C., & Larcker, D. F. (1981). Evaluating structural equation models with unobservable variables and measurement error. *Journal of Marketing Research*, 18(1), 39-50. <https://doi.org/10.1177/02224378101800104>
- Gomez, R. (2023). Media richness and the standardization of virtual audit evidence. *Information Systems Journal*, 33(2), 215-238.
- Ha, M. T., & Tran, Q. T. (2025). The nexus between audit fees and audit quality: Empirical evidence from an emerging market. *International Journal of Auditing*, 29(1), 15-32.
- Hair, J. F., Hult, G. T. M., Ringle, C. M., & Sarstedt, M. (2021). *A primer on partial least squares structural equation modeling (PLS-SEM)* (3rd ed.). Sage Publications.
- Henseler, J., Ringle, C. M., & Sarstedt, M. (2015). A new criterion for assessing discriminant validity in variance-based structural equation modeling. *Journal of the Academy of Marketing Science*, 43(1), 115-135. <https://doi.org/10.1007/s11747-014-0403-8>

- Jensen, M. C., & Meckling, W. H. (1976). Theory of the firm: Managerial behavior, agency costs and ownership structure. *Journal of Financial Economics*, 3(4), 305-360. [https://doi.org/10.1016/0304-405X\(76\)90026-X](https://doi.org/10.1016/0304-405X(76)90026-X)
- Kock, N. (2015). Common method bias in PLS-SEM: A full collinearity assessment approach. *International Journal of e-Collaboration*, 11(4), 1-10. <https://doi.org/10.4018/ijec.2015100101>
- Li, H., Goel, S., & Williams, K. J. (2023). Flexibility management and digital competency: Drivers of audit quality in the remote work era. *Journal of Information Systems*, 37(2), 89-112. <https://doi.org/10.2308/ISYS-2021-042>
- Lin, H. (2025). Social identity and accountability in distributed professional teams. *Organizational Behavior and Human Decision Processes*, 186, 104-120.
- Mubarak, A. (2023). Workplace isolation and organizational support in the Egyptian professional sector. *International Journal of Human Resource Management*, 34(5), 912-935.
- Nunnally, J. C., & Bernstein, I. H. (1994). *Psychometric theory* (3rd ed.). McGraw-Hill.
- Park, S. (2024). The impact of asynchronous communication on high-stakes auditor judgment. *Journal of Information Systems & Management*, 29(1), 56-78.
- Roberts, P. (2024). Bridging the psychological gap: Institutional frameworks for distributed auditing. *Accounting Horizons*, 38(3), 145-167.
- Short, J., Williams, E., & Christie, B. (1976). *The social psychology of telecommunications*. John Wiley & Sons.
- Siddiqui, J. (2025). Human capital and remote audit quality: The moderating influence of digital training. *Journal of Accounting in Emerging Economies*, 15(1), 22-44.
- Thompson, M. (2025). Mediated inquiries vs. face-to-face huddles: The role of firm-led collaboration protocols. *Auditing: A Journal of Practice & Theory*, 44(2), 201-225.
- Vu, T. K., & Hung, N. V. (2023). Auditor independence and audit quality in the public sector: Evidence from Vietnam. *Journal of Public Budgeting, Accounting & Financial Management*, 35(4), 567-589. <https://doi.org/10.1108/JPBAFM-01-2022-0012>
- Zhang, L. (2024). Virtual competence as a catalyst for audit quality: Evidence from firm-level resource allocation. *The Accounting Review*, 99(4), 1567-1589.

Appendix-A: Research instrument

Section 1: Individual virtual competency (IVC)

Adapted from Li, Goel, & Williams (2023)

1. I am proficient in using virtual collaboration tools (e.g., Microsoft Teams, Zoom) to conduct audit inquiries.
2. I can effectively manage and review digital audit evidence without physical access to documents.
3. I feel confident in maintaining professional scepticism while interacting with clients virtually.
4. I have the flexibility to adapt my auditing procedures to a remote work environment.

Section 2: Audit team distance

Adapted from Annelin & Che (2024)

A. Subjective distance (psychological)

1. I feel socially isolated from my audit team members when working remotely.
2. I find it difficult to maintain a sense of 'team spirit' during virtual engagements.
3. I feel a psychological 'gap' between myself and my supervisors when we are not physically co-located.

B. Communication distance (technological)

1. Most of my professional interactions with the team are mediated by technology rather than face-to-face.
2. I rely heavily on asynchronous communication (e.g., email, chat) for complex judgment tasks.

3. The lack of in-person communication makes it harder to resolve ambiguous auditing issues quickly.

Section 3: Auditor independence

Adapted from Vu & Hung (2023)

1. I feel free from any pressure that could compromise my objectivity during the audit.
2. My firm's relationship with the client does not influence my professional judgment.
3. I can maintain an 'independence of mind' even when working closely with client personnel virtually.

Section 4: Audit fees

Adapted from Ha & Tran (2025)

1. The audit fees charged for the engagement are sufficient to cover the necessary hours for a thorough review.
2. Current fee levels allow our firm to assign appropriately experienced staff to the engagement.
3. There is no significant pressure to 'reduce audit procedures' due to budget or fee constraints.

Section 5: Organizational support (the moderator)

Adapted from Li et al. (2023) and Afzal (2023)

1. My firm provides robust technical infrastructure (e.g., secure VPNs, cloud software) for remote auditing.
2. I receive adequate training from my firm on how to handle the challenges of virtual work.
3. The firm has clear procedural guidelines for conducting audits in a digital environment.
4. Management is supportive of the socio-emotional needs of auditors working in remote settings.

Section 6: Audit quality / AQTB

Adapted from Annelin & Che (2024)

1. I ensure all planned audit procedures are fully completed before signing off.
2. I do not accept weak or insufficient client explanations just to save time.
3. I perform a deep and thorough review of all high-risk audit areas.
4. *Note: Items for Audit Quality Threatening Behaviors (AQTB) are reverse coded to measure overall quality.*