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Revenue Recognition Error Detection Links Auditor Attributes And Psak 115 Understanding To Audit Effectiveness

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Abstract

This study examines whether revenue recognition error detection capability transmits the effects of auditor attributes and PSAK 115 understanding to audit effectiveness. A quantitative explanatory survey was administered to the accessible population of 120 auditors working at public accounting firms in Medan, Indonesia. Ninety-three questionnaires were returned; one incomplete response was excluded, leaving 92 usable observations. The purified instrument contained 39 reflective indicators measured on a five-point Likert scale. Partial least squares structural equation modeling used a Mode A path-weighting algorithm and 5,000 bootstrap resamples. Auditor attributes and PSAK 115 understanding positively affected error detection capability. Auditor attributes and error detection capability positively affected audit effectiveness, whereas the direct effect of PSAK 115 understanding was not significant. Error detection provided complementary partial mediation for auditor attributes and indirect-only mediation for PSAK 115 understanding. The model explained 78.2% of audit effectiveness.Audit firms should integrate PSAK 115 case-based training with professional skepticism, industry exposure, and contract-testing exercises.The study identifies error detection as the proximal mechanism through which general and standard-specific auditor human capital becomes effective audit performance.

Keywords:Audit Effectiveness; Auditor Attributes; Error Detection Capability; PSAK 115; Revenue Recognition.

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INTRODUCTION

Revenue is one of the most important and judgment-laden components of financial reporting because the amount and timing of its recognition affect performance evaluation, contracts, taxation, and market interpretation. PSAK 115, the Indonesian numbering for the standard formerly known as PSAK 72, adopts the principles of IFRS 15 and requires entities to identify contracts with customers and performance obligations, determine and allocate the transaction price, and then recognize revenue when or as performance obligations are satisfied (Ikatan Akuntan Indonesia, 2024; IFRS Foundation, 2024). These provisions provide a disciplined framework, but at the same time concentrate professional judgment on contract combination, distinct goods and services, variable consideration, stand-alone selling prices, principal–agent assessment, and recognition at a point in time or over time. Judgments that appear technically sound but are applied incorrectly can give rise to fictitious revenue, unrecorded revenue, measurement errors, cut-off errors, misallocation among performance obligations, and inadequate presentation and disclosure.

Empirical evidence shows that the impact of the new revenue model is neither uniform nor always neutral. Companies in Australia and New Zealand reported varied transition impacts; revenue, contract liabilities, cost of goods sold, and profit were the accounts most affected, while many entities deferred revenue recognition after implementation (Kabir & Su, 2022). Evidence from Korea shows increased financial statement comparability and reduced discretionary revenue after IFRS 15, particularly for clients of industry-specialist auditors (Lee & Choi, 2024). Other research finds that the transition was immaterial for many entities but economically meaningful for some, and can change earnings relevance and reporting practices (Onie et al., 2023; Chen, 2025). At the same time, compliance with mandatory disclosures remains incomplete in developing countries (Karim & Riya, 2022), while implementation in Indonesia creates an interaction between accounting and tax recognition that must be carefully reconciled (Saptono & Khozen, 2021). These findings make revenue recognition an appropriate domain for assessing whether auditors possess the resources needed to translate the standard into reliable assurance.

Audit effectiveness indicates the extent to which audit work provides credible assurance over the quality of financial reporting. An audit is considered effective when the auditor is able to identify risks accurately, obtain sufficient and appropriate evidence, detect and evaluate material misstatements, formulate conclusions consistent with the

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evidence, and prompt correction before the financial statements are issued. This definition is consistent with the view that audit quality is assurance over the quality of financial reporting, rather than merely a single observable output (DeFond & Zhang, 2014). It is also consistent with the classic reasoning on audit quality that competence determines the ability to discover misstatements, while independence determines whether discovered problems are reported (DeAngelo, 1981). In the context of revenue recognition, effectiveness depends not only on performing the required procedures but also on the ability to recognize when a client's contract accounting does not faithfully represent the underlying transfer of goods or services.

This study uses human capital theory as its primary explanatory foundation. Human capital consists of knowledge, skills, experience, and judgment accumulated through education, training, and task exposure, thereby increasing an individual's productive capacity (Becker, 1993). For auditors, general professional capital includes technical competence, engagement experience, industry exposure, independence, professional skepticism, and client knowledge. Task-specific capital includes the ability to interpret and apply PSAK 115 to actual contracts. Neither form of capital can be equated with audit effectiveness. Such capital is a resource that must first be activated through a task capability—in this study, the ability to detect revenue recognition errors—before it becomes an effective audit outcome. This mediating mechanism matters because auditors may possess formal knowledge without using it to challenge client assertions, or have extensive experience but fail to apply it to the distinctive judgments embedded in PSAK 115.

Recent archival evidence supports the importance of auditor human capital, but its operational mechanism remains underexplained. Industry specialization and the breadth of industry experience are associated with stronger audit outcomes and a greater tendency to request audit adjustments (Balsam et al., 2003; Dekeyser et al., 2024). Connections within a client's business community can enhance auditor competence but simultaneously threaten independence; this condition shows that auditor attributes need to be viewed as a balanced professional configuration rather than as stand-alone credentials (DeFond et al., 2024). More directly, Australian evidence shows that firm and partner specialization and longer engagement tenure reduce the probability of accounting errors, whereas partner rotation increases it (Ferdous et al., 2026). That study used archival error outcomes and auditor characteristics but did not test whether a specific

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detection capability translates auditor attributes into effectiveness, nor did it examine understanding of a specific standard in the Indonesian context.

Survey evidence also shows mixed results, reinforcing the need for a mediating explanation. Professional skepticism and experience are positively related to fraud detection capability, but some studies find no direct effect of competence or independence once other behavioral factors are accounted for (Agustina et al., 2021). Other evidence from Indonesia shows that competence and independence support detection capability, with professional skepticism strengthening that relationship (Noch et al., 2022). Recent research on Indonesian auditors also links professional competence with audit quality, while emphasizing that pressure, complexity, and motivation determine whether competence is used productively (Khulsum et al., 2025). This inconsistency is theoretically meaningful: auditor attributes may influence effective outcomes indirectly through the ability to identify concrete reporting problems, rather than through an automatic direct pathway.

IFRS 15 research to date has focused mostly on the reporting outcomes of financial statement preparers, disclosure compliance, comparability, earnings quality, or organizational implementation. Auditors have been shown to act as intermediaries who translate, negotiate, and operationalize standards within client organizations (Kohler et al., 2021), while external auditors acknowledge that IFRS 15 can affect assessments of profitability and firm performance in emerging markets (Cosmulese et al., 2023). However, knowledge of the standard is rarely modeled jointly with auditor attributes and task-specific detection mechanisms. This gap matters because understanding PSAK 115 may be necessary to identify errors but not necessarily sufficient to improve the overall audit if it does not change how auditors examine contracts, challenge assumptions, trace performance obligations, and evaluate cut-off and disclosures.

This study fills that gap by examining auditors at public accounting firms in the city of Medan, Indonesia. Its contribution consists of three parts. First, the study extends human capital theory by separating general auditor attributes from task-specific understanding of PSAK 115. Second, the ability to detect revenue recognition errors is positioned as a proximal capability, not a synonym for audit effectiveness. Third, the study tests direct and mediating relationships within a single PLS-SEM model and reports instrument purification, item-level descriptive statistics, convergent and discriminant validity, structural collinearity, explanatory power, predictive relevance, effect size, and bootstrap confidence intervals. This positioning addresses the need for a focused model,

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so that every construct, hypothesis, and discussion point can be traced to a single theoretical mechanism.

Auditor attributes provide the cognitive and behavioral resources needed to detect anomalies. Competence supports the selection and execution of procedures; experience aids pattern recognition and the identification of exceptions; industry specialization provides a contextual benchmark; independence protects judgment from client pressure; skepticism drives the search for contradictory evidence; and client knowledge helps identify unusual transactions. Professional skepticism specifically reflects a questioning mind, suspension of judgment, search for knowledge, interpersonal understanding, self-confidence, and autonomy (Hurtt, 2010). Human capital theory predicts that the accumulation of such resources improves task performance because auditors can process evidence more efficiently and diagnose inconsistencies more accurately. Accordingly, auditors with stronger attributes should be better able to detect errors in the existence, completeness, measurement, timing, allocation, classification, presentation, and disclosure of revenue. Therefore, H1 states: auditor attributes have a positive effect on the ability to detect revenue recognition errors.

Understanding of PSAK 115 is task-specific human capital. The standard's five-step model requires auditors to trace contract enforceability, performance obligations, transaction price, allocation, and recognition, while also evaluating variable consideration and disclosures. Knowledge of these provisions forms the decision structure for identifying the point at which a client's accounting departs from the economic substance of the contract. IFRS 15 research shows that the standard can defer revenue, change contract balances, increase comparability, and affect earnings quality (Kabir & Su, 2022; Lee & Choi, 2024; Chen, 2025). These consequences confirm that auditors need more than general accounting understanding; they must recognize the precise recognition stage as a source of error. Therefore, H2 states: understanding of PSAK 115 has a positive effect on the ability to detect revenue recognition errors.

Human capital can also directly affect audit effectiveness. Experienced, competent, skeptical, and independent auditors are better positioned to assess risk, design procedures, obtain reliable evidence, and formulate defensible conclusions. Industry breadth is associated with a greater likelihood of requesting adjustments, particularly in complex and uncertain circumstances (Dekeyser et al., 2024), while auditor and engagement-tenure specialization are associated with fewer accounting errors (Ferdous et al., 2026). These attributes can improve planning and evidence evaluation

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beyond the revenue cycle. Accordingly, H3 states: auditor attributes have a positive effect on audit effectiveness.

Understanding of PSAK 115 also has the potential to directly improve audit effectiveness because the revenue cycle often affects materiality, fraud risk, analytical procedures, substantive testing, and the audit opinion. Mastery of the standard can help auditors identify relevant assertions, select contract samples, evaluate management estimates, and assess the adequacy of presentation and disclosure. However, prior implementation research shows that formal rules do not always produce consistent reporting outcomes, and implementation challenges persist (Napier & Stadler, 2020; Karim & Riya, 2022). This direct relationship therefore needs to be tested empirically rather than assumed. H4 states: understanding of PSAK 115 has a positive effect on audit effectiveness.

Error detection capability is the most proximal performance mechanism in this model. An effective audit must first identify material deviations before the auditor can evaluate their magnitude, request correction, adjust procedures, communicate with those charged with governance, or consider the audit opinion. Detection capability converts abstract knowledge into observable audit action. This reasoning is consistent with evidence that professional skepticism and experience improve auditors' detection performance (Agustina et al., 2021) and that a lower probability of accounting errors reflects higher audit effectiveness (Ferdous et al., 2026). Therefore, H5 states: the ability to detect revenue recognition errors has a positive effect on audit effectiveness.

The mediation logic follows directly from human capital theory. Auditor attributes should first improve how auditors recognize contradictory evidence, reconstruct contractual rights and obligations, and diagnose the sources of revenue misstatement. That detection then strengthens risk response, evidence sufficiency, findings, conclusions, timeliness, and reporting corrections. If the direct path remains significant, detection provides complementary partial mediation; if only the indirect path is significant, detection becomes the primary operating mechanism. H6 states: the ability to detect revenue recognition errors mediates the effect of auditor attributes on audit effectiveness.

The same logic applies to understanding of PSAK 115. Knowledge of the standard becomes beneficial when it enables auditors to recognize improperly identified contracts, performance obligations that are wrongly combined or separated, misstated variable consideration, mis-allocated transaction prices, or revenue recognized in the wrong period. Without this translation, knowledge may remain declarative and fail to change the

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overall audit. The auditor's role as an intermediary in operationalizing IFRS 15 supports this task-conversion argument (Kohler et al., 2021). Therefore, H7 states: the ability to detect revenue recognition errors mediates the effect of understanding of PSAK 115 on audit effectiveness.

METHODS

This study uses an explanatory quantitative design to test the direct and indirect relationships among auditor attributes (AA), understanding of PSAK 115 (PU), the ability to detect revenue recognition errors (ED), and audit effectiveness (AE). The unit of analysis is the individual external auditor. The accessible population consists of 120 auditors working at public accounting firms in the city of Medan. A census approach was used, distributing the questionnaire to all members of the accessible population, so that the study does not mix probability-based sample-size formulas with non-probability selection. Respondent criteria included working as an auditor, having participated in a financial statement audit, having experience examining revenue accounts, and having at least one year of audit experience. Ninety-three questionnaires were returned, while one response lacked usable construct data. The final sample consisted of 92 auditors, with a usable response rate of 76.7%. This number exceeds the statistical power requirements typically needed for a medium effect with three predictors at a 5% significance level and 80% statistical power (Cohen, 1988).

The questionnaire used a five-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree). AA measured technical competence, audit experience, industry specialization, independence and objectivity, professional skepticism, and client knowledge. PU covered the scope of PSAK 115, contract identification, identification of performance obligations, determination of the transaction price, allocation of the transaction price, timing of revenue recognition, and presentation and disclosure. ED measured auditors' perceived ability to identify errors of occurrence, completeness, measurement, cut-off, allocation, classification, presentation, and disclosure. AE measured goal attainment, accuracy of risk assessment, adequacy and appropriateness of evidence, accuracy of findings, appropriateness of conclusions, timeliness, and improvement of financial reporting. The instrument content was adapted from the literature on auditor attributes, skepticism, IFRS 15, error detection, and audit quality (Hurtt, 2010; Agustina et al., 2021; Kabir & Su, 2022; Ferdous et al., 2026).

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The initial questionnaire contained 54 statements, comprising 12 AA items, 14 PU items, 14 ED items, and 14 AE items. An instrument purification stage was carried out before the final PLS estimation. Fifteen statements that did not meet the initial validity criteria were removed, while the remaining statements were re-coded sequentially in the final data. The purified instrument contains 39 indicators: AA (X1.1–X1.10), PU (X2.1–X2.9), ED (Z1–Z10), and AE (Y1–Y10). This disclosure is necessary because the final item code count differs from the initial questionnaire. Purification retained several items for each theoretical domain so that content validity was preserved and removed indicators are not concealed. Table 1 presents the operational definitions, domains, and purification results of the instrument.

Table 1. Construct operationalization and instrument purification

Construct	Operational definition	Measurement domain	Initial	Retained	Code	Main source
Auditor Attributes (AA)	Professional resources supporting audit judgment	Competence; experience; specialization; independence; skepticism; client knowledge	12	10	X1.1–X1.10	Becker (1993); Hurtt (2010); Ferdous et al. (2026)
Understanding of PSAK 115 (PU)	Task-specific understanding of revenue recognition	Scope; contracts; performance obligations; transaction price; allocation; timing; presentation/disclosure	14	9	X2.1–X2.9	IFRS Foundation (2024); Kabir and Su (2022)
Error Detection (ED)	Ability to identify revenue recognition errors	Occurrence; completeness; measurement; cut-off; allocation; classification;	14	10	Z1–Z10	Agustina et al. (2021); Ferdous et al. (2026)

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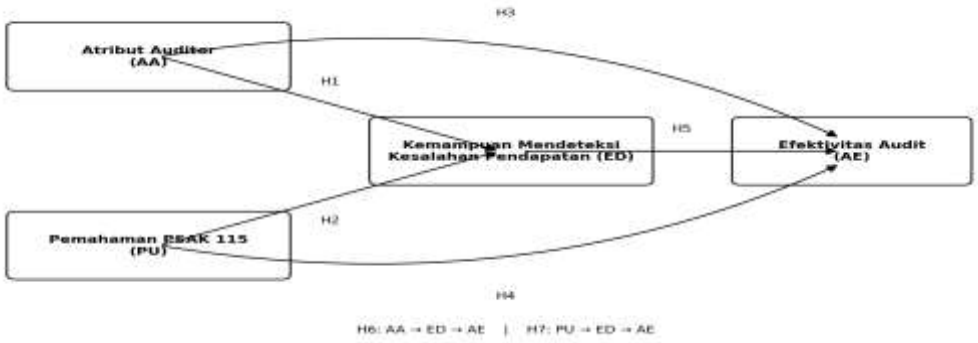
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Construct	Operational definition	Measurement domain	Initial	Retained	Code	Main source
		presentation/disclosure				
Audit Effectiveness (AE)	Degree of achievement of audit objectives and reliable reporting	Risk assessment; evidence; findings; conclusions; timeliness; reporting improvement	14	10	Y1–Y10	DeFond and Zhang (2014); Ferdous et al. (2026)

Source: Instrument development and purification, 2026.

All constructs were specified as reflective because indicators are treated as manifestations of the underlying latent capability or perception. The measurement equations are $X1_i = \lambda_i AA + \varepsilon_i$ for i = 1,...,10; $X2_i = \lambda_i PU + \varepsilon_i$ for i = 1,...,9; $Z_i = \lambda_i ED + \varepsilon_i$ for i = 1,...,10; and $Y_i = \lambda_i AE + \varepsilon_i$ for i = 1,...,10. The structural model is formulated as $ED = \beta_1 AA + \beta_2 PU + \zeta_1$ and $AE = \beta_3 AA + \beta_4 PU + \beta_5 ED + \zeta_2$. The indirect effects are $\beta_1\beta_5$ for AA → ED → AE and $\beta_2\beta_5$ for PU → ED → AE. Figure 1 shows the conceptual model and the seven hypotheses.

Figure 1. Conceptual model



Source: Developed by the authors.

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PLS-SEM was chosen because the study estimates a predictive mediation model with several latent variables and does not require multivariate normality. Estimation used standardized indicators, reflective Mode A measurement specification, the path weighting scheme, iterative score estimation, and 5,000 nonparametric bootstrap resamples. Reporting follows current PLS-SEM recommendations (Hair et al., 2019; Hair et al., 2022). The measurement model was assessed through indicator loadings, Cronbach's alpha, composite reliability, average variance extracted (AVE), the Fornell–Larcker criterion, and the heterotrait–monotrait ratio (HTMT). Indicator loadings above 0.708, reliability above 0.70, AVE above 0.50, and HTMT below 0.90 were considered adequate, while borderline results were assessed together with content validity and not mechanically deleted (Henseler et al., 2015).

The structural model was evaluated using the predictor variance inflation factor (VIF), path coefficients, bootstrap standard errors, t-statistics, p-values, 95% percentile confidence intervals, R^2, adjusted R^2, the f^2 effect size, and 10-fold cross-validated Q^2predict. Effects were declared significant if the two-tailed p-value was below 0.05 and the confidence interval did not include zero. The type of mediation was determined by jointly examining the direct and indirect paths, not by relying solely on the variance-accounted-for ratio. Common method bias was reduced through anonymity, neutral wording, separation of construct blocks, and instructions stating that there were no right or wrong answers. As a statistical diagnostic, the first unrotated factor explained 45.41% of total item variance, below the 50% threshold. This result does not prove the absence of common method bias, but indicates that no single factor dominates the responses. This diagnostic complements, rather than replaces, the measurement and structural model evaluation (Kock, 2015).

DISCUSSION

Descriptive Statistics

Of the 120 questionnaires distributed, 93 were returned and 92 of these were sufficiently complete for analysis. Male respondents accounted for 70.7% and female respondents 29.3%. Auditors aged 25–35 years accounted for 38.0%, those aged 36–45 years 25.0%, and those older than 45 years 37.0%. Most respondents held a bachelor's degree (80.4%), while 19.6% held a master's degree. The age and education profile shows that the sample combines auditors at an early career stage with more experienced

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auditors, making it relevant for examining both accumulated experience and relatively new standard-specific knowledge. The respondent profile is presented in Table 2.

Table 2. Respondent profile

Characteristic	Category	Frequency	Percentage (%)
Gender	Male	65	70.7
	Female	27	29.3
Age	25–35 years	35	38.0
	36–45 years	23	25.0
	>45 years	34	37.0
Education	Bachelor's (S1)	74	80.4
	Master's (S2)	18	19.6

Source: Primary data, processed 2026.

Descriptive statistics are presented at the item level in Table 3, not only at the construct level. This presentation prevents masking indicators with response patterns that are too low or too high. The construct means were 3.301 for AA, 2.864 for PU, 3.197 for ED, and 3.163 for AE. AA thus received the highest average rating, while PU was the only construct below the neutral point of 3.0. The lower PU mean indicates that auditors' confidence in applying PSAK 115 is not yet as strong as their general professional attributes. Item means ranged from 2.707–3.446 for AA, 2.609–3.130 for PU, 2.989–3.446 for ED, and 2.967–3.359 for AE. Standard deviation values indicate an adequate spread of responses, and no item was constant.

Table 3. Item-level descriptive statistics

Construct	Item	Mean	Median	Mode	SD	Min	Max
AA	X1.1	3.435	3.0	2.0	1.161	1	5
AA	X1.2	3.293	3.5	4.0	1.191	1	5
AA	X1.3	3.446	4.0	2.0	1.171	2	5

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Construct	Item	Mean	Median	Mode	SD	Min	Max
AA	X1.4	3.370	3.0	4.0	1.045	2	5
AA	X1.5	3.446	4.0	4.0	1.042	2	5
AA	X1.6	3.315	3.0	2.0	1.148	1	5
AA	X1.7	3.337	3.0	4.0	1.102	1	5
AA	X1.8	3.337	3.0	4.0	1.062	1	5
AA	X1.9	2.707	2.5	2.0	1.371	1	5
AA	X1.10	3.326	3.0	4.0	1.049	2	5
PU	X2.1	2.957	3.0	3.0	1.366	1	5
PU	X2.2	3.359	4.0	4.0	1.135	1	5
PU	X2.3	2.761	3.0	3.0	0.618	1	5
PU	X2.4	2.772	3.0	3.0	0.576	1	4
PU	X2.5	2.870	3.0	3.0	0.667	1	5
PU	X2.6	2.804	3.0	3.0	0.730	1	5
PU	X2.7	2.783	3.0	3.0	0.724	1	5
PU	X2.8	2.739	3.0	3.0	0.591	1	5
PU	X2.9	2.728	3.0	3.0	0.713	1	4
ED	Z1	3.098	3.0	3.0	1.284	1	5
ED	Z2	3.522	4.0	4.0	1.094	1	5
ED	Z3	3.435	4.0	4.0	1.122	1	5
ED	Z4	3.457	3.0	2.0	1.113	2	5
ED	Z5	3.380	4.0	4.0	1.098	1	5
ED	Z6	2.826	3.0	3.0	1.323	1	5
ED	Z7	3.043	3.0	3.0	1.058	1	5

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Construct	Item	Mean	Median	Mode	SD	Min	Max
ED	Z8	3.022	3.0	3.0	1.186	1	5
ED	Z9	2.989	3.0	2.0	1.200	1	5
ED	Z10	3.196	3.0	4.0	1.102	1	5
AE	Y1	3.130	3.0	3.0	1.251	1	5
AE	Y2	3.272	3.0	3.0	1.049	1	5
AE	Y3	3.217	3.0	3.0	0.993	2	5
AE	Y4	3.293	3.0	3.0	1.064	1	5
AE	Y5	3.196	3.0	4.0	1.160	1	5
AE	Y6	2.989	3.0	3.0	0.978	1	5
AE	Y7	3.163	3.0	3.0	0.868	2	5
AE	Y8	3.152	3.0	3.0	1.026	1	5
AE	Y9	3.054	3.0	3.0	0.953	1	5
AE	Y10	3.163	3.0	4.0	1.102	1	5

Source: Primary data, processed 2026.

Measurement Model

The measurement model shows strong convergent validity. As shown in Table 4, all 39 outer loadings exceeded 0.70, ranging from 0.746–0.893. Therefore, no additional indicators were removed from the purified data in the final estimation. Table 5 shows that AVE values ranged from 0.647–0.715, all exceeding 0.50. Composite reliability ranged from 0.948–0.959, while Cronbach's alpha ranged from 0.930–0.951. The AA alpha value was slightly above 0.95. However, the ten retained items represent distinct conceptual domains—competence, experience, specialization, independence, skepticism, and client knowledge—and were therefore retained to preserve content coverage rather than deleted merely to lower the reliability value.

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Table 4. Outer loadings of retained indicators

Construct	Indicator	Outer loading	Decision
AA	X1.1	0.825	Retained
AA	X1.2	0.829	Retained
AA	X1.3	0.867	Retained
AA	X1.4	0.890	Retained
AA	X1.5	0.834	Retained
AA	X1.6	0.856	Retained
AA	X1.7	0.847	Retained
AA	X1.8	0.852	Retained
AA	X1.9	0.756	Retained
AA	X1.10	0.817	Retained
PU	X2.1	0.819	Retained
PU	X2.2	0.838	Retained
PU	X2.3	0.828	Retained
PU	X2.4	0.827	Retained
PU	X2.5	0.833	Retained
PU	X2.6	0.853	Retained
PU	X2.7	0.830	Retained
PU	X2.8	0.885	Retained
PU	X2.9	0.893	Retained
ED	Z1	0.840	Retained
ED	Z2	0.827	Retained
ED	Z3	0.881	Retained

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Construct	Indicator	Outer loading	Decision
ED	Z4	0.859	Retained
ED	Z5	0.764	Retained
ED	Z6	0.806	Retained
ED	Z7	0.793	Retained
ED	Z8	0.746	Retained
ED	Z9	0.766	Retained
ED	Z10	0.750	Retained
AE	Y1	0.780	Retained
AE	Y2	0.866	Retained
AE	Y3	0.820	Retained
AE	Y4	0.867	Retained
AE	Y5	0.812	Retained
AE	Y6	0.789	Retained
AE	Y7	0.814	Retained
AE	Y8	0.798	Retained
AE	Y9	0.767	Retained
AE	Y10	0.759	Retained

Source: Primary data, processed 2026.

Table 5. Construct reliability and convergent validity

Construct	Cronbach'sα	Composite reliability	AVE	Assessment
Auditor Attributes	0.951	0.959	0.702	Adequate

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Construct	Cronbach'sα	Composite reliability	AVE	Assessment
Understanding of PSAK 115	0.930	0.958	0.715	Adequate
Error Detection	0.938	0.948	0.647	Adequate
Audit Effectiveness	0.939	0.949	0.653	Adequate

Source: Primary data, processed 2026.

Discriminant validity also met the criteria. In Table 6, the square root of AVE for each construct is higher than its correlation with other constructs. The smallest difference is between ED and AE: the square root of AVE for ED is 0.804, while the ED–AE correlation is 0.796. Because this difference is narrow, HTMT was used as a more sensitive test. Table 7 shows that all HTMT values are below 0.90; the highest value, 0.850, is between ED and AE. This close relationship is theoretically understandable because error detection is a proximal component of an effective audit, but the two constructs remain empirically distinguishable.

Table 6. Fornell–Larcker discriminant validity

Construct	AA	PU	ED	AE
AA	0.838	0.391	0.454	0.683
PU	0.391	0.846	0.501	0.576
ED	0.454	0.501	0.804	0.796
AE	0.683	0.576	0.796	0.808

Source: Primary data, processed 2026. Diagonal values are the square root of AVE.

Table 7. Heterotrait–monotrait ratio

Construct	AA	PU	ED	AE
AA	—	0.358	0.457	0.707
PU	0.358	—	0.487	0.570

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Construct	AA	PU	ED	AE
ED	0.457	0.487	—	0.850
AE	0.707	0.570	0.850	—

Source: Primary data, processed 2026.

Structural Model and Hypothesis Testing

Structural collinearity was not a problem. Table 8 shows a VIF of 1.180 for the ED predictors and 1.318–1.491 for the AE predictors. ED had $R^2 = 0.329$ and adjusted $R^2 = 0.314$, while AE had $R^2 = 0.782$ and adjusted $R^2 = 0.774$. Thus, AA and PU explained 32.9% of the variance in detection capability, while AA, PU, and ED jointly explained 78.2% of audit effectiveness. Cross-validated Q^2predict values were positive for both ED (0.253) and AE (0.750), indicating out-of-sample predictive relevance. Effect sizes were small for AA → ED ($f^2 = 0.117$), medium for PU → ED ($f^2 = 0.184$), large for AA → AE ($f^2 = 0.484$), small for PU → AE ($f^2 = 0.080$), and large for ED → AE ($f^2 = 0.927$).

Table 8. Collinearity, explanatory power, predictive relevance, and effect size

Endogenous	Predictor	VIF	f^2	R^2	Adjusted R^2	Q^2predict
ED	AA	1.180	0.117	0.329	0.314	0.253
ED	PU	1.180	0.184			
AE	AA	1.318	0.484	0.782	0.774	0.750
AE	PU	1.397	0.080			
AE	ED	1.491	0.927			

Source: Primary data, processed 2026.

The direct-path results in Table 9 support H1, H2, H3, and H5. AA had a positive effect on ED (β = 0.304; t = 2.735; p = 0.006), while PU had a positive effect on ED (β = 0.382; t = 3.125; p = 0.002). AA had a positive effect on AE (β = 0.373; t = 4.502; p < 0.001), and ED had the strongest positive effect on AE (β = 0.549; t = 5.879; p < 0.001). The direct path PU → AE was positive but not significant (β = 0.156; t = 1.829; p = 0.067),

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so H4 was not supported. All supported paths had 95% bootstrap confidence intervals that did not include zero.

Table 9. Direct effects and hypothesis decisions

Hyp.	Path	β	SE	t	p	95% CI	Decision
H1	AA → ED	0.304	0.111	2.735	0.006	[0.082, 0.514]	Supported
H2	PU → ED	0.382	0.122	3.125	0.002	[0.141, 0.618]	Supported
H3	AA → AE	0.373	0.083	4.502	<0.001	[0.201, 0.521]	Supported
H4	PU → AE	0.156	0.085	1.829	0.067	[-0.035, 0.301]	Not supported
H5	ED → AE	0.549	0.093	5.879	<0.001	[0.391, 0.756]	Supported

Source: Primary data, 5,000 bootstrap resamples, processed 2026.

The mediation results in Table 10 support H6 and H7. The indirect effect of AA → ED → AE was 0.167 (t = 2.219; p = 0.026; 95% CI [0.042, 0.335]). Because both the direct and indirect effects were positive and significant, ED provides complementary partial mediation. The total effect of AA was 0.540, of which approximately 30.9% operated through ED. The indirect effect of PU → ED → AE was 0.210 (t = 2.441; p = 0.015; 95% CI [0.072, 0.409]). Because the direct path PU → AE was not significant while the indirect path was significant, ED provides indirect-only mediation. The total effect of PU was 0.365, of which approximately 57.4% was represented by the indirect component. Figure 2 summarizes the estimated model.

Table 10. Indirect effects and mediation classification

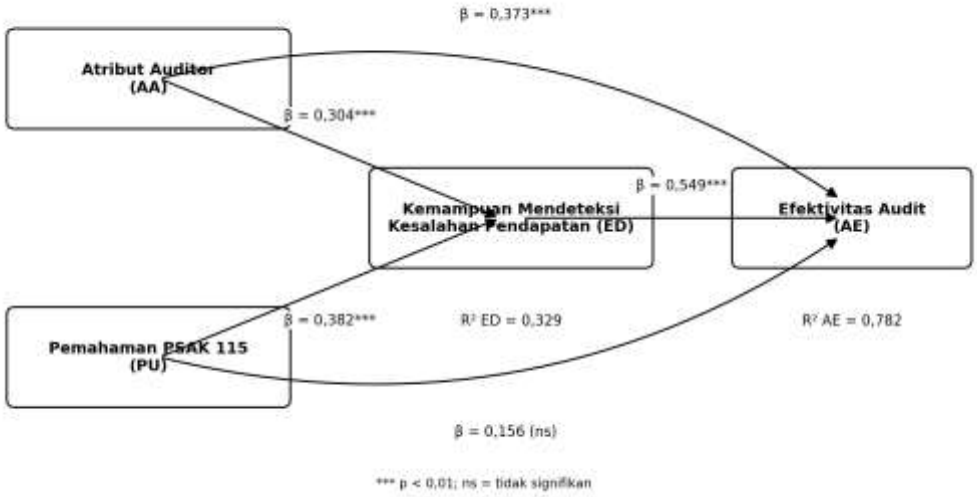
Hyp.	Indirect path	Effect	SE	t	p	95% CI	Mediation type	Decision
H6	AA → ED → AE	0.167	0.075	2.219	0.026	[0.042, 0.335]	Complementary partial mediation	Supported
H7	PU → ED → AE	0.210	0.086	2.441	0.015	[0.072, 0.409]	Indirect-only mediation	Supported

Source: Primary data, 5,000 bootstrap resamples, processed 2026.

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Figure 2. Estimated PLS-SEM model



Source: Primary data, processed 2026

The positive AA → ED relationship supports the central argument of human capital theory. Auditors do not detect revenue errors merely because procedures are available, but because accumulated professional resources enable them to recognize when evidence is inconsistent with a client's accounting. Technical competence provides knowledge of assertions and procedures, experience supports pattern recognition, industry exposure shapes expectations about contracts and margins, independence protects judgment, skepticism sustains the inquiry process, and client knowledge helps recognize deviations from normal practice. This result is consistent with findings that auditor industry breadth increases the likelihood of requesting adjustments (Dekeyser et al., 2024) and that specialization and engagement tenure reduce the probability of accounting errors (Ferdous et al., 2026). This finding also explains why some surveys produce inconsistent direct effects for competence or independence: productive outcomes may emerge when attributes are combined and applied to a concrete detection task, rather than when a single attribute is tested in isolation (Agustina et al., 2021; Noch et al., 2022).

The positive PU → ED effect shows that standard-specific knowledge is not merely a repetition of broad auditor attributes. PSAK 115 requires auditors to trace errors back

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to a specific recognition decision. An auditor may recognize that revenue appears too high, but understanding of PSAK 115 determines whether the problem originates from an invalid contract, improperly combined performance obligations, unsupported variable consideration estimates, an inappropriate stand-alone selling price, or a performance obligation recognized prematurely. The medium effect size of PU → ED is larger than the small effect size of AA → ED, indicating that task-specific human capital is particularly important for targeted detection outcomes. This finding aligns with IFRS 15 evidence showing the standard's effect on recognition timing, contract balances, comparability, and earnings quality (Kabir & Su, 2022; Lee & Choi, 2024; Chen, 2025). It also supports the view that auditors are not passive reviewers but intermediaries who operationalize accounting standards in organizational practice (Kohler et al., 2021).

AA continued to have a significant direct effect on AE after ED was included in the model. This shows that auditor human capital improves more than just error detection in the revenue cycle. Strong attributes can improve engagement planning, risk prioritization, evidence evaluation, communication, documentation, and the appropriateness of audit conclusions. The large f^2 value for AA → AE reinforces the practical significance of this finding. This result is consistent with human capital theory, since productive capacity can affect several stages of audit performance simultaneously. It also aligns with recent evidence from Indonesia that competence is positively related to audit quality, while acknowledging that motivation and contextual pressure affect how competence is realized (Khulsum et al., 2025). This finding does not mean that every auditor connection or experience is always beneficial. The competence–independence tension remains relevant: access to information can enhance competence while simultaneously creating familiarity threats, so audit firms need to combine knowledge development with independence safeguards (DeFond et al., 2024).

H4 was not supported because understanding of PSAK 115 did not directly improve AE once AA and ED were controlled for. This non-significant path carries theoretical meaning rather than representing a model failure. Declarative knowledge of the standard does not automatically produce an effective audit. Auditors may understand the five-step model yet still fail to select informative contracts, challenge management estimates, obtain external evidence, or communicate detected issues. Moreover, audit effectiveness encompasses planning, evidence sufficiency, conclusions, timeliness, and reporting improvement more broadly than revenue recognition knowledge alone. This result is consistent with implementation research showing that a uniform standard can

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increase comparability and reporting quality yet still produce heterogeneous implementation and incomplete disclosure (Lee & Choi, 2024; Karim & Riya, 2022). It also aligns with mixed survey evidence that formal competence does not always have a direct effect on detection or performance unless combined with skepticism and application behavior (Agustina et al., 2021).

ED had the largest direct coefficient and effect size on AE. This finding confirms that misstatement identification is the closest point at which auditor resources are converted into audit performance. Undetected revenue errors cannot be evaluated, corrected, communicated, or reflected in the audit opinion. Conversely, auditors able to identify problems of occurrence, completeness, measurement, cut-off, allocation, classification, and disclosure can adjust procedures and obtain evidence directed at the sources of risk. This finding provides survey-based support for the archival logic that fewer accounting errors reflect a more effective audit (Ferdous et al., 2026). It also extends skepticism research by showing that detection capability is not solely a fraud construct but is also relevant to complex technical accounting errors, whether intentional or unintentional (Hurtt, 2010; Agustina et al., 2021).

The complementary partial mediation found for H6 shows that auditor attributes influence AE through two paths. The indirect path works because attributes increase ED, which in turn increases AE. The direct path shows that the same attributes also strengthen other audit activities not fully represented by revenue error detection. This pattern is consistent with human capital theory's prediction for broad professional resources: such resources build a specific task capability while also enhancing general productivity. The mediation results help reconcile prior findings. Archival research documents relationships between specialization, experience, and error outcomes, while surveys sometimes find weak direct effects for individual attributes. When ED is modeled explicitly, this mechanism becomes visible rather than being absorbed into an overly broad audit-quality construct.

The indirect-only mediation found for H7 is even more important. PU improves AE only when knowledge is translated into ED. This pattern distinguishes the possession of knowledge from the utilization of knowledge. PSAK 115 training does not automatically improve audit outcomes if it focuses only on memorizing recognition stages without developing contract-analysis and evidence-testing behavior. Case-based training needs to require auditors to identify performance obligations, recompute variable consideration, test stand-alone selling prices, examine evidence of the transfer of control, perform cut-

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off procedures, reconcile contract assets and liabilities, and evaluate the completeness of disclosures. This finding also explains why the PU mean is below the neutral point while ED and AE are above it: auditors may rely on broad professional judgment, yet more systematic standard knowledge can still improve effectiveness when converted into detection.

Overall, the findings extend human capital theory in auditing by identifying a layered process. General human capital (AA) and task-specific human capital (PU) are inputs; ED is an applied capability; while AE is a broader performance outcome. The model's high explanatory power for AE does not mean effectiveness is fully determined by these four constructs. Time-budget pressure, team composition, audit technology, partner review, client governance, and organizational incentives can still have an effect. This model shows that the proposed mechanism is strong enough to explain a large portion of the effectiveness perceptions of the auditors studied. This theoretical clarity also prevents the common error of using a different theory for each path without explaining how the overall model works.

For audit firms, the practical priority is not simply increasing the number of training hours. Training needs to integrate three components: knowledge of PSAK 115, skeptical contract analysis, and supervised application to real or simulated engagements. Audit firms can build industry-specific contract libraries, error-pattern databases, revenue recognition checklists, and post-engagement learning reviews. Engagement leaders need to rotate auditors across sufficiently varied cases to broaden cognitive range, while maintaining the continuity that supports client knowledge. Independence safeguards must accompany increased client closeness. Regulators and professional bodies can design continuing professional education that tests participants' ability to detect and explain errors, not merely recite the standard's provisions. Universities can also link advanced financial accounting with audit cases so that students practice converting recognition rules into audit evidence and conclusions.

CONCLUSION

This study examined how auditor attributes and understanding of PSAK 115 become audit effectiveness through the ability to detect revenue recognition errors. Based on 92 auditors at public accounting firms in the city of Medan and a purified 39-item PLS-SEM measurement model, auditor attributes and understanding of PSAK 115 both increased error detection capability. Auditor attributes and detection capability increased

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audit effectiveness, while understanding of PSAK 115 did not have a significant direct effect once the mediator was included. Error detection provided complementary partial mediation for auditor attributes and indirect-only mediation for understanding of PSAK 115. These findings support the human capital theory explanation that broad professional resources and standard-specific knowledge become effective when used as a capability to identify concrete reporting errors.

The findings imply that audit firms need to combine the development of professional attributes with PSAK 115 application practice. Technical seminars that stop at rule comprehension are inadequate if the knowledge does not change evidence gathering and error identification. Training, mentoring, quality review, and promotion systems need to reward skeptical contract analysis, accurate diagnosis of recognition errors, and documentation that links findings to performance obligations, transaction price, transfer of control, contract balances, and disclosure. The findings also suggest that standard setters and professional bodies should evaluate application competence, not only formal knowledge.

Several limitations define the scope of interpretation. The study design is cross-sectional and relies on auditors' self-assessment, so the causal ordering is theoretically supported but not experimentally proven. The sample is limited to accessible audit firms in the city of Medan and may not represent auditors in other regions of Indonesia, internal auditors, or public-sector auditors. The final data were purified and re-coded sequentially, so the article reports the number of removed statements and the final item structure but cannot reconstruct the removal order of each item from the final file alone. Although procedural controls and the single-factor diagnostic reduce concerns about common method bias, evidence from multiple sources would be stronger.

Future research could combine auditor surveys with case-based accuracy scores, inspection findings, proposed adjustments, or client financial statement restatements. A longitudinal design could test whether PSAK 115 training improves detection capability and whether the improvement persists across engagements. Multi-group analysis could compare junior and senior auditors, specialist and non-specialist auditors, or large and small audit firms. Researchers could also test whether audit analytics, time pressure, partner review, or team climate strengthen or weaken the conversion of human capital into detection capability. Such extensions could test the boundaries of the mechanism found while maintaining a coherent theoretical model.

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