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# THE EFFECT OF AUDITOR CHARACTERISTICS AND TIME BUDGET PRESSURE ON AUDIT QUALITY: THE MODERATING ROLE OF AUDIT TECHNOLOGY IN PUBLIC SECTOR AUDITS

**Billiansyah Rida Akbar[1*], Fikri Rizaldy Religian[2]**

[1,2]Master's Program in Accounting, Business and Information Institute – Kesatuan, Indonesia

[*]Email corresponding author: magisterakuntansi@ibik.ac.id

***Abstract***

*In public-sector auditing, audit quality is fundamental to maintaining accountability and strengthening public confidence in the management of state finances. This study investigates whether auditor characteristics and time budget pressure influence audit quality within Indonesia's Supreme Audit Institution (ISAI), while also assessing the moderating role of audit technology. Grounded in the Audit Quality Framework, Big Five Personality Theory, and Trait Activation Theory, this research employs a quantitative explanatory approach using survey data from ISAI auditors. Data were analyzed using Partial Least Squares–Structural Equation Modeling (PLS-SEM). The empirical results indicate that auditor characteristics are positively associated with audit quality, suggesting that individual attributes contribute to sound professional judgment and adherence to auditing standards. The results further demonstrate a significant positive association between audit technology and audit quality, indicating that technological utilization can strengthen the effectiveness and efficiency of audit processes. In contrast, time budget pressure does not significantly affect audit quality, indicating that strong audit standards and control systems mitigate its potential impact. Furthermore, audit technology does not moderate the relationships between auditor characteristics, time budget pressure, and audit quality. Overall, the results suggest that audit quality in the public sector is primarily driven by individual auditor attributes and the direct use of audit technology rather than situational pressures.*

***Keywords:*** *Audit Quality; Big Five Personality; Audit Technology; Time Budget Pressure; Public Sector Audit*

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## INTRODUCTION

In the governance of public finances, the caliber of audit work serves as a critical instrument for promoting openness and ensuring that state resources are managed responsibly. Within the context of Indonesia's Supreme Audit Institution (ISAI), the notion of audit quality encompasses multiple facets, ranging from compliance with established professional norms and the precision of audit findings, to the capacity to detect and disclose material irregularities or fraudulent activities, as well as the degree to which audit procedures underpin sound professional judgment (Hardiningsih et al., 2019; Persellin et al., 2019; Irfan et al., 2025). As public bodies strive to uphold fiscal accountability and maintain the trust of various stakeholders in the external audit function, the significance of ensuring high-quality audits has grown considerably (Khulsum et al., 2025; Jenny Liana et al., 2026).

According to the Audit Quality Framework, the overall quality of an audit emerges from the dynamic interplay among three core elements: inputs, processes, and outputs. The input dimension captures the background, competencies, and personal qualities of the auditors involved. The process dimension covers the manner in which audit procedures are carried out and how

professional judgment is exercised throughout the engagement. The output dimension is reflected in the credibility, accuracy, and usefulness of the resulting audit reports and findings. A growing body of empirical evidence demonstrates that both the individual attributes of auditors and the integration of technology-driven tools play a substantial role in strengthening audit processes, thereby elevating the quality of audit outcomes, particularly in complex, risk-oriented public sector audit settings (Samagaio & Felício, 2022; Chen et al., 2023; Sudradjat et al., 2024; Zhao et al., 2026).

Ideally, ISAI auditors are expected to carry out their assignments with independence and professionalism while adhering to applicable auditing standards, even in environments characterized by complexity and tight scheduling. Nevertheless, empirical observations indicate a persistent discrepancy between the anticipated standard of audit quality and the realities observed in practice. Among the situational constraints identified in the literature, time budget pressure continues to be a prominent factor shaping auditor conduct. Such pressure has been associated with a tendency to curtail necessary audit procedures, heightened occupational stress, and a decline in the rigor of professional judgment, all of which can ultimately compromise the quality of the audit (Dibyani & Januarti, 2025; Irfan et al., 2025).

In addition to situational factors, audit quality is also influenced by auditors' personal characteristics. The Big Five Personality approach suggests that personality dimensions such as conscientiousness, openness, and neuroticism affect how auditors process information and make professional decisions. Trait Activation Theory further explains that the influence of these personal characteristics becomes more pronounced when individuals encounter specific workplace conditions, such as time budget pressure and audit task complexity. Accordingly, audit quality is determined not only by technical competence but also by the interaction between auditors' characteristics and the audit conditions they face.

At the same time, advances in audit technology provide opportunities to improve how efficiently and effectively audit procedures are performed. Technological applications, including data-analytics tools and digital documentation systems, may help auditors address time constraints while simultaneously supporting the production and management of higher-quality audit evidence. Technology adoption models, including the Technology Acceptance Model (TAM), the Unified Theory of Acceptance and Use of Technology (UTAUT), and the TOE Framework, provide complementary explanations of technology adoption, emphasizing perceived usefulness, usability, and the organizational conditions that support its implementation. Nevertheless, within public sector auditing practices, audit technology has not yet been optimally utilized as an instrument for maintaining audit quality under time budget pressure conditions.

Prior empirical studies have generally treated auditor characteristics, time budget pressure, and audit technology as distinct factors, while predominantly examining them in private-sector audit settings. An integrated examination of these three factors remains relatively uncommon, particularly in research focusing on audits of state finances. Limited empirical evidence has examined whether audit technology changes the magnitude of the effects of auditor characteristics and time budget pressure on audit quality.

To address these gaps, the study investigates how ISAI auditors' characteristics and time budget pressure relate to audit quality and whether audit technology alters these relationships. This study is expected to provide theoretical contributions to the development of public sector audit quality literature through the integration of personality perspectives, situational pressures, and audit technology, while also offering practical implications for improving the quality of state financial audits.

## LITERATURE REVIEW AND HYPOTHESIS FORMULATION

### Auditor Characteristics (Big Five Personality) and Audit Quality

The quality of an audit can be understood as the product of how auditors' individual characteristics interact with audit procedures and the resulting outcomes. Within the Audit Quality

Framework, auditor characteristics are positioned as audit inputs that influence the quality of audit processes and are ultimately reflected in the quality of audit findings and audit reports (Hayes et al., 2024; Hardiningsih et al., 2019; Samagaio & Felício, 2022). In the public sector context, audit quality plays a strategic role in ensuring accountability in state financial management and the reliability of government financial information (Liana et al., 2026; Sitorus & Wibowo, 2025). This is consistent with the literature synthesis conducted by Irfan et al. (2025), which emphasizes that audit quality is a multidimensional construct shaped by the interaction among auditors' individual factors, audit environmental pressures, and the utilization of audit technology.

The Big Five model captures individual differences in professional conduct through five broad personality dimensions: openness to experience, conscientiousness, extraversion, agreeableness, and emotional stability. Among these dimensions, conscientiousness and openness have been most consistently linked to audit quality in prior research, as they foster meticulousness, self-discipline, and a willingness to engage with complex or ambiguous audit evidence (Samagaio & Felício, 2022; Chen et al., 2023; Saraswati & Latrini, 2023). Auditors who score highly on conscientiousness are generally more diligent in following established auditing standards and more precise in their assessment of evidential matter, which in turn contributes to superior audit outcomes.

Trait Activation Theory provides an additional explanation by proposing that personality traits become more influential when particular characteristics of the work environment activate them. In audit environments that demand a high level of professionalism, auditors' personal characteristics become important factors in shaping professional skepticism and the quality of audit judgment (Noegroho et al., 2025). Empirical findings indicate that auditors with strong professional characteristics are able to maintain audit quality despite facing task complexity and work pressure (Chen et al., 2023).

Based on the theoretical framework and empirical findings, auditor characteristics are considered an important determinant of audit quality. Accordingly, the first hypothesis is formulated as follows:

**H1: Auditor characteristics positively affect audit quality.**

**Time Budget Pressure and Audit Quality**

From the Audit Quality Framework perspective, time budget pressure represents an environmental condition that can shape both audit procedures and their resulting outcomes. Limited audit time combined with substantial workloads can create time budget pressure, potentially affecting the extent to which auditors perform procedures thoroughly (Hien & Tuan, 2025; Raihan & Setiyawati, 2025).

From a stress and decision-making perspective, constrained audit budgets may increase work-related pressure and lead auditors to rely more heavily on simplified procedures or decision-making heuristics in making professional decisions. Such conditions may reduce the quality of audit judgment and increase the risk of premature reduction of necessary audit procedures (Dibyani & Januarti, 2025; Khulsum et al., 2025). Several empirical studies show that time budget pressure has a negative relationship with audit quality, particularly when auditors face high task complexity and limited resources (Raihan & Setiyawati, 2025).

Nevertheless, the impact of time budget pressure on audit quality is not universal. Auditors with high competence and sufficient experience tend to manage time budget pressure more effectively, thereby maintaining audit quality (Hien & Tuan, 2025). The evidence therefore positions time budget pressure as a situational condition whose effects may depend on auditors' individual characteristics and the support provided by the audit system.

Based on the theoretical arguments and empirical evidence, the second hypothesis is formulated as follows:

**H2: Time budget pressure affects audit quality.**

**Audit Technology as a Moderating Factor in the Relationship Between Auditor Characteristics and Audit Quality**

Technological developments have changed audit practices, particularly through the adoption of big-data analytics, digital auditing platforms, and artificial intelligence in audit procedures. Within the Audit Quality Framework, audit technology is positioned as part of the process enabler that strengthens the effectiveness of audit implementation and the quality of audit outputs (Persellin et al., 2019; Sudradjat et al., 2024).

Auditors' acceptance and use of technology may be interpreted through established adoption frameworks, including TAM, UTAUT, and the Technology–Organization–Environment (TOE) framework. Collectively, these frameworks indicate that technology adoption is shaped by users' perceptions of its usefulness and usability, together with organizational and technological support (Abdelwahed et al., 2024; Saud et al., 2025). Auditors with strong professional characteristics and openness toward technological innovation are better able to utilize audit technology.

From the perspective of Trait Activation Theory, audit technology may function as a contextual factor that activates positive auditor characteristics, such as conscientiousness and openness, thereby strengthening the influence of auditor characteristics on audit quality. Previous studies indicate that auditors with strong digital competencies are better able to leverage the benefits of audit technology in improving procedural accuracy and the quality of audit findings (Noordin et al., 2022; Zhao et al., 2026).

Based on the foregoing discussion, the third and fourth hypotheses are formulated as follows:

**H3: Audit technology positively affects audit quality.**

**H4: Audit technology moderates the effect of auditor characteristics on audit quality.**

**Audit Technology as a Moderating Factor in the Relationship Between Time budget pressure and Audit Quality**

In addition to supporting audit processes, audit technology also has the potential to assist auditors in managing audit time budget pressure. From the perspective of stress and decision-making theory, audit technology may reduce auditors' cognitive burden through procedural automation, improved efficiency in data processing, and enhanced audit documentation (Persellin et al., 2019; Volodina & Grossi, 2025).

The TAM, UTAUT, and TOE frameworks explain that auditors who effectively adopt and utilize audit technology tend to be more capable of completing audit procedures within limited time constraints without compromising audit quality (Seethamraju & Hecimovic, 2023; Abdelwahed et al., 2024). Empirical studies further indicate that the utilization of audit technology may mitigate the negative effects of time budget pressure on audit quality, particularly in complex public sector audit environments (Khulsum et al., 2025).

Accordingly, audit technology is positioned as a situational factor that moderates the relationship between time budget pressure and audit quality. This leads to the formulation of the following hypothesis:

**H5: Audit technology moderates the effect of time budget pressure on audit quality.**

## RESEARCH METHODS

### Research Design and Approach

A quantitative research design was employed to examine the relationships among auditor characteristics, time budget pressure, audit technology utilization, and audit quality in the context of public financial management. The research design focuses on examining causal relationships among constructs through the development and testing of hypotheses formulated based on theoretical frameworks and empirical evidence derived from previous studies.

**Population and Sample**

The study targeted auditors employed at the regional representative offices of ISAI as the research population. Respondents were selected using a purposive sampling technique, based on the consideration that the selected participants were active auditors directly involved in state financial audits and possess relevant professional experience. The number of collected responses was sufficient for the application of PLS-SEM analysis, as it exceeded the minimum threshold recommended according to the complexity of the measurement model and the structural relationships among the constructs.

**Data Collection Methods**

The study collected primary data by administering a structured questionnaire to the participating auditors. The questionnaire served as the main instrument for obtaining responses concerning auditor characteristics, time budget pressure, audit technology utilization, and audit quality. Each construct was operationalized into a set of indicators designed to reflect the respondents' conditions and experiences in conducting state financial audits.

The instrument was developed based on the study's conceptual framework and adapted to the institutional context of ISAI, thereby ensuring that the collected data were relevant for examining the relationships among variables within the research model. Each indicator was measured using a seven-point Likert scale to capture variations in respondents' levels of agreement with the statements presented in the questionnaire.

**Operational Definitions of Variables and Indicators**

This study incorporates the following variables:

a. **Auditor Characteristics**, represented by the five dimensions of the Big Five personality model, namely Openness, Conscientiousness, Extraversion, Agreeableness, and Emotional Stability;
b. **Time budget pressure**, measured using indicators related to workload, time constraints, and audit deadline pressure;
c. **Audit Technology**, measured through perceptions of usefulness, ease of use, effectiveness, productivity, and the contribution of audit technology to audit performance; and
d. **Audit Quality**, measured based on audit experience, compliance with auditing standards, the reporting of misstatements, and the quality of quality-control procedures.

All constructs were measured reflectively using indicators adapted from prior research instruments and adjusted to the context of state financial audits.

**Data Analysis Techniques**

The empirical model was estimated using SmartPLS 4 through the Partial Least Squares Structural Equation Modeling (PLS-SEM) technique. This method was selected because it is well suited to the research design, particularly for analyzing structural relationships involving latent constructs with multiple measurement indicators, accommodating relatively small sample sizes, and supporting research objectives focused on testing causal relationships as well as the model's explanatory and predictive capabilities regarding the phenomenon under investigation.

The data analysis process was carried out through two main stages: evaluation of the measurement model (outer model) and evaluation of the structural model (inner model). These stages were intended to ensure that the proposed model satisfied adequacy criteria in terms of both indicator measurement quality and the relationships among latent constructs.

**a. Measurement Model Evaluation (Outer Model)**

The adequacy of the measurement model was examined by assessing whether the indicators validly and reliably represented their respective latent constructs. The evaluation of the outer model consisted of the following procedures:

1. **Convergent Validity Assessment**, was examined by inspecting both the outer loading of each indicator and the Average Variance Extracted (AVE) of each construct. An indicator was deemed to possess satisfactory convergent validity if its outer loading met or exceeded the 0.70 threshold and the corresponding construct's AVE was at least 0.50.
2. **Discriminant Validity Assessment,** conducted using the Fornell–Larcker criterion and cross-loading analysis. Discriminant validity was considered satisfactory when the square root of the AVE for each construct exceeded the correlations among constructs, and when each indicator exhibited the highest loading on its corresponding construct compared with other constructs.
3. **Construct Reliability Assessment**, evaluated using Cronbach's Alpha, Composite Reliability ($\rho$ c), and rho_A. A construct was considered reliable when the composite reliability value was $\geq$ 0.70, taking into account the characteristics of PLS-SEM, which place greater emphasis on composite reliability than on Cronbach's Alpha.

**b. Structural Model Evaluation (Inner Model)**

Evaluation of the inner model focused on the relationships among the latent constructs and its explanatory and predictive capacity for endogenous variables. The evaluation procedures of the inner model included the following:

1. **Model fit assessment**, conducted by evaluating the Standardized Root Mean Square Residual (SRMR) and Normed Fit Index (NFI) to assess the overall adequacy of the model.
2. **Path coefficient and significance testing**, performed using the bootstrapping procedure to examine the direct effects among latent variables.
3. **Coefficient of determination assessment (R-square and adjusted R-square)**, used to evaluate the explanatory power of the model in explaining variations in endogenous variables.
4. **Effect size assessment ($f^2$)**, aimed at evaluating the relative contribution of each exogenous variable to the endogenous variables.
5. **Predictive relevance assessment (Q-square)**, conducted to evaluate the predictive capability of the model in explaining endogenous variables.
6. **Moderation analysis**, performed by constructing interaction variables between Audit Technology and Auditor Characteristics, as well as between Audit Technology and Time budget pressure, in order to examine the moderating role of Audit Technology.

Furthermore, hypothesis testing was conducted based on the bootstrapping analysis results of the structural model. The acceptance or rejection of the hypotheses was determined using the t-statistic and p-values at a significance level of 5% ($\alpha = 0.05$).

A hypothesis was considered to be accepted when the p-value was less than 0.05 and the t-statistic exceeded 1.96, indicating a statistically significant relationship among the variables. Conversely, a hypothesis was rejected when the p-value was equal to or greater than 0.05 and the t-statistic was less than or equal to 1.96.

## RESULTS AND DISCUSSION

### Measurement Model Evaluation

The measurement model was examined to determine whether each indicator provided an adequate representation of its corresponding latent construct in terms of validity and reliability. The outer model evaluation process included the assessment of convergent validity, discriminant validity, and construct reliability.

**a. Convergent Validity**

Convergent validity was assessed from the indicators' outer loadings and their Average Variance Extracted (AVE) values. During the initial stage of testing, several indicators exhibited outer loading values below 0.70; therefore, these indicators were eliminated in accordance with PLS-SEM criteria. After the model refinement process, all retained indicators demonstrated outer loading values above 0.70, indicating strong relationships between the indicators and their respective constructs. Detailed outer loading values are presented in Appendix 1. The AVE values for each construct also demonstrated satisfactory results, as follows:

**Table 1. AVE Values**

| Construct | *Average variance extracted* (AVE) |
|---|---|
| **Auditor Characteristics** | 0.564 |
| **Audit Quality** | 0.646 |
| **Time budget pressure** | 0.502 |
| **Audit Technology** | 0.859 |

*Source: SmartPLS Output (processed by the authors)*

All AVE values exceeded the minimum threshold of 0.50, indicating that each construct was able to explain more than half of the variance of its indicators. Therefore, it can be concluded that the convergent validity requirements of the research model have been satisfactorily fulfilled.

**b. Construct Reliability**

Reliability was examined through Cronbach's Alpha and the two composite reliability measures (ρa and ρc). All constructs exceeded the 0.70 criterion, indicating adequate consistency among the indicators representing each latent construct.

**Table 2. Construct Reliability Results**

| Construct | *Cronbach's alpha* | *Composite reliability* (rho_a) | *Composite reliability* (rho_c) |
|---|---|---|---|
| **Auditor Characteristics** | 0.975 | 0.976 | 0.976 |
| **Audit Quality** | 0.908 | 0.912 | 0.927 |
| **Time budget pressure** | 0.813 | 0.844 | 0.833 |
| **Audit Technology** | 0.983 | 0.984 | 0.985 |

*source: SmartPLS Output (processed by the authors*)

**c. Discriminant Validity**

The study assessed discriminant validity using the Fornell–Larcker criterion together with the cross-loading results of the indicators. The Fornell–Larcker results showed that each construct's square root of AVE exceeded its correlations with the remaining constructs. This finding indicates that each construct possesses distinct characteristics and does not overlap with other constructs in measuring the concepts under investigation.

**Table 3. Discriminant Validity Results Based on the Fornell–Larcker Criterion**

| | Auditor Characteristics | Audit Quality | Time budget pressure | Audit Technology |
|---|---|---|---|---|
| **Auditor Characteristics** | 0.751 | | | |
| **Audit Quality** | 0.739 | 0.804 | | |
| **Time budget pressure** | 0.546 | 0.439 | 0.708 | |
| **Audit Technology** | 0.738 | 0.714 | 0.509 | 0.927 |

*Source: SmartPLS Output (processed by the authors*)

The cross-loading results further indicate that each indicator exhibited the highest loading on its respective construct compared with other constructs. Detailed cross-loading results are presented in Appendix 2.

These findings reinforce the results of the Fornell–Larcker assessment and confirm that each indicator consistently represents its intended latent construct. Therefore, it can be concluded that the discriminant validity of the research model has been satisfactorily established.

**Structural Model Evaluation (Inner Model)**

Assessment of the structural model focused on the strength of relationships among the latent variables and the model's explanatory and predictive performance.

**a. Model Fit**

The model fit assessment results indicate an SRMR (Standardized Root Mean Square Residual) value of 0.077 for both the saturated model and the estimated model. This value is below the threshold of 0.08, indicating that the model demonstrates a satisfactory level of fit. The NFI (Normed Fit Index) value of 0.635 suggests a moderate level of model fit; however, it remains acceptable within the context of PLS-SEM research, which primarily emphasizes predictive capability.

**Table 4. Model Fit Assessment Results**

| | Saturated model | Estimated model |
|---|---|---|
| **SRMR** | 0.077 | 0.077 |
| **d_ULS** | 9.192 | 9.186 |
| **d_G** | 6.123 | 6.127 |
| **Chi-square** | 4.620.425 | 4.619.676 |
| **NFI** | 0.635 | 0.635 |

*Source: SmartPLS Output (processed by the authors*)

Although SmartPLS provides several model fit indicators, such as d_ULS, d_G, and chi-square, this study focuses primarily on the SRMR and NFI values. This approach was adopted because SRMR is considered the most recommended indicator of absolute model fit within the PLS-SEM framework, while NFI serves as an additional indicator for evaluating comparative model fit. In contrast, d_ULS, d_G, and chi-square are primarily technical diagnostic measures and do not

possess universally accepted threshold values for substantive interpretation. Therefore, these indicators are presented in the table without further discussion.

**b. Coefficient of Determination (R-Square)**

Audit Quality yielded an $R^2$ of 0.620 and an adjusted $R^2$ of 0.609, indicating that the model explains a substantial proportion of the variance in the construct. These results indicate that 62.0% of the variance in Audit Quality can be explained by Auditor Characteristics, Time budget pressure, Audit Technology, and the interaction effects of the moderating variables. The R-square value falls within the strong category, suggesting that the research model possesses substantial explanatory power in capturing the phenomenon under investigation.

**Table 5. R-Square Values**

| | R-square | Adjusted R-square |
|---|---|---|
| **Audit Quality** | 0.620 | 0.609 |

*Source: SmartPLS Output (processed by the authors*)

**c. Predictive Relevance (Q-Square)**

The predictive relevance assessment produced a $Q^2$ value of 0.583, which is greater than zero. This result indicates that the research model demonstrates strong predictive capability for the Audit Quality variable. In addition, the RMSE value of 0.655 and the MAE value of 0.510 are presented as measures of prediction error to support the evaluation of model accuracy. Nevertheless, within the PLS-SEM framework, the primary assessment of predictive relevance remains based on the $Q^2$ value.

**Table 6. Q-Square Values**

| | $Q^2$*predict* | RMSE | MAE |
|---|---|---|---|
| **Audit Quality** | 0.583 | 0.655 | 0.510 |

*Source: SmartPLS Output (processed by the authors*)

**d. Effect Size ($f^2$)**

The effect size analysis indicates that Auditor Characteristics achieved an $f^2$ value of 0.222, which is categorized as a moderate effect. Audit Technology obtained an $f^2$ value of 0.126, indicating a small-to-moderate effect. In contrast, Time budget pressure and the interaction constructs demonstrated very small $f^2$ values, suggesting limited contributions to Audit Quality.

**Table 7. Effect Size ($f^2$) Assessment Results**

| Variable | $f^2$ | Effect Size Category |
|---|---|---|
| Auditor Characteristics | 0.222 | Moderate |
| Audit Technology | 0.126 | Small – Moderate |
| Time budget pressure | < 0.02 | Very Small |
| Auditor Characteristics × Audit Technology | < 0.02 | Very Small |
| Time budget pressure × Audit Technology | < 0.02 | Very Small |

*source: SmartPLS Output (processed by the authors*)

**Hypothesis Testing**

Hypothesis testing was conducted to examine the relationships among variables in the research model. The analysis employed the bootstrapping procedure at a 5% significance level. A

hypothesis was considered accepted when the t-statistic exceeded 1.96 and the p-value was below 0.05.

The complete results of the hypothesis testing are presented in Table 8 below.

**Table 8. Hypothesis Testing Results**

| Hypothesis Code | Relationship Between Variables | Path Coefficient (β) | T-Statistics | P-Value | Statistical Test Result | Decision |
|---|---|---|---|---|---|---|
| H1 | Auditor Characteristics → Audit Quality | 0.454 | 5.926 | 0.000 | Positive and significant effect on Audit Quality | Accepted |
| H2 | Time budget pressure → Audit Quality | 0.033 | 0.489 | 0.625 | No significant effect on Audit Quality | Rejected |
| H3 | Audit Technology → Audit Quality | 0.337 | 4.756 | 0.000 | Positive and significant effect on Audit Quality | Accepted |
| H4 | Audit Technology × Auditor Characteristics → Audit Quality | -0.021 | 0.375 | 0.708 | No moderating effect on the relationship between Auditor Characteristics and Audit Quality | Rejected |
| H5 | Audit Technology × Time budget pressure → Audit Quality | -0.095 | 1.283 | 0.199 | No moderating effect on the relationship between Time budget pressure and Audit Quality | Rejected |

Source: processed research data

Based on the hypothesis testing results presented in Table 8, the acceptance or rejection of hypotheses was determined by considering the direction and magnitude of the path coefficients, as well as the t-statistics and p-values generated through the bootstrapping procedure in the structural model.

The estimation results for H1 reveal a positive path coefficient linking auditor characteristics to audit quality, indicating that stronger individual attributes are associated with higher audit quality. The t-statistic surpasses the critical value of 1.96, and the corresponding p-value is well below the 0.05 significance level, confirming statistical significance. On this basis, H1 is supported, implying that enhancements in auditor characteristics translate into measurable improvements in the quality of audit work.

For H2, the estimated path from time budget pressure to audit quality is positive but statistically unsupported, given the t-statistic below 1.96 and p-value above 0.05. This finding indicates that although a structural relationship exists within the model, time budget pressure does not exert a sufficiently strong influence to explain variations in audit quality. Therefore, H2 is rejected.

The third hypothesis (H3) indicates that the relationship between audit technology and audit quality has a positive path coefficient, signifying a positive relationship. The t-statistic greater than 1.96 and the p-value below 0.05 confirm that the effect of audit technology on audit quality is statistically significant. Thus, the statistical results support the conclusion that increased utilization of audit technology contributes significantly to improving audit quality; therefore, H3 is accepted.

For the fourth hypothesis (H4), the interaction path coefficient between auditor characteristics and audit technology indicates the presence of a moderating relationship; however, the t-statistic does not reach the significance threshold and the p-value exceeds 0.05. These findings suggest that the interaction effect is not statistically significant, indicating that audit technology does not strengthen or weaken the influence of auditor characteristics on audit quality. Consequently, H4 is rejected.

Similarly, the fifth hypothesis (H5) reveals that the interaction path coefficient between time budget pressure and audit technology is not supported by adequate t-statistic and significant p-values. This finding indicates that, statistically, audit technology does not moderate the relationship between time budget pressure and audit quality. Therefore, H5 is rejected.

**Discussion**

Overall, the evidence suggests that audit quality within ISAI is more closely associated with auditors' individual capabilities and institutional support mechanisms than with situational constraints alone. The observed effect of auditor characteristics can be interpreted by combining insights from the Big Five Personality framework, Trait Activation Theory, and the Audit Quality Framework. Personal characteristics such as conscientiousness and openness contribute to the development of professional behavior, thoroughness, and the quality of auditors' professional judgment in carrying out audit procedures. Within the context of the Audit Quality Framework, auditor characteristics function as audit inputs that directly influence audit processes and ultimately determine the quality of audit outputs. This result is in line with Samagaio and Felício (2022) and Chen et al. (2023), who associate auditor characteristics with stronger audit quality through professional skepticism and adherence to auditing requirements.

Contrary to expectations, the empirical findings do not confirm a significant influence of time budget pressure on audit quality in the ISAI context. This outcome implies that auditors within the institution are capable of navigating stringent scheduling demands without allowing the quality of their work to deteriorate. Such resilience can plausibly be attributed to the robust institutional architecture in place, which encompasses stringent auditing standards, an extensive quality assurance mechanism, and a tiered supervisory structure embedded in the conduct of state financial audits. Such a framework serves as a critical safeguard that prevents auditors from resorting to dysfunctional behaviors or simplified procedures when facing deadlines. This outcome stands in contrast to the findings of Dibyani and Januarti (2025), who reported that time budget pressure negatively impacts audit quality within the private sector. Instead, the present study aligns more closely with the research of Persellin et al. (2019) and Hien & Tuan (2025), which posits that in organizations supported by strong control systems, time budget pressure does not directly diminish audit quality. Consequently, within the ISAI environment, time budget pressure functions as a manageable operational constraint rather than a primary determinant of audit quality.

The positive technology effect also highlights the contribution of digital tools to contemporary audit performance. Audit technology supports auditors in processing extensive datasets, enhancing analytical precision, and providing stronger informational support for professional judgments. This finding supports the Technology Acceptance Model (TAM) and the Unified Theory of Acceptance and Use of Technology (UTAUT), both of which emphasize that perceived usefulness of technology contributes to improved individual performance. These results are consistent with the studies of Persellin et al. (2019), Sudradjat et al. (2024), and Zhao et al. (2026), which demonstrate that audit technology enhances the effectiveness of audit processes and the quality of audit outcomes, particularly in complex audit environments.

However, the non-significant interaction effects indicate that audit technology does not alter the influence of either auditor characteristics or time budget pressure on audit quality. This finding suggests that audit technology within ISAI has become a relatively standardized component of audit practice, and therefore no longer produces different effects across individuals or situations. In other words, audit technology is more appropriately positioned as a direct determinant rather than as an adaptive mechanism for addressing time budget pressure or strengthening auditor characteristics. This finding extends the studies of Noordin et al. (2022) and Volodina & Grossi (2025), which emphasize that the effectiveness of audit technology largely depends on its integration into organizational work systems rather than merely on the intensity of its use.

## CONCLUSION

This study evaluated the relationships between auditor characteristics, time budget pressure, and audit quality, while positioning audit technology as a potential moderator in state financial auditing conducted by ISAI. Using the PLS-SEM approach, the findings reveal that Auditor Characteristics and Audit Technology have significant positive effects on Audit Quality, whereas Time Budget Pressure has no significant effect on Audit Quality. Furthermore, Audit Technology was not found to moderate the relationships between Auditor Characteristics and Audit Quality or between Time budget pressure and Audit Quality.

The evidence points to auditors' individual capabilities, professionalism, and direct use of audit technology as more prominent determinants of audit quality than situational pressure arising from limited audit time. These results reinforce the Audit Quality Framework by highlighting the importance of auditor-related factors and technological support in producing high-quality audits. The study also contributes to the public sector auditing literature by positioning Audit Technology as a direct determinant of Audit Quality rather than as a moderating factor.

From a practical perspective, the findings suggest that ISAI should strengthen auditor competencies, professionalism, integrity, and technical capabilities through continuous training and structured career development. In addition, the optimization of audit technology should be prioritized to improve the efficiency and effectiveness of audit processes. Although Time budget pressure was not found to significantly affect Audit Quality, effective time management and supervision remain important to ensure compliance with auditing standards.

This study has several limitations. First, the data were collected through self-reported questionnaires, which may contain subjective bias. Second, the study employed a cross-sectional design, limiting the ability to capture changes over time. Third, the research model only included Auditor Characteristics, Time budget pressure, Audit Technology, and Audit Quality, while other potentially relevant factors, such as organizational culture, leadership, workload, and quality control systems, were not examined.

Future research could address these limitations by employing longitudinal and mixed-method designs, thereby capturing contextual developments over time and reducing reliance on perceptual measures. Future research is also encouraged to include additional organizational and behavioral variables, as well as to examine Audit Technology as a mediating variable in explaining the mechanisms influencing Audit Quality.

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