



The Mediating Role of Perceived Value in the Relationship between Audit Service Quality and Auditee Satisfaction

Peran Mediasi Perceived Value dalam Hubungan antara Kualitas Layanan Audit dan Kepuasan Auditee

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ABSTRACT

The growing complexity of organizational governance and risk management has shifted the role of internal audit from a mere control mechanism to a strategic partner. Although previous studies have extensively examined audit quality from compliance and financial reporting perspectives, limited attention has been given to how auditees perceive the value created by internal audit services, particularly within strategic state-owned enterprises implementing purpose-driven internal audit. This study investigates the influence of audit service quality on auditee satisfaction, mediated by perceived value, within the Internal Audit Division for Construction, Generation, and Renewable Energy at PT PLN (Persero). Using a quantitative approach, five dimensions of audit service quality—tangibles, reliability, responsiveness, assurance, and empathy—were analyzed using partial least squares structural equation modeling (PLS-SEM). This study addresses this research gap by positioning perceived value as a psychological mechanism linking audit service quality and auditee satisfaction. The results demonstrate that all dimensions significantly impact perceived value, which in turn mediates their effect on satisfaction. Responsiveness and empathy were found to be the most dominant influences. These findings support the practical implementation of a purpose-driven internal audit model that prioritizes stakeholder value perception. This study contributes to the theoretical development of audit service quality and perceived value in public sector enterprises, particularly in trust-based professional contexts.

INFO ARTIKEL

Kata kunci:

audit internal, kualitas layanan audit, perceived value, kepuasan auditee

ABSTRAK

Peningkatan kompleksitas tata kelola organisasi dan manajemen risiko telah mendorong perubahan peran audit internal dari fungsi pengawasan menjadi mitra strategis. Meskipun kualitas audit telah banyak diteliti dari perspektif kepatuhan dan pelaporan keuangan, bukti empiris mengenai bagaimana auditee menilai nilai yang diciptakan oleh layanan audit internal masih terbatas, terutama dalam konteks badan usaha milik

negara strategis yang sedang menjalani transformasi menuju Purpose-Driven Internal Audit. Penelitian ini bertujuan untuk menganalisis pengaruh kualitas layanan audit terhadap kepuasan auditee dengan perceived value sebagai variabel mediasi, dalam lingkup Divisi Audit Internal Konstruksi, Pembangkitan, dan Energi Baru Terbarukan PT PLN (Persero). Lima dimensi kualitas layanan audit—tangibles, reliability, responsiveness, assurance, dan empathy—dianalisis menggunakan pendekatan partial least squares structural equation modeling (PLS-SEM). Oleh karena itu, penelitian ini berupaya menjembatani kesenjangan penelitian yang ada dengan menginvestigasi peran mediasi perceived value dalam menjelaskan bagaimana kualitas layanan audit diterjemahkan menjadi kepuasan auditee. Hasil penelitian menunjukkan seluruh dimensi kualitas layanan berpengaruh signifikan terhadap perceived value, yang kemudian memediasi hubungan terhadap kepuasan auditee. Responsiveness dan empathy merupakan faktor dominan yang membentuk persepsi nilai dan kepuasan. Temuan ini mendukung penerapan model audit internal berbasis tujuan yang menekankan pada penciptaan nilai bagi pemangku kepentingan. Penelitian ini memberikan kontribusi teoretis terhadap pengembangan kualitas layanan audit yang dirasakan dalam konteks layanan profesional berbasis kepercayaan di sektor publik

Introduction

The increasing complexity of governance and business risk in state-owned enterprises demands a strategic transformation of internal audit functions. PT PLN (Persero), as Indonesia's national electricity provider, plays a pivotal role in ensuring energy availability across the archipelago. In response to organizational challenges, PLN has adopted a comprehensive transformation model through a holding–subholding structure and strategic realignment of its internal audit unit (SPI).

In this context, the Internal Audit Division for Construction, Generation, and Renewable Energy (AKP Division) is tasked with implementing risk-based audits and value-added services aligned with PLN's strategic objectives. Since 2023, SPI PLN has begun transitioning from a traditional audit role to a purpose-driven internal audit model that emphasizes collaboration, insight, and stakeholder value. However, performance reports from 2023 and 2024 indicate that stakeholder satisfaction with assurance services in the AKP Division consistently fell below target, suggesting a difference between strategic audit initiatives and auditee perceptions in practice.

The holding–subholding transformation has significantly altered organizational governance, decision-making processes, and operational accountability within PT PLN (Persero). Consequently, internal auditors are expected not only to provide assurance but also to deliver advisory services that create measurable value for auditees operating under increasingly decentralized business units.

Prior studies in auditing have focused on technical compliance and financial reporting accuracy (Ismail et al., 2006; Lai & Pham, 2020), often neglecting the client experience in internal audit services. This study addresses that gap by incorporating the SERVQUAL model (Parasuraman et al., 1988) and positioning perceived value as a mediating factor between audit service quality and auditee satisfaction. The five service quality dimensions—tangibles, reliability, responsiveness, assurance, and empathy—are examined using a formative-reflective measurement model, as recommended by Peštović et al. (2021), which more accurately reflects the multidimensional nature of audit service evaluation.

Furthermore, based on consumer value theory (Zeithaml, 1988; Cronin et al., 2000), perceived value is a crucial psychological mechanism that affects service quality, client satisfaction, and loyalty, especially in professional trust-based contexts such as internal auditing.

Despite the growing body of literature on audit service quality, three important research gaps remain. First, prior studies primarily focus on external audit and financial reporting quality rather than internal audit services. Second, little attention has been paid to the psychological mechanism through

which audit service quality influences auditee satisfaction. Third, empirical evidence from strategic state-owned enterprises implementing purpose-driven internal audits remains scarce. Therefore, this study integrates SERVQUAL and perceived value theory to address these gaps.

This study aims to analyze the impact of audit service quality on auditee satisfaction, mediated by perceived value, within the internal audit context of a strategic state-owned enterprise. It contributes theoretically to refining the SERVQUAL model and offers practical insights into optimizing stakeholder-oriented audit practices in the public sector.

This study is also aligned with the IIA Global Internal Audit Standards (2024), which emphasize that internal auditors should create, protect, and sustain organizational value through assurance, advice, insight, and foresight. Accordingly, perceived value becomes an important indicator of how effectively internal audit fulfills its strategic role.

Method

This study adopts a quantitative research design to test the causal relationship among audit service quality, perceived value, and auditee satisfaction (Creswell & Creswell, 2023; Saunders et al., 2019; Sekaran & Bougie, 2016). The subject of the study is the Internal Audit Division for Construction, Generation, and Renewable Energy at PT PLN (Persero), with the unit of analysis being employees who served as auditees during the 2024 audit cycle.

Data were collected using a structured questionnaire consisting of screening questions, demographic information, and measurement items for each latent variable. The questionnaire was distributed via digital platforms to ensure accessibility and coverage. The target population consisted of all employees who had served as auditees during the 2024 audit cycle within the Internal Audit Division for Construction, Generation, and Renewable Energy. A purposive sampling technique was employed to include only respondents who had direct experience interacting with internal auditors. A total of 204 valid responses were obtained, exceeding the minimum sample size recommended for PLS-SEM analysis (Hair et al., 2022).

Each variable in the research model—comprising five service quality dimensions (tangibles, reliability, responsiveness, assurance, and empathy), perceived value, and auditee satisfaction—was operationalized based on previously validated measurement scales, adapted to the context of internal auditing. Items were measured on a five-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree).

Data analysis was conducted using the Partial Least Squares Structural Equation Modeling (PLS-SEM) approach via the SmartPLS 4.0 application. This technique was chosen due to its suitability for testing complex models involving formative-reflective constructs. The measurement model was evaluated through indicator reliability, internal consistency, convergent, and discriminant validity. The structural model was assessed based on R^2 , effect size (f^2), predictive relevance (Q^2), and the significance of path coefficients using bootstrapping.

Figure 1 illustrates the conceptual framework adopted in this study. The proposed conceptual framework consists of five exogenous constructs representing SERVQUAL dimensions, one mediating construct (Perceived Value), and one endogenous construct (Auditee Satisfaction).

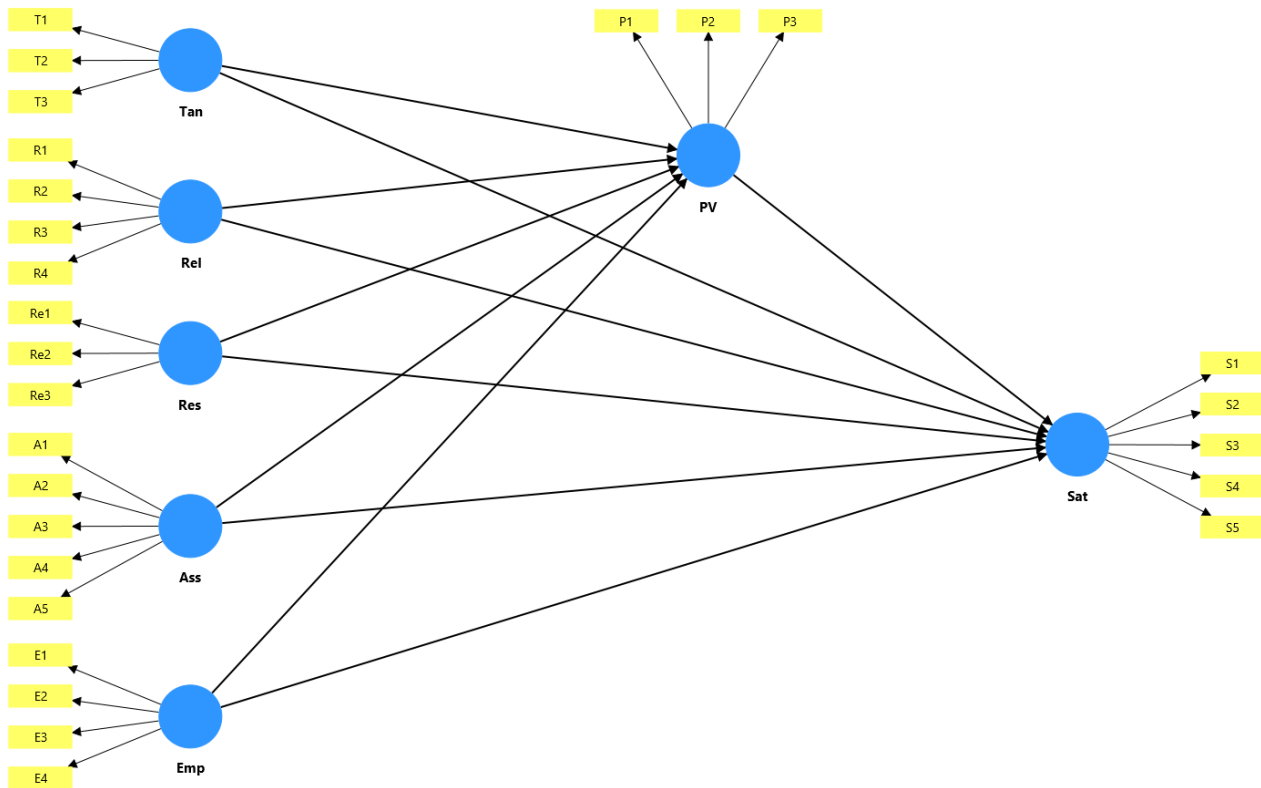


Figure 1 Research Model
Source: Processed Data, 2025

Results and Discussion

This study examined the effect of audit service quality on auditee satisfaction, with perceived value acting as a mediating variable, using the partial least squares structural equation modeling (PLS-SEM) approach. Data were collected through a structured questionnaire distributed to employees of PT PLN (Persero) who served as auditees during the 2024 audit cycle within the Internal Audit Division for Construction, Generation, and Renewable Energy. A total of 204 data entries were further processed, all of which met the completeness criteria for analysis based on the defined parameters.

Descriptive Statistics

In the study, descriptive statistics were used to evaluate responses from 204 participants regarding each construct measured via questionnaire. Respondents rated their perceptions using a five-point Likert scale, ranging from 1 (“strongly disagree”) to 5 (“strongly agree”). The descriptive results are summarized in Table I and include the mean, standard deviation, excess kurtosis, and skewness for each indicator.

Table I Descriptive Statistics

Variable	Indicator	Mean	Standard Deviation	Excess Kurtosis	Skewness
Tangibles	T1	4.137	0.650	0.630	-0.468
	T2	4.093	0.669	0.665	-0.506
	T3	4.363	0.591	-0.674	-0.316
Reliability	R1	4.338	0.640	-0.081	-0.560
	R2	4.230	0.721	1.052	-0.774
	R3	4.235	0.652	-0.232	-0.390
	R4	4.147	0.692	1.664	-0.742

Variable	Indicator	Mean	Standard Deviation	Excess Kurtosis	Skewness
Responsiveness	Re1	4.343	0.610	-0.651	-0.358
	Re2	4.260	0.697	1.931	-0.930
	Re3	4.397	0.589	-0.688	-0.390
Assurance	A1	4.333	0.662	3.045	-1.106
	A2	4.402	0.582	-0.717	-0.364
	A3	4.441	0.620	4.143	-1.270
	A4	4.368	0.575	-0.719	-0.247
	A5	4.221	0.646	-0.688	-0.247
Empathy	E1	4.250	0.603	-0.533	-0.177
	E2	4.167	0.658	0.131	-0.401
	E3	4.250	0.635	-0.101	-0.383
	E4	4.265	0.648	-0.715	-0.324
Perceived value	P1	4.211	0.700	-0.582	-0.405
	P2	4.279	0.653	-0.218	-0.468
	P3	4.245	0.671	0.086	-0.532
Satisfaction	S1	4.314	0.656	-0.203	-0.542
	S2	4.319	0.665	0.258	-0.669
	S3	4.284	0.733	1.713	-1.031
	S4	4.343	0.626	-0.000	-0.535
	S5	4.363	0.638	2.570	-0.953

As shown in Table I, the mean scores across all indicators were above 4.0, suggesting a high level of agreement and satisfaction among respondents regarding the quality of audit services, perceived value, and overall satisfaction.

Standard deviation values ranged from 0.575 to 0.733, indicating a moderate level of variation in responses, with most participants providing consistent answers. Skewness values were negative across all items, reflecting that responses tended to cluster at the higher end of the scale. This pattern implies that participants tended to strongly agree with the positive statements regarding audit service quality and satisfaction.

Furthermore, excess kurtosis values showed that several indicators _ such as those under the assurance and satisfaction constructs _ exhibited leptokurtic characteristics, marked by sharp peaks. This suggests that respondents mostly gave extremely high ratings in these items, confirming their strong approval.

In summary, the descriptive statistics were reliable and indicate a strong positive perception of the audit service quality, validating the suitability of the data for further analysis using PLS-SEM.

Measurement Model (Outer Model) Test Results

In the context of partial least squares structural equation modeling (PLS-SEM), the measurement model (outer model) evaluation is a crucial preliminary step before interpreting the structural model. The outer model test assesses the validity and reliability of latent constructs by evaluating the strength and consistency of the relationships between the constructs and their indicators. The outer model resulting from the SmartPLS analysis is presented in Figure 2.

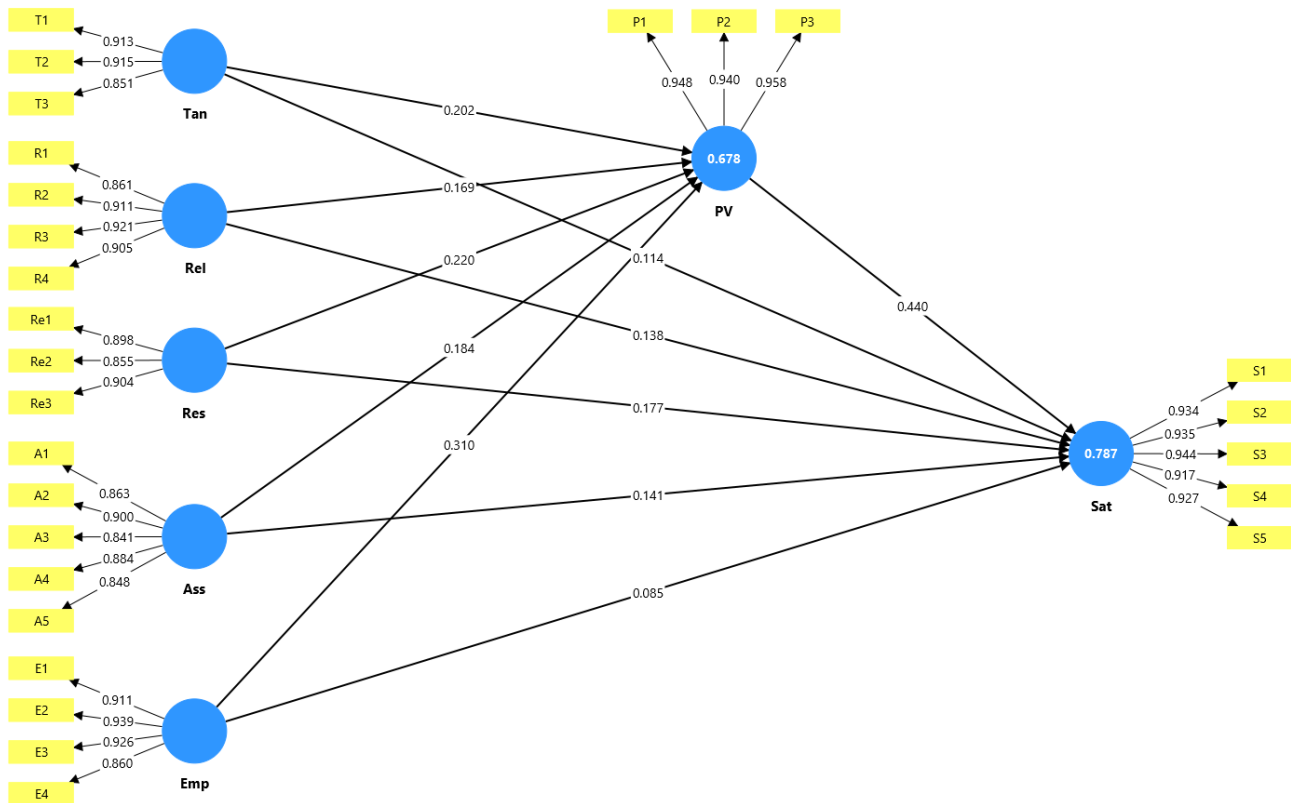


Figure 2 Outer Model
Source: Processed Data, 2025

Indicator Reliability

Indicator reliability was assessed by outer loading values for each item in the measurement model. According to Hair et al. (2022), outer loadings above 0.70 indicate that an indicator shares sufficient variance with its associated latent construct, confirming its reliability. The Indicator Reliability Analysis is summarized in Table II.

Table II Indicator Reliability

Variable	Indicator	Outer Loadings	Result
Tangibles	T1	0.913	Valid
	T2	0.915	Valid
	T3	0.851	Valid
Reliability	R1	0.861	Valid
	R2	0.911	Valid
	R3	0.921	Valid
	R4	0.905	Valid
Responsiveness	Re1	0.898	Valid
	Re2	0.855	Valid
	Re3	0.904	Valid
Assurance	A1	0.863	Valid
	A2	0.900	Valid
	A3	0.841	Valid
	A4	0.884	Valid
	A5	0.848	Valid

Variable	Indicator	Outer Loadings	Result
Empathy	E1	0.911	Valid
	E2	0.939	Valid
	E3	0.926	Valid
	E4	0.860	Valid
Perceived value	P1	0.948	Valid
	P2	0.940	Valid
	P3	0.958	Valid
Satisfaction	S1	0.934	Valid
	S2	0.935	Valid
	S3	0.944	Valid
	S4	0.917	Valid
	S5	0.927	Valid

As shown in Table II, all measurement items demonstrated outer loadings above the recommended threshold of 0.70, signifying that each indicator is a strong and consistent representation of its respective construct. For example, indicators of perceived value and satisfaction showed particularly high loading values, supporting their contribution to construct validity.

These results affirm that all indicators meet the minimum reliability requirements and provide evidence that the observed variables effectively reflect the underlying latent constructs within the reflective measurement model.

Convergent Validity

Convergent validity was evaluated using the average variance extracted (AVE) for each construct. As recommended by Hair et al. (2022), an AVE value of 0.50 or higher indicates that the construct explains more than half of the variance in its indicators, which is a strong sign of convergent validity. The convergent validity analysis is summarized in Table III.

Table III Convergent Validity

Variable	AVE	Result
Tangibles	0.799	Valid
Reliability	0.809	Valid
Responsiveness	0.785	Valid
Assurance	0.753	Valid
Empathy	0.827	Valid
Perceived value	0.899	Valid
Satisfaction	0.868	Valid

As shown in Table III, all constructs_ namely tangibles, reliability, responsiveness, assurance, empathy, perceived value, and satisfaction _ achieved AVE values well above the minimum threshold of 0.50. For instance, the AVE for satisfaction was 0.868, and perceived value was 0.899, indicating that the majority of variance in their indicators is accounted for by the construct itself.

These results confirm that the indicators within each construct share a high level of common variance and accurately measure the intended underlying concept, thereby supporting the convergent validity of the reflective measurement model.

Internal Consistency Reliability

Internal consistency reliability was assessed using Cronbach's Alpha and Composite Reliability (rho_A). According to Hair et al. (2022), values above 0.70 for these indices indicate satisfactory internal consistency among the indicators of a construct. The Internal Consistency Reliability Analysis is summarized in Table IV.

Table IV Internal Consistency Reliability

Variable	Cronbach's Alpha	Composite Reliability (rho_A)	Result
Tangibles	0.873	0.878	Valid
Reliability	0.921	0.924	Valid
Responsiveness	0.863	0.862	Valid
Assurance	0.918	0.919	Valid
Empathy	0.930	0.931	Valid
Perceived Value	0.944	0.944	Valid
Satisfaction	0.962	0.962	Valid

As shown in Table IV, all constructs—including tangibles, reliability, responsiveness, assurance, empathy, perceived value, and satisfaction—demonstrated Cronbach's alpha and composite reliability (rho_A) values well above the recommended threshold. For example, the construct satisfaction achieved Cronbach's alpha of 0.962 and a composite reliability of 0.970, signifying excellent consistency. Similarly, perceived value had a Cronbach's alpha of 0.944 and a CR of 0.964, confirming its stability and reliability. These results indicate that the indicators within each construct are highly interrelated and consistently measure the same underlying concept, thereby supporting the robustness and reliability of the reflective measurement model.

Discriminant Validity

Discriminant validity was evaluated to ensure that each construct in the model is empirically distinct from the others. Following the guidelines of Hair et al. (2022), three methods were used: the Fornell–Larcker criterion, cross-loading analysis, and the Heterotrait–Monotrait (HTMT) ratio.

The Fornell–Larcker criterion confirmed discriminant validity, as the square root of the AVE for each construct was greater than its correlations with other constructs. The Fornell–Larcker Analysis is summarized in Table V.

Table V Fornell–Larcker

Variable	Ass	Emp	PV	Rel	Res	Sat	Tan	Result
Ass	0.868							Valid
Emp	0.572	0.909						Valid
PV	0.619	0.706	0.948					Valid
Rel	0.366	0.463	0.542	0.900				Valid
Res	0.522	0.530	0.641	0.473	0.886			Valid
Sat	0.650	0.689	0.839	0.584	0.688	0.932		Valid
Tan	0.400	0.478	0.560	0.286	0.399	0.568	0.894	Valid

Note: Ass, Assurance; Emp, Empathy; PV, Perceived Value; Rel, Reliability; Res, Responsiveness; Sat, Satisfaction; Tan, Tangibles

Cross-loading analysis showed that each indicator loaded more strongly on its associated construct than on any other, indicating item-level discriminant accuracy. The cross-loading analysis is summarized in Table VI.

Table VI Cross-loading

Indicator	Tan	Rel	Res	Ass	Emp	PV	Sat	Result
T1	0.913	0.284	0.349	0.366	0.474	0.529	0.521	Valid
T2	0.915	0.262	0.325	0.347	0.438	0.524	0.512	Valid
T3	0.851	0.218	0.400	0.361	0.364	0.444	0.489	Valid
R1	0.224	0.861	0.444	0.342	0.395	0.427	0.506	Valid
R2	0.236	0.911	0.468	0.321	0.399	0.504	0.536	Valid
R3	0.284	0.921	0.405	0.365	0.442	0.540	0.536	Valid
R4	0.283	0.905	0.387	0.290	0.430	0.473	0.522	Valid
Re1	0.336	0.418	0.898	0.417	0.462	0.571	0.609	Valid
Re2	0.385	0.438	0.855	0.490	0.452	0.561	0.638	Valid
Re3	0.336	0.399	0.904	0.479	0.493	0.570	0.580	Valid
A1	0.354	0.297	0.468	0.863	0.461	0.514	0.602	Valid
A2	0.298	0.301	0.432	0.900	0.473	0.503	0.536	Valid
A3	0.355	0.331	0.452	0.841	0.480	0.511	0.543	Valid
A4	0.353	0.279	0.458	0.884	0.506	0.506	0.544	Valid
A5	0.370	0.371	0.449	0.848	0.551	0.632	0.586	Valid
E1	0.470	0.406	0.499	0.549	0.911	0.663	0.653	Valid
E2	0.444	0.398	0.461	0.541	0.939	0.637	0.660	Valid
E3	0.383	0.396	0.460	0.518	0.926	0.642	0.606	Valid
E4	0.438	0.490	0.507	0.468	0.860	0.627	0.581	Valid
P1	0.511	0.522	0.602	0.577	0.663	0.948	0.790	Valid
P2	0.537	0.519	0.608	0.588	0.668	0.940	0.777	Valid
P3	0.545	0.501	0.613	0.595	0.678	0.958	0.820	Valid
S1	0.511	0.540	0.656	0.601	0.628	0.774	0.934	Valid
S2	0.550	0.537	0.618	0.615	0.656	0.788	0.935	Valid
S3	0.531	0.529	0.659	0.612	0.614	0.806	0.944	Valid
S4	0.516	0.577	0.621	0.576	0.657	0.781	0.917	Valid
S5	0.536	0.535	0.651	0.624	0.652	0.759	0.927	Valid

Note: Ass, Assurance; Emp, Empathy; PV, Perceived Value; Rel, Reliability; Res, Responsiveness; Sat, Satisfaction; Tan, Tangibles

The Heterotrait–Monotrait (HTMT) ratio was used to assess discriminant validity, with all values falling below the conservative threshold of 0.85 (Hair et al., 2022). This indicates that each construct is empirically distinct from the others, thereby confirming that discriminant validity was satisfactorily established in the measurement model. The HTMT analysis is summarized in Table VII.

Table VII HTMT

Variable	Ass	Emp	PV	Rel	Res	Sat	Tan	Result
Ass								Valid
Emp	0.616							Valid
PV	0.660	0.754						Valid
Rel	0.396	0.502	0.579					Valid

Variable	Ass	Emp	PV	Rel	Res	Sat	Tan	Result
Res	0.585	0.592	0.710	0.531				Valid
Sat	0.690	0.728	0.880	0.620	0.755			Valid
Tan	0.446	0.528	0.615	0.317	0.461	0.619		Valid

Note: Ass, Assurance; Emp, Responsiveness; PV, Perceived Value; Rel, Reliability; Res, Responsiveness; Sat, Satisfaction; Tan, Tangibles

As shown in Tables V, VI, and VII, evaluated using the Fornell-Larcker criterion, cross-loadings, and the Heterotrait-Monotrait Ratio (HTMT), all constructs in this study demonstrated satisfactory discriminant validity, ensuring that each construct is empirically distinct from the others.

Structural Model (Inner Model)

The structural model, also known as the inner model, was assessed to evaluate the hypothesized relationships between latent variables. This phase followed the successful evaluation of the measurement (outer) model and aimed to test the predictive power and significance of the path coefficients. In accordance with Hair et al. (2022), the structural model assessment involved several key indicators: collinearity assessment, path coefficients and hypothesis testing, coefficient of determination (R^2), effect size (f^2), and predictive relevance (Q^2).

Collinearity Assessment

Collinearity among predictor constructs was examined using the variance inflation factor (VIF) to ensure that multicollinearity did not bias the path estimates. According to Hair et al. (2022), VIF values below 5.0 indicate that collinearity is not a concern in the model. The collinearity assessment analysis is summarized in Table VIII.

Table VIII Collinearity Assessment

Variable	Perceived Value	Satisfaction
Tangible	1.369	1.495
Reliability	1.405	1.494
Responsiveness	1.702	1.852
Assurance	1.678	1.783
Empathy	1.904	2.203
Perceived value		3.109

As shown in Table VIII, all VIF values for the exogenous constructs were well below the recommended threshold, confirming that the predictor variables were not highly correlated. This result supports the validity of the path coefficients and ensures the stability of the structural model estimations. The Collinearity Assessment is summarized in Table VIII.

Coefficient of Determination (R^2)

The coefficient of determination (R^2) was used to assess the explanatory power of the structural model for the endogenous constructs. According to Hair et al. (2022), R^2 values of 0.75, 0.50, and 0.25 can be interpreted as substantial, moderate, and weak levels of predictive accuracy, respectively. The coefficient of determination (R^2) analysis is summarized in Table IX.

Table IX Coefficient of Determination (R^2)

Variable	R-square	R-square adjusted	Result
Perceived value	0.678	0.670	Moderate
Satisfaction	0.787	0.780	Substantial

As shown in Table IX, the R^2 value for perceived value was 0.678, and for satisfaction it was 0.787. These values indicate that the model explains 67.8% of the variance in perceived value and 78.7% of the variance in satisfaction, which reflects a substantial level of explanatory power. This means that the dimensions of audit service quality collectively have a strong predictive effect on both perceived value and auditee satisfaction. Therefore, the structural model demonstrates a high level of reliability in explaining the relationships among constructs, supporting the validity of the proposed research framework.

Effect Size (f^2)

Effect size (f^2) was used to evaluate the individual contribution of each exogenous construct to the endogenous variables in the structural model. Following Hair et al. (2022), f^2 values of 0.02, 0.15, and 0.35 are considered small, medium, and large effects, respectively. The effect size (f^2) analysis is summarized in Table X.

Table X Effect size (f^2)

Variable	Perceived Value	Satisfaction	Effect Size (f^2)	
			Perceived Value	Satisfaction
Tangible	0.093	0.041	Small	Small
Reliability	0.063	0.060	Small	Small
Responsiveness	0.089	0.079	Small	Small
Assurance	0.062	0.052	Small	Small
Empathy	0.157	0.015	Medium	No Effect
Perceived value		0.291		Medium

The analysis revealed that responsiveness and empathy had moderate-to-large effect sizes on perceived value, indicating that these two dimensions significantly contribute to shaping respondents' perceived value of audit services. Meanwhile, perceived value exhibited a strong effect size on satisfaction, confirming its critical mediating role. Other dimensions, such as tangibles, reliability, and assurance, showed smaller but still meaningful effects. These findings suggest that while all service quality dimensions influence perceived value and satisfaction, responsiveness and empathy are the most impactful in the context of internal audit services at PT PLN (Persero).

Predictive Relevance (Q^2)

Predictive relevance (Q^2) was assessed using the blindfolding procedure to evaluate the model's predictive capability for endogenous constructs. According to Hair et al. (2022), a Q^2 value greater than zero indicates that the model has predictive relevance for a given construct. The predictive relevance (Q^2) analysis is summarized in Table XI.

Table XI Effect size (f^2)

Variable	Q^2	Predictive Relevance
Perceived value	0.656	Strong
Satisfaction	0.711	Strong

As shown in Table XI, all endogenous variables—perceived value and satisfaction—produced Q^2 values well above zero, confirming the model’s ability to predict the outcomes of interest. Specifically, the Q^2 for perceived value and satisfaction indicates that the structural model possesses a strong predictive accuracy. These results provide additional support for the model’s robustness and its suitability for predicting perceptions and satisfaction levels among audit service users in the internal audit function of PT PLN (Persero).

PLS Predict

To assess the out-of-sample model predictive performance, the study employed the PLS Predict procedure using the PLS Predict algorithm in SmartPLS. This technique evaluates how well the PLS-SEM model predicts newly observed data by comparing its performance to a benchmark model, in this case, a linear model (LM). The evaluation was based on two widely accepted prediction error metrics: Root Mean Square Error (RMSE) and Mean Absolute Error (MAE). As suggested by Hair et al. (2022), a lower RMSE or MAE for the PLS-SEM model compared to the LM indicates superior predictive accuracy. The PLS Predict analysis is summarized in Table XII.

Table XII PLS Predict

Indicator	Q^2_{predict}	PLS-SEM_RMSE	PLS-SEM_MAE	LM_RMSE	LM_MAE
P1	0.576	0.458	0.337	0.468	0.348
P2	0.591	0.420	0.311	0.451	0.330
P3	0.600	0.427	0.308	0.460	0.331
S1	0.607	0.414	0.308	0.445	0.326
S2	0.615	0.415	0.308	0.449	0.333
S3	0.606	0.463	0.340	0.480	0.363
S4	0.605	0.396	0.305	0.416	0.318
S5	0.629	0.391	0.294	0.395	0.302

Based on the results presented in Table XII, the RMSE and MAE values for the PLS-SEM model were either lower or equivalent to those of the LM across all indicators (P1–P3 and S1–S5). For example, the MAE for indicator P2 was 0.311 (PLS-SEM) versus 0.330 (LM), and for S5 it was 0.294 (PLS-SEM) versus 0.302 (LM). These differences reflect the model’s strong predictive capability.

Furthermore, the Q^2_{predict} values for all indicators were greater than 0, which, following Hair et al. (2022), confirms that the model possesses meaningful predictive relevance. Overall, these findings demonstrate that the PLS-SEM model outperforms or matches the benchmark linear model in predictive accuracy and can be considered a reliable tool for forecasting outcomes in new observations.

SRMR

The model fit was assessed using the standardized root mean square residual (SRMR), which measures the difference between the observed and predicted correlations in the model. According to Hair et al. (2022), an SRMR value below 0.08 is considered indicative of a good model fit. The SRMR analysis is summarized in Table XIII.

Table XIII SRMR

Model fit	Saturated model	Estimated model
SRMR	0.042	0.042

In this study, the SRMR value for both the saturated model and the estimated model was 0.042. This value is well below the recommended threshold, suggesting that the model has a good overall fit and the discrepancies between the observed data and the model-implied correlations are minimal. These results confirm that the structural model adequately represents the data and supports its reliability for explaining the relationships among the latent constructs analyzed in the research.

Hypothesis Testing (Path Coefficients)

The hypothesis testing was conducted through PLS-SEM bootstrapping with 5,000 subsamples using a one-tailed significance test for direct effect and a two-tailed significance test for indirect effect. The evaluation focused on path coefficients, t-statistics, and p-values to determine the statistical support for each proposed hypothesis. The primary indicator for statistical significance in this test is the p-value, with a threshold of 0.05 or lower indicating that the path coefficient is statistically significant. The hypothesis testing results obtained using the one-tailed percentile bootstrapping method for direct effect are presented in Figure 2.

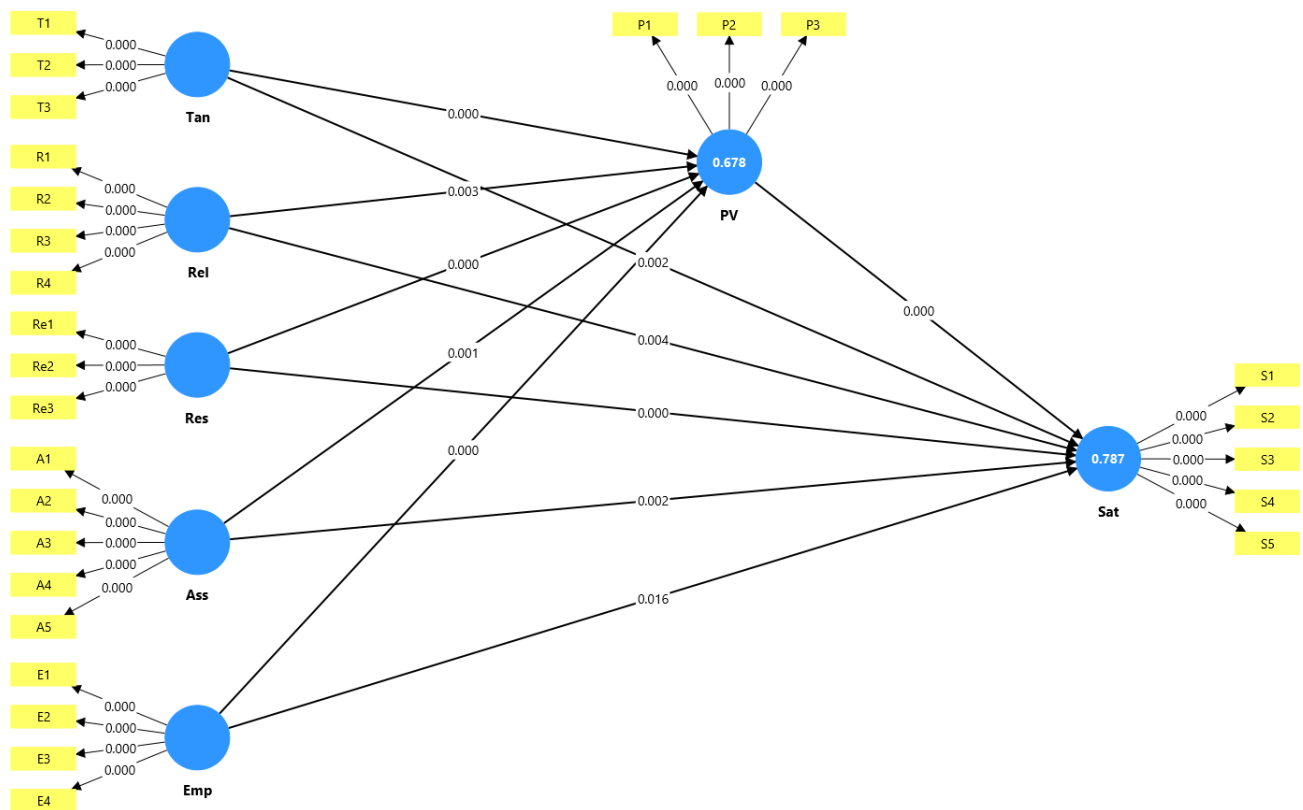


Figure 3 Hypothesis testing results for Direct Effect
Source: Processed Data, 2025

The hypothesis testing analysis for direct effect is summarized in Table XIV.

Table XIV Hypothesis Testing - Direct Effect

Hypothesis	Variable Relationship	Original sample (O)	Sample mean (M)	Standard deviation (STDEV)	T statistics (O/STDEV)	P values	Result
H1	Tan -> PV	0.202	0.203	0.048	4.231	0.000	Accepted
H2	Rel -> PV	0.169	0.164	0.061	2.749	0.003	Accepted
H3	Res -> PV	0.220	0.225	0.067	3.304	0.000	Accepted

Hypothesis	Variable Relationship	Original sample (O)	Sample mean (M)	Standard deviation (STDEV)	T statistics (O/STDEV)	P values	Result
H4	Ass -> PV	0.184	0.179	0.058	3.166	0.001	Accepted
H5	Emp -> PV	0.310	0.311	0.063	4.956	0.000	Accepted
H6	Tan -> Sat	0.114	0.114	0.041	2.812	0.002	Accepted
H7	Rel -> Sat	0.138	0.138	0.051	2.683	0.004	Accepted
H8	Res -> Sat	0.177	0.177	0.054	3.293	0.000	Accepted
H9	Ass -> Sat	0.141	0.136	0.050	2.814	0.002	Accepted
H10	Emp -> Sat	0.085	0.083	0.039	2.155	0.016	Accepted
H11	PV -> Sat	0.440	0.443	0.076	5.798	0.000	Accepted

The results of the percentile bootstrapping significance test using the one-tailed method (with the criteria $t\text{-statistic} \geq 1.645$ and $p\text{-value} < 0.05$) demonstrate that all proposed hypotheses (H1–H11) are statistically supported. The findings indicate that all SERVQUAL dimensions, tangibles, reliability, responsiveness, assurance, and empathy—significantly influence both perceived value and satisfaction. In addition, perceived value has a strong and positive effect on satisfaction.

More specifically, the findings show that empathy has the strongest impact on perceived value ($t = 4.956$, $p < 0.001$), emphasizing the importance of auditors' attentiveness and concern in shaping clients' perceived benefits of the audit service. In terms of direct effects on satisfaction, all SERVQUAL dimensions are significant, yet their effect sizes are smaller compared to the influence of perceived value. The direct path from perceived value to satisfaction ($t = 5.798$, $p < 0.001$) is the most substantial, confirming that perceived value functions as a critical determinant of client satisfaction. The hypothesis testing results obtained using the two-tailed percentile bootstrapping method for the indirect effect are presented in Figure 3.

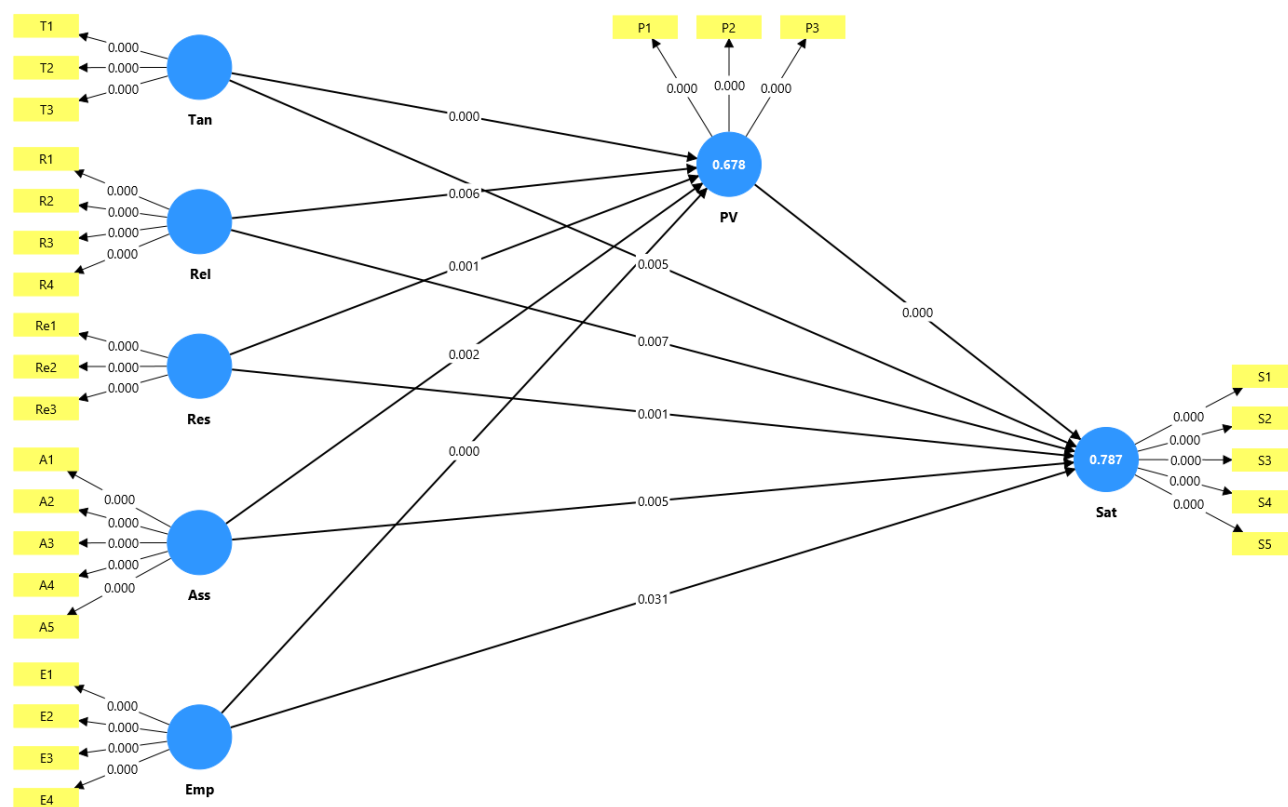


Figure 4 Hypothesis testing results for Indirect Effect
Source: Processed Data, 2025

The hypothesis testing analysis for indirect effect is summarized in Table XV.

Table XV Hypothesis Testing - Indirect Effect

Hypothesis Variable Relationship	Original sample (O)	Sample mean (M)	Standard deviation (STDEV)	T statistics (O/STDEV)	P values	Result
H12 Tan -> PV -> Sat	0.089	0.090	0.028	3.163	0.002	Accepted
H13 Rel -> PV -> Sat	0.074	0.074	0.032	2.313	0.021	Accepted
H14 Res -> PV -> Sat	0.097	0.100	0.034	2.827	0.005	Accepted
H15 Ass -> PV -> Sat	0.081	0.080	0.031	2.596	0.009	Accepted
H16 Emp -> PV -> Sat	0.136	0.137	0.035	3.937	0.000	Accepted

The result of the percentile bootstrapping significance test using the two-tailed method (t -statistic ≥ 1.960 , p -value < 0.05) confirms that all mediation hypotheses (H12–H16) are supported. Each SERVQUAL dimension—tangibles, reliability, responsiveness, assurance, and empathy—exerts an indirect effect on satisfaction through perceived value (PV), with all reported t -values exceeding the critical threshold and all p -values falling below the 0.05 level of significance.

More specifically, the indirect pathway from tangibles to satisfaction via perceived value ($t = 3.163$, $p = 0.002$) highlights the importance of physical facilities and appearance in shaping clients' perceptions of value and, consequently, their satisfaction. Similarly, reliability demonstrates a significant mediated effect ($t = 2.313$, $p = 0.021$), indicating that consistent and dependable service enhances perceived value, which then contributes to satisfaction. Responsiveness also shows a positive mediated relationship ($t = 2.827$, $p = 0.005$), reflecting that prompt and timely service responses increase perceived value and, in turn, satisfaction. The mediated effect of assurance ($t = 2.596$, $p = 0.009$) underscores the role of trust, competence, and professionalism in fostering value perceptions that strengthen satisfaction. Finally, empathy yields the strongest indirect effect ($t = 3.937$, $p < 0.001$), suggesting that attentiveness and personal care from auditors most effectively enhance perceived value, which subsequently drives client satisfaction.

This finding is consistent with Peštović et al. (2021), who found that customer-oriented behavior significantly enhances perceived audit quality. Likewise, Ismail et al. (2006) demonstrated that responsiveness and interpersonal communication are key determinants of client satisfaction toward audit firms. The present study extends these findings into the internal audit context of state-owned enterprises.

Overall, these findings reinforce the critical mediating role of perceived value in linking service quality attributes to satisfaction. Among the five SERVQUAL dimensions, empathy emerges as the most influential in shaping clients' satisfaction through perceived value, highlighting its strategic importance in service quality management.

The dominance of empathy suggests that auditees evaluate audit services not only based on technical competence but also on interpersonal interactions. In the context of internal auditing, empathy reduces resistance, strengthens communication, enhances trust, and increases perceived value. This finding supports contemporary perspectives that internal auditors should function as trusted advisors rather than faultfinders.

The findings provide meaningful managerial insights for strengthening internal audit practices within public sector organizations. To enhance the perceived value of audit services, organizations should prioritize the development of auditors' interpersonal competencies, particularly communication, responsiveness, and empathy, alongside their technical expertise. In addition, auditor performance measurements should extend beyond traditional indicators by incorporating stakeholder satisfaction as a strategic measure of audit effectiveness. Audit methodologies should also evolve from a compliance-based approach toward a value-oriented perspective that supports organizational governance, risk management, and decision-making. Ultimately, institutionalizing the purpose-driven internal audit philosophy can enable internal audit functions to operate not only as providers of assurance but also as trusted strategic partners that create sustainable value for stakeholders.

This study is subject to several limitations. First, the respondents were drawn from a single internal audit division, which may limit the breadth of institutional perspectives captured in the analysis. Second, the use of cross-sectional data restricts the ability to observe changes in auditee perceptions over time. Third, because the study was conducted within a specific organizational and public-sector context, the findings may not be fully generalizable to private-sector organizations or other institutional settings.

Beyond interpersonal competencies, digital audit technologies are becoming critical enablers of value creation in modern internal audit functions. Artificial intelligence (AI), continuous auditing, process mining, advanced data analytics, and digital dashboards empower auditors to generate faster, more accurate, and evidence-based insights while improving responsiveness, reliability, and decision support. Rather than replacing human judgment, these technologies complement auditors' communication skills, empathy, and professional expertise, thereby strengthening perceived value and enhancing auditee satisfaction. Consequently, organizations should integrate digital innovation with human-centered audit capabilities to support a purpose-driven internal audit function that delivers sustainable value through assurance, advice, insight, and foresight, as advocated by the IIA Global Internal Audit Standards (2024).

Conclusion

This study provides empirical evidence on the mediating role of perceived value in the relationship between audit service quality and auditee satisfaction within the internal audit division of PT PLN (Persero). By applying the SERVQUAL framework formative–reflective measurement model and testing it with PLS-SEM, the research advances understanding of how service quality dimensions—tangibles, reliability, responsiveness, assurance, and empathy—affect both perceived value and satisfaction. The findings highlight that all five dimensions significantly influence perceived value; in turn, perceived value serves as a strong determinant of auditee satisfaction.

Unlike previous studies that primarily examined audit service quality from compliance and financial reporting perspectives, this research demonstrates that perceived value serves as the primary psychological mechanism through which audit service quality influences auditee satisfaction within a purpose-driven internal audit environment. This finding extends the application of consumer value theory and SERVQUAL into the internal audit context of state-owned enterprises.

This study is among the first to integrate SERVQUAL, consumer value theory, and purpose-driven internal audit into a single explanatory framework for understanding auditee satisfaction in strategic state-owned enterprises. By demonstrating the psychological mechanism through which service quality enhances satisfaction, this study refines the SERVQUAL model and perceived value as a pivotal construct for evaluating professional services such as internal auditing.

The results confirm that empathy and responsiveness are the most influential service quality dimensions in shaping perceived value, while perceived value itself has the strongest effect on satisfaction. This suggests that, beyond technical competence, relational and client-oriented attributes of auditors are critical for improving the auditee's experience and fostering trust in internal audit functions. From a practical perspective, the findings imply that PT PLN (Persero) and similar organizations should prioritize strategies that enhance perceived value by focusing on auditor attentiveness, responsiveness, and professionalism. Strengthening these elements will not only align with the purpose-driven internal audit model but also bridge the gap between strategic audit objectives and auditee expectations.

Future research may extend the present study in several directions. First, subsequent studies could examine trust as an additional mediating variable to better explain the relationship between audit service quality and auditee satisfaction. Second, future research may incorporate AI-enabled internal audit practices to explore how technology influences perceived value and satisfaction. Third, comparative studies between public and private organizations are recommended to assess the generalizability of the findings across different institutional contexts. Fourth, longitudinal research designs could be employed to capture changes in auditee perceptions over time. Finally, future studies may investigate digital audit maturity as a potential factor shaping the perceived value and effectiveness of internal audit services.

Declaration of Generative Artificial Intelligence (AI) Use

"During the preparation of this work, the authors used ChatGPT (OpenAI) in order to assist in brainstorming research ideas, summarizing literature, improving academic writing, paraphrasing text, refining English grammar and style, and enhancing the clarity and coherence of the manuscript. The AI tool was used solely to support the writing process and did not replace the authors' scientific judgment, interpretation, or conclusions. After using this tool, the authors reviewed and edited all content as needed and take full responsibility for the content of the published article."

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