

CAATTs Adoption in Malaysian Big 4 Audit Firms

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ABSTRACT

Manuscript type: Research paper

Research aims: This study examines Computer-Assisted Audit Tools and Techniques (CAATTs) use in Malaysian Big 4 audit firms and how Technology–Organisation–Environment (TOE) conditions shape implementation.

Design/Methodology/Approach: Semi-structured interviews with 17 auditors were thematically analysed, using TOE as a sensitising framework.

Research findings: CAATTs comprise globally standardised workflow platforms, selectively applied analytics and data-extraction tools, and collaboration infrastructure. Implementation is shaped by system reliability, complexity, task fit, client-system compatibility, management support, training, auditor competence, workload, client digital readiness and global-network standardisation.

Theoretical contribution/Originality: The study distinguishes adoption from post-adoption implementation and realised value, and identifies global-network standardisation as an environmental condition.

Practitioner/Policy implications: Firms should strengthen system reliability, audit-specific training, technical and analytics support, and reviewer guidance. Regulators and professional bodies can support implementation through clearer guidance on technology-enabled audit evidence, data readiness, digital documentation and cybersecurity.

Research limitation: The sample excludes partners, clients, regulators and non-Big 4 firms.

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1. Introduction

The rapid development of digital technologies associated with the Fourth Industrial Revolution has transformed business processes, information systems and financial reporting. As organisations increasingly rely on integrated systems, cloud applications, automated processes and large electronic datasets, external auditing has become more technology-dependent (Malaysian Institute of Accountants [MIA], 2018; Moll & Yigitbasioglu, 2019). Auditors must evaluate increasingly complex information environments, analyse greater volumes of data and obtain sufficient appropriate evidence within demanding timelines. Consequently, audit technologies are increasingly needed to enhance the efficiency, coverage and reliability of audit procedures (Deloitte, 2016; Fotoh et al., 2026; Liew et al., 2022; Tarek et al., 2017).

Computer-Assisted Audit Tools and Techniques (CAATTs) broadly refer to technologies that facilitate audit work, particularly the extraction and analysis of electronic data (Bierstaker et al., 2014; Braun & Davis, 2003). They include electronic working-paper systems, proprietary audit platforms, generalised audit software, data analytics, cloud-based applications and advanced technologies such as artificial intelligence, machine learning, robotic process automation and blockchain (Al Natour et al., 2025; Lowe et al., 2018; MIA, 2018). These tools support activities including audit planning, risk assessment, journal-entry testing, population analysis, analytical procedures, documentation and reporting.

CAATTs can reduce repetitive work, facilitate data extraction and enable auditors to analyse large volumes of structured and unstructured data (De Santis & D’Onza, 2021; Moll & Yigitbasioglu, 2019). They may also strengthen risk assessment and audit planning by identifying unusual transactions and areas of heightened risk (Abdennadher et al., 2021; Ferri et al., 2020). Despite these benefits and support from professional guidance, their implementation remains uneven. Prior studies report limited use of specialised audit software and advanced analytics (Rosli et al., 2013; Siew et al., 2020; Widuri et al., 2016). In Malaysia, general-purpose and accounting applications remain more widely used than specialised

audit software, data analytics and artificial intelligence, although the adoption of cloud applications, collaboration tools and automation has increased (Malaysian Institute of Accountants [MIA], 2020, 2023).

The availability of technology does not necessarily ensure its effective use, task relevance or compatibility with clients' information systems. This issue is particularly important in Big 4 firms, which possess substantial financial, technological and human resources and commonly audit large organisations with complex systems and transaction volumes (Curtis & Payne, 2008; Lowe et al., 2018; Rosli et al., 2013; Siew et al., 2020). Their international networks also provide proprietary technologies, specialised expertise and standardised methodologies. Nevertheless, effective CAATTs utilisation depends on interconnected technological, organisational and environmental conditions.

Several gaps motivate this study. First, CAATTs research has largely examined individual acceptance and behavioural intention using models such as the Technology Acceptance Model and the Unified Theory of Acceptance and Use of Technology (Ferri et al., 2020; Ghani et al., 2024; Ismail & Abidin, 2009; Janvrin et al., 2008; Kim et al., 2009). These perspectives provide limited insight into large audit firms, where technology selection, infrastructure, policies and training are primarily determined at the organisational or network level. Second, relatively few studies examine technological, organisational and environmental influences simultaneously, despite the importance of tool characteristics, management support, resources, auditor competence, client demands and institutional pressures (Amadu et al., 2025; Bradford & Florin, 2003; Curtis & Payne, 2008; Siew et al., 2020). Third, much of the established literature originates from developed economies, particularly the United States and the United Kingdom (Ahmi & Kent, 2012; Bierstaker et al., 2014; Bierstaker et al., 2001; Curtis & Payne, 2008; Debreceeny et al., 2005; Lowe et al., 2018). Malaysian evidence remains limited and predominantly survey-based, leaving insufficient qualitative understanding of how Big 4 auditors use different CAATTs and experience their implementation (Ahmi et al., 2017; Rosli et al., 2012).

Accordingly, this study explores how different categories of CAATTs are adopted and used by Malaysian Big 4 auditors, and examines the technological, organisational and environmental conditions shaping their implementation. Rather than treating adoption as a binary outcome, it considers how different tools are integrated into audit practice. The study applies the Technology-

Organisation–Environment framework developed by Tornatzky & Fleischer (1990). The technological context concerns the availability, complexity, relevance and compatibility of CAATTs; the organisational context includes management support, resources, infrastructure, training, competence and auditor willingness; and the environmental context encompasses client characteristics, regulatory requirements, professional expectations and external pressures. This framework provides a broader organisational explanation than models focused primarily on individual acceptance (Amadu et al., 2025; Venkatesh & Bala, 2012).

The study contributes to the literature by providing qualitative evidence from a developing-country context and by explaining CAATTs implementation across multiple technological, organisational and environmental dimensions. It also offers practical insights into the conditions that enable or constrain the effective integration of audit technologies within large international audit firms. The remainder of the paper is organised as follows. Section 2 reviews the literature relating to CAATTs and explains the TOE framework. Section 3 describes the research method. Section 4 presents the findings, Section 5 discusses the findings, and Section 6 provides the conclusion, theoretical and practical implications, limitations and directions for future research.

2. Literature Review

2.1 Categories and Utilisation of CAATTs

CAATTs are broadly defined as technologies that assist auditors in performing audit procedures. For analytical clarity, this study conceptualises them as a layered set of tools rather than a homogeneous construct. Basic supporting tools, such as electronic working papers, spreadsheets and document-management applications, facilitate the organisation of audit evidence. Generalised audit software and workflow platforms support procedures such as sampling, recalculation, journal-entry testing and documentation. Advanced technologies, including audit analytics, robotic process automation (RPA), continuous auditing and AI-enabled applications, facilitate large-scale data analysis, anomaly detection and risk assessment. This distinction reduces conceptual ambiguity by recognising that the use of spreadsheets or electronic workpapers is not equivalent to implementing advanced audit analytics (Al Natour et al., 2025; Bierstaker et al., 2014; Siew et al., 2020).

CAATTs can enhance audit efficiency and effectiveness by improving access to electronic evidence and supporting data extraction, full-population testing, exception identification and fraud-risk procedures. However, these benefits are not realised consistently across firms, jurisdictions or levels of technological sophistication. Adoption and use depend on interrelated individual and organisational conditions, including perceived usefulness, auditor competence, training, task-technology fit, technical support, top-management commitment, client-data quality, information-system complexity and regulatory or professional support (Ahmi & Kent, 2012; Bierstaker et al., 2014; Siew et al., 2020). Advanced technologies also require appropriate technological capabilities and clearly defined audit use cases, indicating that access to a technology does not necessarily result in its meaningful integration into audit work (Krieger et al., 2021). Moreover, AI, blockchain and advanced analytics introduce concerns relating to trust, explainability, data governance and professional judgement (Al Natour et al., 2025; Garanina et al., 2021).

These distinctions are particularly relevant in Big 4 firms, where core audit-support technologies are embedded in proprietary, globally standardised platforms aligned with firm methodologies and workflows (Dowling & Leech, 2007). Although these firms have been early adopters of advanced analytics, actual use varies according to technological capability, audit objectives, client-system compatibility and engagement requirements (Krieger et al., 2021). Malaysian Big 4 auditors may therefore have limited discretion over the adoption of mandatory platforms but greater discretion in how specialised analytics and automation are configured and applied across engagements. The discussion above leads to our first research question:

RQ₁: How are different categories of CAATTs adopted and used by auditors in Malaysian Big 4 audit firms?

2.2 CAATTs-Enabled Audit Work: Benefits and Limitations

CAATTs support activities across the audit cycle, including risk assessment, journal-entry selection, control testing, substantive procedures, population analysis, sampling, analytical review and documentation (Ahmi et al., 2014; Al Natour et al., 2023; Bierstaker et al., 2001; Lowe et al., 2018). Their principal contribution is not merely faster processing, but the ability to extract, organise and interrogate electronic evidence more systematically. When appropriately applied,

CAATTs can automate repetitive procedures, broaden test coverage, improve traceability and support remote or distributed engagement teams (De Santis & D'Onza, 2021; Moll & Yigitbasoglu, 2019). Wassie and Lakatos (2025) associate CAATTs adoption with stronger client relationships, employee engagement and operational efficiency, although the efficiency benefit depends on organisational readiness. Fotoh et al. (2026) likewise indicate that relevant technologies can support dynamic audit capabilities under turbulent conditions. These findings suggest that realised value depends on how well a tool fits the audit process and is embedded in organisational practice.

The same technologies also have limitations. Incomplete or inaccessible data, information overload, weak interoperability and system-generated exceptions can reduce rather than improve audit efficiency. Advanced and remote applications also heighten privacy, cybersecurity and data-governance concerns (Al-Hajaya et al., 2025). Moreover, software outputs do not remove the need for auditors to assess evidence quality, investigate anomalies and exercise professional scepticism (Financial Reporting Council [FRC], 2020; Stoel et al., 2012). The relevant issue is therefore the quality of implementation, not the assumed superiority of technology over professional judgement.

2.3 *The TOE Framework as an Implementation Lens*

The Technology-Organisation-Environment (TOE) framework examines innovation through technological, organisational and environmental contexts (Tornatzky & Fleischer, 1990). Its inclusion of internal capability and the external operating environment makes it appropriate for CAATTs implementation in audit firms, where tools must fit both firm methodology and client information systems (Oliveira & Martins, 2010). TOE is applied here as a sensitising framework rather than a fixed causal model, allowing context-specific conditions and interactions to emerge from the qualitative evidence (Amadu et al., 2025; Awa, Ukoha, & Igwe, 2015; Tetteh, Simpson, Nyabey, Kubaje, Togormey, & Tagoe, 2025). This use of TOE recognises that the three contexts are interdependent. A technically capable application may remain weakly used when auditors lack training, management does not provide implementation support, or client data cannot be integrated. Conversely, strong organisational resources cannot compensate fully for poor task fit or external restrictions. The framework therefore directs attention to how conditions combine to shape the depth and form of CAATTs use.

2.3.1 Technological Context

The technological context concerns the characteristics and availability of the hardware and software used in audit work (David et al., 2010; Mardian & Avianti, 2019). CAATs adoption is influenced by attributes such as relative advantage, complexity, compatibility, cost, risk and technological availability (Oliveira & Martins, 2010; Rogers, 1983; Rosli et al., 2012). Auditors and audit firms are more likely to adopt technologies that improve service quality, reliability and efficiency, whereas complex systems, incompatibility and dependence on legacy systems may impede adoption.

Task-technology fit is also important. Audit firms may not use a technology, regardless of its sophistication, when it does not meet the requirements of a particular audit procedure (Rosli et al., 2012). In addition, effective implementation requires adequate technological infrastructure, system accessibility and investment in supporting expertise (Verma & Bhattacharyya, 2017). Nevertheless, limited evidence explains how these technological conditions affect the use of CAATs across different audit-firm contexts, particularly Malaysian Big 4 firms.

Technological readiness concerns the availability and suitability of infrastructure, software licences and compatible systems. Evidence from developing economies indicates that specialised CAATs remain less extensively used than general-purpose applications despite their recognised potential (Ahmi & Kent, 2012; Siew et al., 2020). Tetteh et al. (2025) identify relative advantage, complexity and compatibility as important technological influences, while Amadu et al. (2025) find technological readiness to significantly influence adoption intention.

2.3.2 Organisational Context

The organisational context refers to internal characteristics such as firm size, structure, communication processes, resources and management practices that influence technology adoption (Tornatzky & Fleischer, 1990). Prior studies identify organisational support, management encouragement, financial capacity and technological competence as important conditions for CAATs adoption (Ahmi & Kent, 2012; Curtis & Payne, 2008; Rosli et al., 2012).

Larger firms generally possess greater financial and human resources, economies of scale and a higher capacity to absorb technological risks (Bierstaker et al., 2014; Zhu et al., 2004). However, the perceived costs of acquiring, implementing and maintaining

technology may reduce adoption intention (Iacovou et al., 1995; Verma & Bhattacharyya, 2017). Management support is therefore important in allocating resources, providing training and encouraging the integration of CAATs into audit routines.

Human factors, including auditors' attitudes, motivation and willingness to change, may also affect implementation. Although technology adoption is often examined at the organisational level, its success depends partly on the individuals expected to use the technology (Awa et al., 2015). Further research is therefore needed to understand how organisational resources, management support and auditor-related factors interact in shaping CAATs implementation.

Firm size, training, technical support, workflow adjustment and sufficient time to develop audit-specific competence influence whether available technologies are meaningfully used (Bierstaker et al., 2014; Janvrin et al., 2008). Resources are therefore enabling conditions rather than guarantees of effective implementation. Tetteh et al. (2025) identify firm size, technological competence and management support as organisational influences. Although Amadu et al. (2025) find no significant direct effect of organisational readiness on adoption intention, Wassie and Lakatos (2025) show that organisational readiness strengthens the benefits realised after adoption. These findings suggest that organisational conditions may be more important for sustained use and value creation than for initial adoption intention.

2.3.3 Environmental Context

The environmental context concerns the external conditions within which audit firms operate, including clients, competitors, industry developments, regulators and professional bodies (Tornatzky & Fleischer, 1990; Widuri et al., 2016). Competitive and institutional pressures may encourage firms to adopt technologies to maintain legitimacy, respond to industry developments and preserve their competitive position (Troshani et al., 2011; Verma & Bhattacharyya, 2017). Client characteristics are particularly relevant because the use of CAATs depends on the complexity of clients' information systems, transaction volumes and availability of electronic data. As client organisations become larger and their systems more complex, audit firms may increasingly require technology-enabled procedures to obtain and analyse audit evidence efficiently (Rosli et al., 2012).

Regulatory requirements and professional guidance may also influence audit firms' technology strategies. However, limited research has examined how client conditions, societal

expectations and regulatory and professional bodies shape CAATTs implementation in the Malaysian audit environment. This gap warrants closer examination of the external conditions that facilitate or constrain the use of CAATTs in Big 4 audit firms.

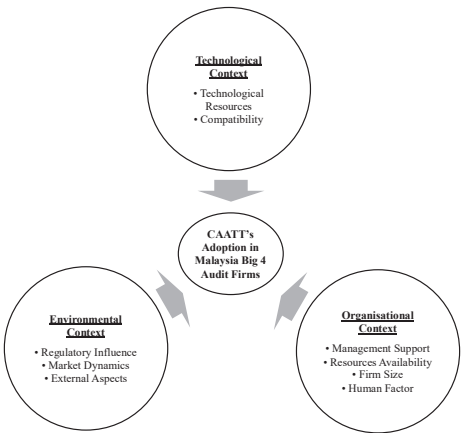
Implementation also depends on parties and conditions outside the audit firm. Client data quality, digital maturity, cooperation and system compatibility affect whether CAATTs can obtain reliable audit evidence. Al-Hajaya et al. (2025) identify infrastructure limitations, incompatible client systems, communication barriers, privacy risks and cybersecurity concerns as interrelated challenges in AI-enabled remote auditing. Professional guidance and regulatory expectations may encourage technology use but do not necessarily prescribe particular tools or ensure their suitability for every engagement (Audit Oversight Board [AOB], 2018; Tetteh et al., 2025).

2.3.4 The Proposed TOE Framework

Based on the discussion above, Figure 1 is proposed. Figure 1 summarises the study’s proposed framework for CAATTs implementation. The framework does not assume that every TOE factor will have an equal or uniformly positive effect; instead, it structures the examination of how firm-level resources, auditor capabilities, client systems and external expectations combine within Malaysian Big 4 audit practice. The discussion above leads to the following research questions:

RQ2: How do technological, organisational and environmental conditions influence the implementation of CAATTs in Malaysian Big 4 audit firms?

Figure 1. Proposed TOE Contextual Framework for CAATTs Implementation



3. Research Method

3.1 *Research Design and Data Collection*

An exploratory qualitative design was adopted to examine how different categories of computer-assisted audit tools and techniques (CAATs) were used and how technological, organisational and environmental conditions shaped their implementation in Malaysian Big 4 audit firms. This approach was appropriate because CAATs implementation is embedded in audit routines and may be interpreted differently by auditors at different hierarchical levels. Consistent with an interpretive orientation, the study sought to understand participants' situated experiences and perceptions rather than to test predetermined causal relationships.

Data were collected through semi-structured, one-to-one interviews over eight months, from April to November 2023. The interview protocol was developed from the research questions, prior CAATs literature and the technology-organisation-environment (TOE) framework (Tornatzky & Fleischer, 1990). It contained open-ended questions concerning the types and purposes of CAATs used, their incorporation into audit procedures, perceived technological benefits and difficulties, organisational support and training, compatibility with client systems, regulatory and other external pressures, and future digital audit capability. The protocol provided consistency across interviews while allowing the sequence of questions and follow-up probes to reflect each participant's experience. The interview protocol is provided in Appendix A.

Interviews were conducted either in person or through Microsoft Teams or Google Meet and lasted between 30 and 80 minutes. With participants' permission, interviews were audio-recorded and transcribed verbatim. Where recording permission was not granted because of privacy concerns, detailed contemporaneous notes were taken and reviewed immediately after the interview. This procedure respected participants' preferences while retaining sufficiently detailed records for analysis.

3.2 *Participant Selection and Profile*

Participants were recruited through purposive sampling, supplemented by snowball referrals. To be eligible, an individual had to be currently employed in an audit-related role within a Malaysian Big 4 firm, be actively involved in external audit work, and have at least six months of Big 4 audit experience. Referred participants were assessed against the same criteria before inclusion. Recruitment and

interviewing continued until later interviews repeated the principal categories and no substantively new adoption factor emerged, indicating data saturation (Hennink & Kaiser, 2022).

The final sample comprised 17 auditors: six audit associates, nine senior audit associates, one audit manager and one audit senior manager. Their experience ranged from one year and two months to twelve years and eleven months. This variation provided engagement-level accounts of day-to-day CAATTs use as well as managerial perspectives on longer-term implementation, training and resource support. However, the sample did not include audit partners; consequently, the findings primarily represent operational and managerial perspectives rather than decisions made at partner or global-network level. Table 1 presents the participant profile.

Table 1: Profile of Interview Participants

No.	Participant Code	Gender	Position	Work Experience	Interview Duration (min)
1	AA1	Male	Audit Associate	1 year 2 months	40
2	AA2	Female	Audit Associate	2 years	63
3	AA3	Male	Audit Associate	1 year 6 months	40
4	SA1	Female	Senior Audit Associate	2 years 1 month	30
5	SA2	Male	Senior Audit Associate	2 years 3 months	35
6	AA4	Male	Audit Associate	1 year 8 months	30
7	SA3	Female	Senior Audit Associate	2 years 3 months	45
8	SA4	Female	Senior Audit Associate	2 years 2 months	32
9	SA5	Female	Senior Audit Associate	2 years 3 months	30
10	AA5	Female	Audit Associate	2 years 3 months	30
11	SA6	Female	Senior Audit Associate	3 years	50
12	M1	Female	Audit Manager	10 years 5 months	80
13	SA7	Female	Senior Audit Associate	3 years 4 months	45
14	SA8	Female	Senior Audit Associate	5 years 5 months	40
15	SA9	Male	Senior Audit Associate	2 years 4 months	30
16	AA6	Male	Audit Associate	2 years 6 months	35
17	M2	Male	Audit Senior Manager	12 years 11 months	60

3.3 *Data Analysis*

The interview data were analysed using a framework-guided thematic analysis based on Braun and Clarke (2006, 2012). Microsoft Word was used for transcripts, while Microsoft Excel was used to organise codes and supporting excerpts; the software served as a data-management tool rather than as a substitute for interpretation. Analysis began with repeated reading of the transcripts and field notes to achieve familiarity with the data and to identify initial ideas. Meaningful segments were then coded, compared and consolidated into broader patterns.

The TOE framework sensitised the analysis without operating as a rigid coding template. Codes relating to the categories and uses of CAATTs were developed alongside codes concerning technological, organisational and environmental influences. Participant-led observations that did not fit the initial framework were retained where they were relevant to the research questions. Candidate themes were reviewed against the full dataset and supporting excerpts to assess coherence, distinctiveness and explanatory value. Less frequent or discrepant accounts were also considered where they clarified differences in implementation across roles or engagements. Reflexivity was considered throughout the analysis. Analytical decisions were documented throughout the coding and theme development process.

The final themes were defined and organised around the two research questions: the categories and contexts of CAATTs use, and the conditions influencing implementation. Representative interview quotations were used to preserve participants' accounts and support the interpretation. Saturation was assessed iteratively during data collection and analysis, with later interviews confirming the principal themes rather than producing substantively new adoption factors.

3.4 *Ethical Considerations*

Ethical approval was obtained from the University of Malaya Research Ethics Committee before data collection commenced. Participants received information on the study's purpose, procedures, expected interview duration, potential risks and benefits, and the voluntary nature of participation. Informed consent was obtained, and participants could decline to answer any question or withdraw without penalty. Participant and firm identities were protected through anonymised codes, and the research data were stored securely and reported without information that could identify an individual or firm.

4. Findings

The findings are organised around the two research questions. Section 4.1 addresses the categories and uses of CAATs in Malaysian Big 4 audit firms (RQ1), while Sections 4.2 to 4.4 present the technological, organisational and environmental conditions shaping implementation (RQ2). The themes were derived from interviews with 17 auditors and are illustrated with anonymised participant quotations.

4.1 Adoption and Use of CAATs in Malaysian Big 4 Audit Firms

Participants distinguished between the availability of technology and its actual adoption. Although all 17 participants were familiar with CAATs, they emphasised that adoption occurs when the tools are incorporated into audit work, rather than simply being available in the market. As SA2 explained:

“Just because technology is available doesn’t mean it is being used or adopted. There are uncountable technologies in the market, but you can’t say you are adopting them just because it exists. To adopt, there is a need of usage.” (SA2)

SA2’s account illustrates that adoption is reflected in actual use rather than availability alone. The findings reveal a layered pattern of implementation. Core proprietary platforms are institutionalised through firm methodologies, whereas specialised analytics are applied according to the audit procedure, client data and engagement requirements. General collaboration and productivity applications support this technological environment but are not regarded as core CAATs unless they are used directly to perform an audit procedure.

4.1.1 Proprietary Audit Workflow and Analytics Platforms

Participants identified globally developed, in-house audit platforms as the technological core of Big 4 audit engagements. These platforms integrate electronic working papers, audit planning, risk documentation, testing, review comments, sign-offs, reporting and prior-year audit trails. Their use is largely mandatory because they are embedded within firm methodologies rather than independently selected by individual auditors. AA4 described their role as follows:

“Usually, we will use a platform called (Software Green and Blue). So, we use that to perform most of our audit work. It has a lot of functions and ensures audit approach is consistent throughout.” (AA4)

The platforms also incorporate analytical functions for journal-entry testing, population testing, sample selection, analytical review and exception identification. Participants regarded these functions as more audit-specific than Excel because they integrate data analysis with documentation controls, standardised templates and review trails.

The findings also indicate differences in CAATTs use according to auditors' roles and levels of responsibility. Senior auditors and managers use the systems to interpret results, review work and provide feedback, whereas associates are more commonly involved in routine extraction, sampling and testing activities. Thus, the nature of CAATTs use varies not only according to the technology employed but also according to the auditor's role and responsibilities.

The global design of these platforms was also prominent in participants' accounts. AA2 noted that the same in-house platform was used across different locations, facilitating a consistent audit approach despite variations in client size, complexity and jurisdiction. Taken together, the accounts of AA2 and AA4 indicate that Malaysian auditors largely implement technologies governed at the global network level rather than making wholly local adoption decisions.

4.1.2 Collaboration and Knowledge-Support Infrastructure

Big 4 firms supplement their proprietary audit platforms with commercially available applications such as Microsoft Outlook, Teams, Zoom and the Microsoft Office suite. These applications facilitate communication, document exchange, remote meetings, work scheduling and report preparation. Some firms also integrate global research portals with their audit platforms, providing auditors with access to current accounting, auditing and industry guidance.

Participants emphasised the importance of collaboration tools during remote and hybrid audits. These tools enabled engagement teams to monitor audit progress, discuss review comments and maintain communication with clients. However, participants distinguished these supporting functions from audit-specific testing and professional judgement. AA6 explained how integrated systems facilitate engagement oversight:

"The software simplifies engagement tracking for seniors and partners, allowing them to track audit work progress with just a click. They can also leave comments or feedback concurrently throughout the engagement, saving time and effort." (AA6)

AA6's account highlights the contribution of these systems to real-time engagement oversight. This observation was reinforced by M1, who emphasised improved coordination and more timely resolution of issues. Participants nevertheless distinguished these functions from audit procedures performed using analytics and audit-specific platforms. Table 2 summarises the three technology layers identified from the interviews and their respective functions.

Table 2. Categories and Functions of Technologies Used in Big 4 Audit Work

Technology Category	Principal Audit-Related Functions	Illustrative Applications
Proprietary audit workflow and documentation platforms	Planning; risk documentation; electronic working papers; task assignment; review and feedback; sign-offs; reporting; maintenance of audit trails.	Anonymised in-house global platforms
Audit analytics and data-extraction tools	Journal-entry testing; population testing; sample selection; re-performance of audit procedures; analytical review; data matching; exception and anomaly identification.	Firm analytics modules and specialised audit/data tools
Collaboration, productivity and knowledge-support infrastructure	Team communication; document exchange; remote meetings; engagement tracking; report preparation; access to technical guidance.	Teams, Zoom, Outlook, Office applications and global research portals

Note: Collaboration and productivity applications are classified as enabling infrastructure unless they are used directly to perform an audit procedure.

4.1.3 Utilisation Across Audit Procedures

CAATTs were most consistently associated with journal-entry testing, population testing and analytical procedures. Participants also reported frequent use in evaluating control effectiveness and fraud risks, whereas their use was more variable for checking the accuracy of electronic files and selecting samples. Participants further emphasised that system-generated results remain subject to auditor review and professional judgement, particularly when exceptions are investigated or incorporated into audit conclusions.

Table 3 maps these reported uses to the relevant International Standards on Auditing (ISA). The reported frequencies represent the number of participants rather than the number of audit engagements or statistical measures of adoption intensity. The pattern suggests

that CAATTs are more deeply embedded in procedures that involve standardised data interrogation, while their use is more contingent in situations where client files require conversion, validation or manual judgement.

Table 3: Reported Use of CAATTs Across Selected Audit Procedures

CAATTs-Related Audit Procedure	Relevant ISA(s)	Reported Frequency of Use (n = 17)		
		Frequently	Sometimes	Rarely
Evaluate fraud risk	240	11	3	3
Identify journal entries and other adjustments to be tested	240; 315	17	0	0
Test populations instead of samples	240; 330; 530	17	0	0
Obtain evidence on control effectiveness	330	14	3	0
Check the accuracy of electronic files	500	3	13	1
Select sample transactions from key electronic files	500; 530	5	9	3
Perform analytical procedures	520	17	0	0

4.2 Technological Conditions

Four technological conditions emerged from the interviews: availability and reliability; complexity, task relevance and fit; and compatibility with client systems. Together, they show that implementation depends on the quality and suitability of the technological environment, not solely on the sophistication of the software.

4.2.1 Availability and Reliability

The availability of appropriate technological resources emerged as a basic enabling condition. Big 4 firms provide auditors with laptops, software licences, proprietary platforms and supporting applications, meaning that individual auditors are not expected to acquire the core technologies themselves. As AA1 observed:

“If the firms do not provide the infrastructure such as laptops and the software, auditors are not going to go out of their way to incur that expense on their own account to further acquire and utilize it.” (AA1)

However, participants associated availability not merely with access to technology but also with its operational reliability. Eight participants reported problems such as system lag, freezing or unresponsiveness, particularly when files were large or platforms contained numerous linked working papers. Such interruptions delayed audit work and reduced the perceived efficiency of otherwise useful technologies. AA2, for example, explained that system freezing could halt audit work until the problem was resolved.

The recurrence of this issue across eight interviews indicates that system reliability represents an important implementation condition rather than merely a technical inconvenience. In this respect, technological availability encompasses dependable access and system performance, rather than simply the presence of software.

4.2.2 Complexity

Complexity emerged at three levels. At the user level, auditors required time to learn proprietary workflows and become familiar with unfamiliar system features. At the engagement level, complexity increased when client data were incomplete, inconsistent or stored in unsupported formats. At the system level, auditors were required to follow globally designed documentation structures that did not always align neatly with local engagement circumstances.

AA5's account illustrates how perceived complexity diminished as auditors became more familiar with the technology:

"I think, if you want to start off any technology, not only CAATTs, there is a learning stage. So, I believe that everyone needs the time to adapt. If you ask whether it is easy or hard, I think there is sure a hard time for everyone to adapt to it, but then, if and when one is already familiar with it, I think it may be a lot easier to use because since we already know how it functions." (AA5)

The majority of participants viewed training, accessible technical support and review-level guidance as important in moving from initial familiarity to effective use in audit work. Complexity therefore affected not only auditors' willingness to use CAATTs but also their ability to interpret and document system-generated evidence.

4.2.3 Task Relevance and Fit

CAATTs were more readily integrated into audit work when their functions aligned with specific audit procedures. Participants valued standardised templates because they structured working papers, prompted consideration of relevant risks and facilitated consistent review. As SA9 explained:

"The audit software we use provides a standardized template for all the working papers and it helps in streamlining the audit process. The templates are complete which includes questions or perspectives that have not been thought of by the auditor." (SA9)

At the same time, participants noted that technology could reduce rather than improve productivity when its functions were poorly matched to the task or when the platform malfunctioned. The suitability of a tool was therefore assessed in relation to the audit objective, client risk profile and evidence requirements rather than its technological sophistication or novelty alone.

4.2.4 Compatibility with Client Systems

Compatibility with client systems depended substantially on clients' data environments. Large and technologically mature clients generally provided structured data that could be integrated into firm platforms, whereas unsupported data formats and manual records required additional conversion and audit effort. AA2 explained:

"Most of the Big 4 clients are well-established companies with systems in place, making it crucial for us to have compatible and effective systems, for seamless audits. Non-supported system formats require additional effort and resources, making audits more challenging." (AA2)

Although the same standard audit platform was generally used across clients, the depth of analytics applied depended on data availability, transaction volume and system complexity. The findings therefore indicate that client digital readiness was more informative than client size alone in explaining the extent to which CAATTs could be utilised.

4.3 Organisational Conditions

Three principal organisational themes emerged from the interviews: management support and resource provision; auditor competence, training and technical support; and willingness, workload and digital confidence. Together, these conditions influenced the extent to which available CAATTs became embedded in everyday audit routines.

4.3.1 Management Support and Resource Provision

Management support was reflected in technology-related policies, onboarding processes, training, access to specialists and expectations that engagement teams use firm-provided platforms. M1 described

a structured onboarding process in which auditors received laptops with pre-installed audit software, followed by introductory training:

"Our policies are providing each auditor with a laptop when they onboard, which comes with the audit software we use installed in it. Later on, they undertake an orientation or training which gives them an overview of the fundamentals of the software." (M1)

Participants generally considered Big 4 firms to have sufficient financial capacity to acquire and maintain sophisticated technologies. However, financial resources were regarded as an enabling foundation rather than the principal explanation for meaningful technology use. SA7 emphasised that the more important consideration was how firms allocated those resources.

Participants referred to continuing expenditure on software licences, system upgrades, IT specialists, training and staff replacement. High staff turnover could also weaken continuity because newly recruited auditors required time to become familiar with both the technology and the firm's audit methodology.

4.3.2 Auditor Competence, Training and Technical Support

All participants regarded audit-specific technological competence as important, although the required competence differed across tools and tasks. Associates were generally introduced to simpler extraction, sampling and documentation activities, whereas senior auditors were expected to interpret analytical outputs, relate identified exceptions to audit risks and review the work of junior staff.

Several participants noted that university education and internship experience did not necessarily prepare new auditors to use proprietary Big 4 systems. SA1 described this experience as follows:

"The software (Software Yellow) is not something that we have learnt in university, and it is even different than that in use by the non-Big 4 firms during my internship. So, it was somewhat challenging and complex when I first learnt about it and there were times I did things manually. I slowly started learning it." (SA1)

M1 further explained that firms provided various forms of support, including mandatory and optional training, digital badges, technical events and access to IT personnel. Participants generally regarded IT specialists as important for installation, configuration, maintenance and troubleshooting. Auditors, however, remained responsible for understanding the audit purpose of the technology and the evidential implications of its outputs. This division of responsibilities indicates

that effective CAATTs competence involves both technical capability and audit-specific knowledge.

4.3.3 Willingness, Workload and Digital Confidence

Auditors' willingness to use CAATTs was influenced by system usability, workload, time pressure and management expectations. Participants reported lower motivation to use complex systems when manual completion appeared faster, particularly during busy periods. Psychological strain, information overload and digital fatigue could also constrain auditors' willingness to learn and experiment with new technologies. SA6 described the effect of the demanding work environment:

"The fast pace working environment in Big 4's does result in burnout at times, resulting in reduced work efficiency especially if we are tasked with challenging work, reducing our motivation as a whole." (SA6)

Participants expressed mixed views regarding the relationship between age and technology use. Some associated younger auditors with greater digital comfort, while others observed that more experienced auditors had broader exposure to audit systems and stronger professional judgement. The findings therefore do not support age as an independent determinant of CAATTs use. Instead, digital confidence appeared to be associated with prior exposure, organisational role, training, task complexity and willingness to seek assistance.

4.4 Environmental Conditions

The environmental themes comprised regulatory and professional support, client readiness and expectations, and global-network and wider external pressures. Although these environmental influences were evident in participants' accounts, their salience differed from that of the technological and organisational conditions.

4.4.1 Regulatory and Professional Support

Participants did not perceive Malaysian regulations as directly mandating the use of specific CAATTs. Instead, audit firms used technology because it supported existing audit methodologies and responded to the increasing digitalisation of clients. M1 summarised this view:

"We are not compelled to use audit software to carry out audit, we use it because it is the right thing to do because of the developments in technology."
(M1)

M1's account distinguishes organisational decisions to use technology from direct regulatory compulsion. Nevertheless, participants recognised a role for regulators and professional bodies in providing practical guidance, training, monitoring and clearer expectations regarding technology-enabled audit evidence. Regulatory and professional influence was therefore primarily indirect: standards established broader expectations for audit quality, while individual firms and their global networks determined the technologies employed.

4.4.2 Client Readiness and Expectations

Client expectations varied according to business complexity and data maturity, although participants did not regard client demand as the primary reason for adopting CAATTs. Larger clients often generated a stronger need for analytics because of their transaction volumes and system complexity, whereas some smaller clients continued to rely on basic accounting systems or manual records. SA4 explained:

"We still have clients that require us to audit their book accounts, meaning to say they will bring their books up to our office and we will audit from the manual documents, which requires more time and effort." (SA4)

Once a global audit platform had been implemented, however, it was generally used across clients of different sizes. Client size therefore influenced the complexity and depth of technology use more than the decision to use the core platform itself. More immediate constraints arose from the accessibility, quality and compatibility of client data.

4.4.3 Global-Network and Wider External Pressures

Global-network standardisation emerged as more influential than local competitive imitation. Proprietary platforms were developed internationally and implemented across member firms, creating consistent methodologies and expectations for local engagement teams. This network arrangement reduced local discretion over the adoption of core platforms, although engagement teams retained discretion regarding how specialised analytics were applied to particular audits.

Societal expectations and the reputational position of Big 4 firms also created a general expectation that audits should make use of

contemporary technologies. However, participants considered such pressures less influential than the operational usefulness of the technology.

In contrast, the COVID-19 pandemic had a direct operational effect by accelerating the use of cloud access, virtual communication and remote evidence collection. SA5 explained:

“The pandemic made it difficult and impossible for us to travel to client sites to conduct audits. This led to an increase in demand for remote audits. Technology is very much needed for remote audits, as it allows auditors to access and analyse client data without having to physically be present on site.” (SA5)

The pandemic therefore accelerated the use of digital infrastructure to maintain audit continuity. However, it did not remove the need for audit-specific analytics, reliable client data or professional judgement.

4.5 Synthesis of Findings

The findings demonstrate that the three TOE contexts operate jointly, with CAATTs implementation reflecting the interaction of multiple conditions rather than a single adoption driver. Technology availability and globally developed platforms provide the technological foundation; management support, training and auditor competence shape implementation capacity; and client readiness, professional expectations and global-network standards influence engagement-level use.

Within the Big 4 context, Malaysian auditors therefore commonly implement globally standardised technologies within local audit engagements rather than independently deciding whether these core technologies should be adopted. Table IV summarises the contextual salience of the identified conditions based on their recurrence, explanatory value and consistency across participant accounts. The classifications reflect qualitative interpretation rather than statistical ranking.

Figure 2: Refined TOE Framework for CAATTs Implementation in Malaysian Big 4 Audit Firms

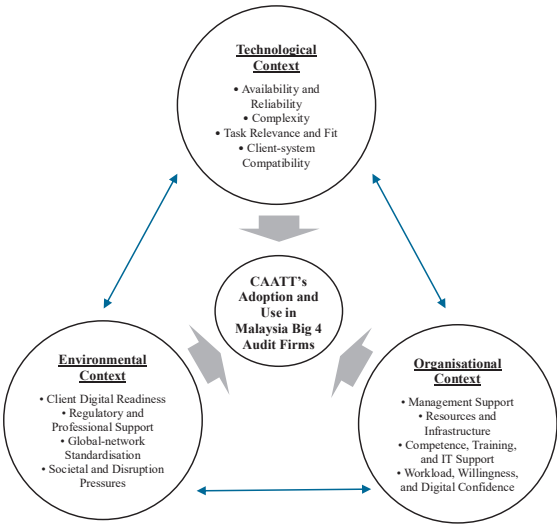


Table 4: Contextual Salience of Conditions Shaping CAATTs Implementation

TOE Context	Condition	Salience	Interpretive Role
Technological	Availability and reliability	High	Provides the operational base; system instability constrains use.
Technological	Complexity	High	Shapes learning time, data integration and documentation effort.
Technological	Task relevance and fit	High	Determines whether tools support the audit objective and evidence needs.
Technological	Client-system compatibility	Moderate	Makes use contingent on data format, access and client maturity.
Organisational	Management support	High	Provides direction, infrastructure, training and implementation legitimacy.
Organisational	Auditor competence and technical support	High	Converts access into effective use and defensible audit evidence.
Organisational	Financial resources	Moderate	Enables acquisition and maintenance but does not ensure deep use.

TOE Context	Condition	Salience	Interpretive Role
Organisational	Willingness, workload and digital confidence	Moderate	Affects learning, experimentation and continued use.
Environmental	Global-network standardisation	High	Institutionalises core platforms and methodologies across locations.
Environmental	Client digital readiness	Moderate	Shapes data accessibility and the depth of analytics applied.
Environmental	Regulatory and professional support	Low/indirect	Sets broad expectations without prescribing specific tools.
Environmental	Societal and competitive pressure	Low	Creates reputational expectations but does not directly determine use.

5. Discussion

The findings extend the understanding of CAATs beyond the initial adoption decision. In Malaysian Big 4 firms, core audit platforms are already available and embedded within global methodologies. The central issue is therefore not simply whether CAATs are adopted, but the depth, consistency and engagement-level quality of their implementation. This shifts attention towards how different technologies are combined, used and interpreted within audit practice.

5.1 Categories and Patterns of CAATs Use

The first research question examined how different categories of CAATs are adopted and used by Malaysian Big 4 auditors. The findings reveal a layered digital audit architecture. Proprietary workflow platforms are institutionalised because they structure documentation, review processes and compliance with firm methodology. In contrast, audit analytics and data-extraction functions are applied more selectively where suitable data and clear audit use cases exist. Collaboration and productivity applications support coordination and continuity but do not constitute core CAATs unless they are used directly to perform audit procedures. This layered pattern indicates that CAATs should not be treated as a homogeneous technology or as a binary adoption construct.

The findings are consistent with Krieger et al. (2021), who describe the adoption of advanced audit analytics as a process involving the identification of suitable use cases, capability development and diffusion into engagement practice. They also complement Fotoh et al. (2026), whose findings indicate that technological relevance and firm context affect the efficiency auditors derive from digital tools. The present evidence from Malaysian Big 4 firms adds that globally standardised platforms can be highly institutionalised, while the use of more advanced functions remains contingent on client data and engagement requirements.

Differences across hierarchical levels further qualify the meaning of CAATTs use. Associates were more commonly involved in structured testing and documentation, whereas senior auditors and managers interpreted outputs, linked exceptions to audit risks and reviewed audit evidence. Frequent use therefore does not imply identical forms of use across hierarchical levels. Although CAATTs can automate or standardise certain procedures, professional judgement remains central to determining whether system-generated outputs provide sufficient and appropriate audit evidence.

5.2 *Technological Conditions and Task-Technology Fit*

The second research question examined how technological, organisational and environmental conditions influence CAATTs implementation. Within the technological context, the findings are consistent with the importance of complexity and compatibility identified by Tetteh et al. (2025). They further suggest that the practical advantages of CAATTs are experienced through task relevance, workflow integration and system reliability. In an already digitalised Big 4 environment, the pertinent issue is not whether technology is generally advantageous, but whether a particular function reduces audit effort, improves evidence coverage and fits the requirements of the engagement.

Technology availability was necessary but insufficient for effective implementation. Firm-provided laptops, licences and audit platforms removed an important access barrier, yet system freezing, unsupported client formats and poor task fit could still constrain use. This finding is consistent with Amadu et al. (2025), who emphasise technological readiness, while suggesting that such readiness also encompasses dependable system performance and usable client data. It also supports Siew et al. (2020), who identify client-system complexity as an important condition within the Malaysian audit context.

Compatibility also crosses the conventional boundary between technological and environmental conditions. An audit platform may be technically capable, but its usefulness depends on the structure of client data, access permissions and the client's digital maturity. The findings therefore suggest a relational view of compatibility: the same globally standardised technology may operate seamlessly in one engagement but require substantial data conversion in another. This helps explain why the availability of sophisticated technology does not necessarily result in uniform levels of use across clients.

5.3 *Organisational Capacity and Post-Adoption Value*

The organisational findings broadly support Tetteh et al. (2025), who identify management support and technological competence as important conditions for CAATTs adoption and use. In the present context, however, firm size and financial resources were less useful as differentiating factors because the firms were large, internationally networked and comparatively well resourced. Financial resources provided the capacity to acquire and maintain technology but did not necessarily ensure that auditors had sufficient time, support or audit-specific competence to use advanced functions effectively.

This distinction also provides a possible explanation for mixed findings in previous studies. Amadu et al. (2025) report no significant direct effect of organisational readiness on adoption intention, whereas Wassie and Lakatos (2025) show that organisational readiness strengthens the benefits realised following adoption. The present findings suggest that organisational conditions become particularly salient once technologies are available. Training, IT support, managerial expectations, workload allocation and review guidance shape whether available technologies are used superficially or become embedded as sustained audit capabilities.

The findings also caution against explaining use of technology primarily in terms of age. Although some participants associated younger auditors with greater digital comfort, others indicated that more experienced auditors had broader exposure to audit systems and greater responsibility for interpreting complex outputs. Digital competence is therefore better understood in relation to education, experience, organisational role, training and willingness to engage with technology. Similarly, apparent resistance to CAATTs may reflect workload pressures, system complexity or uncertainty regarding evidential implications rather than an inherently negative attitude towards technology.

5.4 *Environmental Conditions and the Global-Local Implementation Context*

The environmental findings differ in important aspects from studies focusing on initial technology adoption. Tetteh et al. (2025) find that professional and regulatory bodies influence CAATs adoption, although mimetic pressure does not compel late adopters. Similarly, Malaysian Big 4 participants reported limited direct influence from competitive or societal pressures. Regulatory and professional guidance established broad expectations concerning audit quality but did not mandate the use of particular applications. Core technology choices were instead shaped more strongly by firm and global-network methodologies.

Global-network standardisation therefore represents an important contextual condition. Malaysian member firms use technologies and methodologies developed internationally, making local implementation partly a process of translating globally standardised systems into client-specific engagements. This finding extends the application of TOE to internationally networked professional service firms by showing that the relevant environmental context encompasses not only regulators, competitors and clients, but also transnational network governance. Global standardisation institutionalises the use of core technologies and promotes consistency across locations, although local fit challenges may arise when client systems and data practices differ from those assumed by the platform.

Client size was also less influential than client digital readiness in shaping CAATs implementation. Although standard workflow platforms were used across engagements, the depth of analytics varied according to transaction volume, data accessibility and system compatibility. This is consistent with Al-Hajaya et al. (2025), who identify infrastructure limitations and client-system incompatibility as interconnected challenges in technology-enabled auditing. The present findings refine this argument by showing that smaller clients do not necessarily receive less technology-enabled audit work, rather, manual or poorly structured data may increase the effort required to apply the same technologies.

The COVID-19 pandemic further illustrates the influence of wider environmental conditions. It accelerated the use of cloud access, virtual communication and remote evidence collection, consistent with Fotoh et al. (2026), who highlight the role of technology in supporting dynamic audit capabilities under turbulent conditions. However, the interviews distinguish technologies that support audit continuity from audit-specific analytics. Remote communication

enabled audit work to continue but did not resolve issues relating to data quality, system compatibility or professional judgement. Thus, collaboration infrastructure facilitated the audit process, whereas audit-specific platforms and analytics shaped the execution of audit procedures.

5.5 *Integrated Interpretation of the TOE Framework*

Overall, the findings support the use of TOE as a sensitising framework while demonstrating that its three contexts are interdependent. Technological availability is supported by organisational investment; complexity can be reduced through training and technical support; compatibility depends partly on client digital readiness; and global-network standards shape local managerial expectations. No single technological, organisational or environmental condition therefore explains CAATTs implementation in isolation.

The study further distinguishes between initial adoption, actual use and realised value. In the present post-adoption setting, where core technologies are already available, organisational arrangements are particularly important for sustained implementation and value creation. This stage-sensitive interpretation suggests that the salience of TOE conditions may differ depending on the stage of technology adoption and implementation being examined. It therefore shifts attention from technology ownership towards the quality of integration into audit methodology, engagement workflows and professional judgement.

6. Conclusion, Implications, Limitations and Future Research

This study provides qualitative evidence on the implementation of CAATTs in Malaysian Big 4 audit firms. In addressing the first research question (RQ1), the findings reveal a layered pattern of technology use. Globally standardised proprietary workflow platforms are embedded within routine audit methodologies, whereas analytics and data-extraction tools are applied more selectively according to the audit task, client data and engagement requirements. Collaboration and productivity tools provide supporting infrastructure for engagement coordination and continuity. CAATTs adoption is therefore better understood in terms of the extent to which different technologies are integrated into audit work rather than through their availability alone.

In addressing the second research question (RQ2), the findings show that the depth and effectiveness of CAATTs implementation reflect the interplay of technological, organisational and environmental conditions. Technologically, system reliability, manageable complexity, task relevance and fit, and compatibility with client systems shape effective use. Organisationally, management support, training, technical assistance, workload conditions and auditor competence influence the extent to which available technologies are incorporated into audit practice. Environmentally, client digital readiness and global-network standardisation emerged as more influential than direct regulatory or competitive pressures. Taken together, these findings indicate that no single TOE context explains implementation independently, rather, CAATTs implementation reflects how conditions across the three contexts combine at the engagement level.

The study contributes theoretically by distinguishing initial adoption from post-adoption implementation and realised value. In the Big 4 context, the availability or acquisition of technology does not necessarily result in consistent or effective use. The salience of TOE conditions may therefore vary across different stages of implementation. The findings also extend the application of the environmental dimension of TOE by identifying global-network standardisation as an important contextual condition within internationally networked professional service firms. More broadly, the study demonstrates that technological, organisational and environmental conditions operate interactively rather than independently in shaping CAATTs implementation.

From a practical perspective, the findings highlight the importance of strengthening system reliability, providing audit-specific training, ensuring accessible IT and analytics support, and offering appropriate reviewer guidance. Such support is particularly important where workload pressures or limitations in client data constrain the effective use of CAATTs. Regulators and professional bodies can further support implementation through flexible guidance on data readiness, technology-enabled audit evidence, digital documentation and cybersecurity, while reinforcing auditors' responsibility for assessing the reliability and sufficiency of technology-generated evidence.

The study is subject to several limitations. It is based on interviews with 17 auditors from Malaysian Big 4 firms and does not include the perspectives of audit partners, clients, regulators or smaller audit practices. The findings may also reflect participants'

individual perceptions and differing levels of exposure to particular technologies. Future research could therefore compare CAATTs implementation across Big 4, mid-tier and smaller audit firms, incorporate the perspectives of partners, clients and regulators, and examine how specific technologies, including AI, RPA, blockchain and continuous auditing, affect audit quality, efficiency and professional judgement over time.

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Appendix A. Interview Protocol

1. Have you heard of the term CAATTs? In your own words, what do you understand by it?
2. Have you used CAATTs in audit engagements?
3. If yes to Question 2, what types of CAATTs have you used, and how have you used them (i.e., their functions and purposes)?
4. If yes to Question 2, how do the CAATTs currently used meet your auditing needs?
5. What factors drive the adoption of CAATTs in your firm? Please explain.
6. In your opinion, what hinders the adoption of CAATTs? Please explain.
7. What are the key challenges and opportunities you foresee in the adoption of CAATTs in the auditing industry?
8. How do you envision the evolution of CAATTs in the future?

Technological Aspect

9. Do you find audit software applications challenging to use? How does this affect your usage?
10. Do you think your computer knowledge affects the amount of technology you adopt?
11. Have you faced any technical difficulties or limitations while using CAATTs?

Organisational Aspect

12. What does your firm do towards encouraging the adoption of technology?
13. Does your firm provide any type of training or other support?
14. Does auditor seniority influence the firm's use of technology?
15. Is the firm the only determining factor? Please elaborate.
16. How does leadership attitude towards technology impact its adoption in your firm?

Environmental Aspect

17. To what extent do you think the client has a role in your firm's CAATTs adoption? Can you provide examples of how client demands have shaped the approach to using CAATTs, if any?
18. In your opinion, how do regulatory requirements and professional bodies affect the decision to adopt audit technologies?