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Determination of Internal Auditor Performance with Job Satisfaction as a Mediator at Muhammadiyah Universities throughout Indonesia

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ABSTRACT

This study examines the influence of leadership style, professionalism, locus of control (LOC), and independence on the performance of internal auditors at Muhammadiyah and Aisyiyah Higher Education Institutions (PTM/A) in Indonesia, with job satisfaction as a mediating variable. The study uses an explanatory quantitative approach with a sample of 101 internal auditors selected through purposive sampling from various PTM/A across Indonesia. Data was analyzed using Structural Equation Model-Partial Least Square (SEM-PLS). The results indicate that leadership style and professionalism have a significant positive effect on both internal auditor performance and job satisfaction. However, locus of control and independence did not show a significant effect on auditor performance. Job satisfaction was found to effectively mediate the influence of leadership style and professionalism on performance, but did not mediate the influence of locus of control and independence. The research model demonstrates a very strong explanatory power, with R^2 values of 98.7% for job satisfaction and 62.7% for auditor performance. This study makes a significant contribution to the internal audit literature and provides a strategic foundation for institutions to strengthen leadership and professional ethics to improve organizational governance quality.

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Introduction

The complexity of governance in higher education reinforces the strategic role of internal auditors as guarantors of accountability, efficiency, and transparency, as a quality internal audit function can improve the quality of financial reporting and the efficiency of external audits (Calvin & Holt, 2023). Internal auditors not only serve as compliance supervisors but also as agents of change and consultants to management, who can adopt communication techniques and auditor-management relationships to support better decision-making and drive positive change within the organization (Nuijten, et al., 2024). This highlights the importance of internal auditors in strengthening governance and supporting organizational effectiveness through their dual role as both overseers and strategic partners to management ((Alqudah et al., 2023). At Muhammadiyah and Aisyah Universities (PTM/A), with hundreds of autonomous units, internal auditors are key to internal control (Jamil, Abidin, & Alwi, 2022). Difficulties in conducting audits, such as consistency in reporting, the effectiveness of audit-based decisions, and accountability for recommendations, remain weak (Yusun Jung & Cho, 2022). BAN-PT data shows that only 30% of 175 PTM/A have active Internal Audit Units (SPI) that submit periodic reports and strategic recommendations. The 2025 National Coordination Meeting at Umsida revealed that only 12% (21 universities) conduct audits and report financial statements through a Public Accounting Firm (KAP). A study by LP2 UMS revealed that 60% of internal auditors hold structural positions, causing role conflicts and threatening independence.

Interviews with SPI heads in seven regions found that limited human resources and a lack of understanding of governance hindered the performance of internal auditors (Renschler et al., 2023). Previous research shows that locus of control (LOC) has a significant positive influence on the performance of internal auditors in various institutional contexts. Studies examining the relationship between personality characteristics, including locus of control, and motivational preferences have found that locus of control plays a role in determining career preferences and choices in the field of auditing, which has implications for the performance ofauditors (Alves et al., 2024). In addition, the influence of locus of control on auditor ethical sensitivity has also been studied, where a positive relationship between locus of control and ethical sensitivity indicates the ability of auditors to be more effective in performing their duties ethically, which of course contributes to the overall performance of internal auditors (Johari et al., 2021). Therefore, in a broader context, locus of control can be positively and significantly associated with improved performance of internal auditors in various institutions.

Meanwhile, a report on the positive influence of Levers of Control (LOC) in Aceh and Aceh Besar, with supporting factors such as professionalism, organizational commitment, and professional ethics, using the Theory of Planned Behavior (TPB), mentions limitations in data collection and low questionnaire responses (Budiatri, 2021). Research conducted in the Riau Islands found that LOC has a significant effect, both directly and through the mediation of transformational leadership style, and this is supported by Agency Theory (Afandi et al.,2021). Djou's study shows the impact of LOC on performance in East Nusa Tenggara (NTT), but the mediation of job satisfaction is not significant, possibly due to decision conflicts, indicating that there are other external factors that affect performance (Al-Dhubaibi et al.,2024). Meanwhile, the results of research at a state-owned enterprise in Palembang state that LOC does not have a significant effect on auditor performance, even when using attribution theory, indicating that in the context of state-owned enterprises, factors such as work environment or organizational structure are more dominant (Yulius, 2022). A study in East Java supports the positive influence of LOC on performance through the perspective of Agency Theory (Guazzini et al., 2025).

Leadership style has a positive effect on internal auditor performance, but the impact is contextual (Hazaea et al., 2024). Research in Medan found a significant effect through intellectual intelligence, professional ethics, and role advantages (Hazaea et al., 2024). Research in Semarang supports these results, but uses competence and independence as companion variables (Liston-Heyes & Juillet, 2023). Both studies are based on Attribution Theory, which emphasizes the influence of external factors such as direction and work comfort (Sinha et al., 2024). Significant differences emerged in the results in Ambon, which found a positive influence in banking and in Palembang SOEs, which stated an insignificant influence because auditors tend to view leadership as an external factor, with personal motivation being the main driver (Sinha et al., 2024).

The study found a positive but insignificant effect in Kampar, presumably because auditors are more influenced by internal factors other than leadership style (Almer et al.,2023). The study also found no significant effect in Bengkulu (Hazaea et al., 2024). In contrast, the study found a significant effect through the mediation of job satisfaction (Almer et al., 2023). Research in Pekanbaru shows a positive effect, but with different supporting variables and theories (Attribution Theory vs. Agency Theory) (Almer et al., 2023). These differences indicate a research gap related to moderating variables such as independence, organizational culture, and organizational structure that need to be further investigated (Zhang & Wei, 2022; Eklöv Alander, 2023).

Professionalism has a positive and significant effect on auditor performance according to this study, which is based on the Theory of Planned Behavior and Agency Theory, emphasizing the role of attitudes, responsibility, and subjective norms in improving auditor performance (Chen et al.,2023 ; Magri & Marchini, 2023) . Professionalism reflects integrity, dedication, and trust in performing audit duties (Bhardwaj, 2022 ; Guraya et al.,2021) . However, a number of studies show different results. Research has found insignificant effects because professionalism has become a basic standard (Hazaea et al., 2024) . Other studies have also not detected significant effects, presumably due to a lack of (Brown and Millar, 2023; Susanto et al., 2022) . The following study highlights the negative impact of time pressure and continuous evaluation on auditor performance (Velte, 2022) . These variations in results indicate a research gap related to contextual factors, necessitating further research to examine the influence of professionalism in depth in various organizational contexts (Camacho et al., 2025).

Auditor independence is the attitude of being free and unbound to any party in an audit, which is important for objectivity (Eklöv Alander, 2023). Research shows that independence has a significant positive effect on internal auditor performance, reinforced by competence, ethics, and professionalism (Alqudah et al., 2023). Research supports agency theory related to independence that minimizes conflicts of interest (Rajabalizadeh & Schadewitz, 2025). However, organizational culture is considered more dominant according to Institutional Theory (Harber & Willows, 2022). Research found similar results for the Big Four KAP in Jakarta, while other studies did not find a significant effect, indicating the role of organizational context (Najaf, et al., 2023). Research also supports the positive influence of (Zhang and Wei, 2022), but some report a negative yet insignificant influence, indicating the need to explore mediating and moderating variables such as work culture and leadership support (Liston- Heyes & Juillet, 2023).

Job satisfaction acts as a mediating variable in the relationship between internal factors and auditor performance (Xiao et al.,2024). Research shows that transformational leadership style increases job satisfaction, which then mediates the relationship with performance, in line with Social Exchange Theory that emphasizes positive exchange between leaders and auditors (Serafim et al., 2024). Findings indicate that work flexibility increases satisfaction, which ultimately strengthens performance (Liu et al.,2025). Research verifies the effect of job satisfaction on performance at PT BNI, although it only mediates professionalism and work environment, not competence (Morales-García et al., 2024). The study found that locus of control significantly affects job satisfaction and mediates performance (Bernales-Turpo et al., 2022). Research supports the positive influence of job satisfaction on performance, with mediation by experience, not professionalism. However, it did not find mediation between independence and performance (Ma et al., 2022). These differing results indicate the need for further studies to uncover reinforcing or inhibiting factors in different contexts.

This study fills the gap by integrating performance and job satisfaction into a comprehensive analytical framework, particularly in Muhammadiyah universities, which are still limited in the literature. This study tests an integrated model of the influence of locus of control, leadership style, professionalism, and independence on internal auditor performance, with job satisfaction as a mediating variable, differing from previous studies that examined variables partially. The use of the PLS-SEM approach allows for simultaneous analysis of six main determinants. These findings add strong empirical evidence in the context of Indonesian higher education, particularly among Muhammadiyah universities.

Literature Review

Agency theory (Jensen and Meckling 1976)

The agency theory proposed by Jensen and Meckling (1976) explains the contractual relationship between principals (owners or task givers) and agents (executors), where this relationship is prone to conflicts of interest and information asymmetry that can affect agent performance (Hazaea et al., 2024). In the context of internal auditors at Muhammadiyah universities, auditors as agents are expected to carry out their duties with integrity, professionalism, and objectivity, even though there are personal interests that may conflict with those of the principal, such as the government or related institutions (Eklöv Alander, 2023). This agency theory is often used to examine the influence of factors such as professionalism, locus of control, and leadership style on the performance of internal auditors, as these elements can minimize the risk of conflict and improve audit quality (Hazaea et al., 2024; Chen et al., 2023). With the implementation of effective control mechanisms, conflicts of interest and moral hazard risks can be reduced, thereby contributing to increased accountability and audit quality in the Muhammadiyah higher education environment (Eklöv Alander, 2023 ; Hazaea et al., 2024). This is in line with research findings showing that a strong internal audit system and auditor professionalism can have a significant impact on improving performance and trust in the audit process (Hazaea et al., 2024).

The Theory of Planned Behavior.

The Theory of Planned Behavior (TPB) by Ajzen (1985) explains that an individual's behavioral intentions are shaped by three main factors: attitude toward the behavior, subjective norms, and perceived behavioral control (Alhamami, 2025). In the context of internal auditors at Muhammadiyah universities, attitude reflects the auditor's assessment of the importance of audit quality professionally (Jamil et al., 2022), while subjective norms indicate pressure from superiors or colleagues that influences auditor behavior (Yusop, et al.,2021). In addition, the perception of control over the auditor's ability to overcome work obstacles is also an important factor in influencing audit intentions and behavior (Dajani et al., 2022) TPB theory has been proven effective in predicting the professional behavior of auditors, including in terms of adopting new technology and assessing audit risk (Dajani et al., 2022 ; Jamil et al., 2022). By understanding these three factors, auditor performance can be improved through strengthening professional ethics, continuous training, and adequate organizational support to overcome existing obstacles (Aliedan et al.,2022) . However, challenges such as high work pressure and information asymmetry remain obstacles that internal auditors must overcome to maintain audit quality (Jamil et al., 2022 ; Yusop, et al.,2021).

Attribution theory (Heider, 1958; Weiner, 1974)

Attribution theory (Heider, 1958; Weiner, 1974) is used in analyzing the causes of audit findings by distinguishing between internal factors such as motivation, competence, and auditor independence, and external factors such as technology, time pressure, and organizational environment (Alqudah et al., 2023). This approach helps internal auditors at Muhammadiyah universities to understand whether audit performance is more influenced by the personal abilities of auditors or by systemic conditions in the work environment, so that auditors can adjust their work strategies and decision-making effectively(Liston-Heyes & Juillet, 2023). Thus, attribution theory becomes an important framework in evaluating the factors that influence the effectiveness of internal audits and in formulating appropriate actions to improve audit quality (Alqudah et al., 2023 ; Liston- Heyes & Juillet, 2023).

Internal auditor performance

Internal auditor performance can be defined as the effectiveness and ability of auditors in carrying out their duties to support the achievement of organizational goals, safeguard assets, and prevent fraud and errors in financial reporting (Zamzam2024). This performance is influenced by various factors such as auditor competence, professionalism, independence, as well as management support and adequate resources. The competence and professional behavior of internal auditors play a significant role in auditor performance, especially in today's digital era, with time budget pressure as a moderating factor that can strengthen this influence. In addition, internal auditor performance is also related to the quality of the audit performed. High audit quality can enhance the effectiveness of auditors in preventing fraud or organizational misconduct. The higher the level of independence of internal auditors in performing their duties, the better the quality of the audit results, thereby enhancing the effectiveness of auditors in preventing fraud (Lonto et al.,2023).

Job satisfaction

Job satisfaction can be defined as the positive subjective feelings that a person experiences towards their work. This includes aspects of psychological fulfillment, such as a sense of self-achievement, a sense of competence, and identification with the organization, which together have a significant impact on a person's level of satisfaction in their work. Job satisfaction is often related to both intrinsic aspects, such as internal rewards, and extrinsic aspects, such as recognition and rewards from the work environment. Job satisfaction is also influenced by factors such as opportunities for self-fulfillment, work intensity or workload, support from leaders, and relationships at work. The balance between fulfilled expectations and work reality also plays an important role in shaping an individual's job satisfaction. Thus, job satisfaction is the result of an individual's psychological evaluation of various factors related to their work and how these factors meet their personal needs and expectations (Guo et al.,2023 ; Glaveli et al., 2023).

Locus of Control (LOC)

Locus of Control (LOC) refers to an individual's perception of self-control over work outcomes, where internal auditors with internal LOC believe that audit success depends on personal competence, effort, and decisions (Caliendo et al.,2024). This belief increases motivation, job satisfaction, and the ability to overcome obstacles, thereby accelerating task completion and improving performance. In the context of Muhammadiyah universities, LOC supports behavioral intent within the framework of the Theory of Planned Behavior (TPB) and internal attribution of audit success according to attribution theory. Agency theory reinforces the importance of auditors' self-control as agents to improve audit accountability and performance. LOC serves as a crucial foundation in the interaction between competence, leadership, and effective audit governance (Liu et al., 2022 ; Sulimany, 2024).

Leadership Style

Leadership style influences internal auditor performance by shaping attitudes, motivation, and perceptions of control in performing duties, which directly impacts the effectiveness of internal audit implementation (Hazaea et al., 2024). Effective and collaborative leadership encourages optimal performance by fostering cooperation and providing clear direction, in line with agency theory, which emphasizes the importance of supervision and monitoring in reducing conflicts of interest between principals and agents (Magri & Marchini, 2023). In the context of Muhammadiyah universities, the alignment of leadership styles with organizational culture strengthens accountability and audit quality, as a supportive organizational culture enhances commitment and the effectiveness of internal audit tasks (Jung, 2022). According to Attribution Theory, auditors often attribute the success or failure of an audit to the quality of leadership, making strategic leaders crucial in fostering a work environment that supports professionalism, independence, and commitment to good governance (Lee et al.,2021). Leaders who are able to manage and motivate internal auditors will create a work climate conducive to accountable and credible decision-making. Therefore, leadership is not only a guide but also a source of inspiration and norms that influence the behavior of internal auditors in carrying out their duties professionally and independently (Donnelly & Donnelly, 2023).

Professionalism

Professionalism reflects integrity, competence, and commitment to work ethics that support the performance of internal auditors and maintain stakeholder trust (Hazaea et al., 2024). In the context of Muhammadiyah universities, professionalism is an important foundation for conducting accountable and transparent audits supported by the quality and independence of internal auditors (Kupec et al., 2021). The use of attribution theory, ethics, experience, and independence influences performance through professionalism as a mediating variable, consistent with findings that the experience and competence of internal auditors improve the quality of financial reporting and audit effectiveness (Renschler et al., 2023). This is consistent with the Theory of Planned Behavior (TPB), in which attitudes and integrity influence the intention to act ethically (Leong et al.,2022). Agency theory emphasizes that professionalism strengthens the relationship between principals and agents and reduces moral hazard risk by increasing transparency and the quality of internal controls (Hazaea et al., 2024). Although early research focused more on external auditors, these principles of professionalism are relevant in promoting a strong professional culture within Muhammadiyah universities.

Independence

The independence of internal auditors reflects objectivity in fact-based decision-making, avoids conflicts of interest, and supports the effectiveness of performance and the achievement of organizational goals in a sustainable manner (Eklöv Alander, 2023). In the Muhammadiyah university environment, independence is crucial in maintaining the integrity of the audit process (Alqudah et al., 2023). Based on organizational behavior theory, it was found that independence, professionalism, and ethics positively influence auditor performance in Indonesia (Susanto et al., 2022). In line with the Theory of Planned Behavior, an independent attitude forms objective intentions, while Attribution Theory shows that auditors associate work results with internal factors, including self-control (Johari et al.,2022). Agency theory emphasizes the role of auditors as agents who must act in the interests of principals, so that independence strengthens accountability and trust in organizational governance(Liston-Heyes & Juillet, 2023).

Hypothesis Development

Based on a comprehensive theoretical review and the research paradigm framework described above, this study formulates a set of hypotheses that describe the interrelationships between the main variables (Setiadi et al., 2025). These hypotheses are formulated to represent the direction and strength of the expected influence, which will then be verified through empirical testing to obtain systematic and accountable scientific evidence.

H1: Locus of Control has a positive effect on Internal Auditor Performance
H2: Leadership style has a positive effect on Internal Auditor Performance
H3: Professionalism has a positive effect on Internal Auditor Performance
H4: Independence has a positive effect on Internal Auditor Performance

H5: Locus of Control has a positive effect on Job Satisfaction
H6: Leadership style has a positive effect on job satisfaction
H7: Professionalism has a positive effect on job satisfaction
H8: Independence has a positive effect on job satisfaction
H9: Job satisfaction has a positive effect on internal auditor performance
H10: Job satisfaction mediates the effect of locus of control on internal auditor performance.
H11: Job satisfaction mediates the effect of leadership style on internal auditor performance.
H12: Job satisfaction mediates the effect of professionalism on internal auditor performance.
H13: Job satisfaction mediates the effect of independence on internal auditor performance.

The conceptual framework of this study is visualized in the following figure as a systematic representation of the relationships between the analyzed variables. , formulated this conceptual model based on a synthesis of relevant theoretical studies and empirical evidence from various previous studies, as described in the previous section. With this foundation, the framework serves as an analytical map that explains the flow of interrelationships, the direction of influence, and the mechanisms of interaction between variables in answering the research questions.

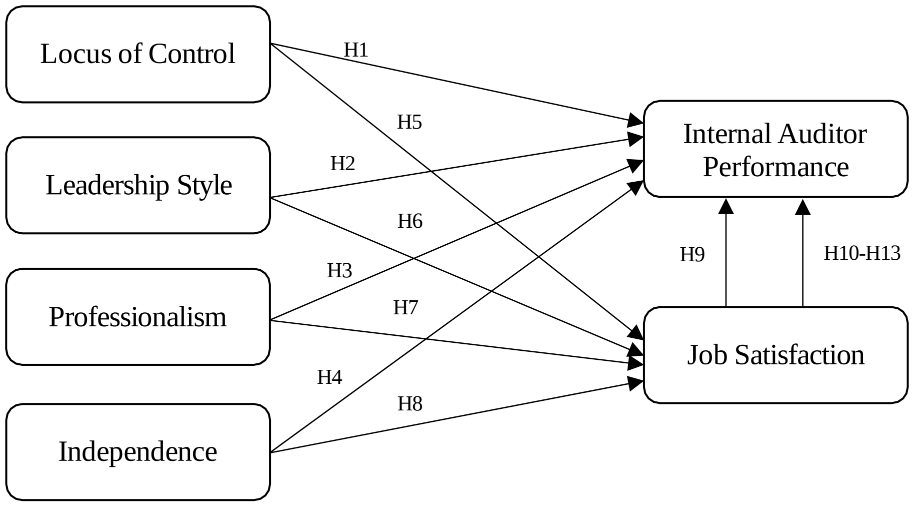

Figure 1. Research Framework

Method

This research is classified as explanatory research, which aims to examine and explain the cause-and-effect relationship between variables. Although it contains descriptive elements, the main focus of the research is on testing hypotheses to obtain an empirical understanding of the influence of one variable on another (Bentouhami et al.,2021 ; Setiadi et al., 2025). In this context, the variables analyzed include locus of control, leadership style, professionalism, and independence in relation to internal auditor performance, with job satisfaction acting as an intervening variable. Through this approach, researchers can test hypotheses quantitatively and systematically by utilizing numerical data collected using standardized research instruments. The research population includes all active internal auditors at Muhammadiyah and Aisyiyah Universities (PTM/A) in Indonesia, namely personnel who are officially members of the Internal Supervisory Unit (SPI) and are directly involved in conducting internal audits, either as permanent or ad hoc auditors. This population was selected because it is relevant to the research objective, which examines the performance of internal auditors based on internal and external factors, with job satisfaction as a mediating variable.

Sampling was conducted using purposive sampling techniques with specific criteria, including holding a senior structural or functional position in SPI PTM/A, having at least one year of audit experience, being officially registered in the SPI structure, and being willing to complete the research questionnaire (Rodrigues et al.,2022). The sample size was determined based on SEM-PLS literature, which recommends 30–100 respondents, reinforced by the Lemeshow formula, which produces a minimum of 96 respondents (Ghazali et al.,2023). To accommodate nonparametric data and bootstrapping requirements (Valachovic, 2024), from 51 Muhammadiyah and Aisyiyah Higher Education Institutions (PTM/A) spread across Indonesia, each assumed to have an active Internal Audit Unit (SPI), with a sample size of 101 respondents who completed the questionnaire.

Results and Discussion

Descriptive Analysis

Based on the descriptive analysis results, 51 Muhammadiyah and Aisyiyah Universities (PTM/A) were identified, spread across Indonesia, each assumed to have an active Internal Audit Unit (SPI). This distribution reflects the commitment of PTM/A in implementing the principles of good university governance through strengthening structured internal control functions. Geographically, the highest concentration of PTM/A is on the island of Java, particularly in Central Java (19.6%) and East Java (17.6%), followed by South Sulawesi (13.7%) as a strong representation of eastern Indonesia. Additionally, PTM/A are also evenly distributed across various other provinces, from Aceh to West Papua and South West Papua, affirming the national reach of the PTM/A network. This distribution pattern shows that the foundation for internal PTM/A supervision has been established widely and relatively evenly, while also opening up opportunities for provinces with high concentrations to become centers of reference for best practices in the management and strengthening of SPI within the PTM/A environment.

Description of Research Variable Analysis

Table 1. Descriptive Summary of Research Variables

No	Variable	Overall Average	Perception Category
1	Internal Auditor Performance	4.051	High
2	Locus of Control	3,656	Moderately High
3	Leadership Style	3,741	Fairly High
4	Professionalism	3.885	High
5	Independence	3,821	High
6	Job Satisfaction	3.758	Fairly High

The results of the descriptive analysis show that respondents' perceptions of all research variables are in the fairly high to high category, indicating that the internal control function of PTM/A has been running relatively well and effectively. The internal auditor performance variable had the highest score (average of 4.051), reflecting the auditors' ability to conduct audits in accordance with professional standards and support accountable university governance. Professionalism (3.885) and independence (3.821) also showed strong conditions, although strengthening is still needed in terms of methodological freedom and ethical consistency. The locus of control variable (3.656) indicates a tendency toward internal orientation, which is important for auditor responsibility and performance. Leadership style (3.741) is considered quite positive, but the adaptability of leaders still needs to be improved. Meanwhile, job satisfaction (3.758) is relatively good, with technological support as the main factor, although career support still needs attention.

Structural Equation Model-Partial Least Square (SEM-PLS) Analysis

This study uses six latent variables measured through 54 indicators. The analysis process was carried out by evaluating the measurement model (and structural model to test the relationship between variables in the Structural Equation Model (SEM) framework). The Partial Least Squares (PLS) approach was chosen to ensure that the testing of relationships between constructs was carried out comprehensively, resulting in reliable and valid findings**.**

Outer Model Test

Convergent validity was tested using PLS software through the factor loading value of each indicator, with a minimum limit of 0.70. In addition, the AVE and communality values must exceed 0.50 to ensure a reliable construct.

Table 2. Factor Loading Results

Indicator	Loading	Indicator	Loading
P4	0.874	P33	0.925

P5	0.897	P35	0.745
P7	0.881	P36	0.796
P8	0.716	P37	0.705
P14	0.892	P38	0.768
P15	0.782	P39	0.949
P16	0.861	P43	0.786
P17	0.756	P44	0.850
P18	0.888	P45	0.840
P19	0.857	P47	0.885
P20	0.762	P49	0.775
P21	0.881	P51	0.947
P23	0.769	P54	0.837
P26	0.774	P27	0.891
P28	0.805	P32	0.700
P29		0.752	

All indicators have a loading value ≥ 0.70, so they are declared valid and meet the convergent validity criteria in SEM-PLS analysis.

Table 3. AVE Values and Reliability

Variable	AVE	Cronbach's Alpha	Description
Locus of Control (Loc)	0.717	0.801	Valid & Reliable
Leadership Style (GP)	0.674	0.902	Valid & Reliable
Professionalism (PRO)	0.658	0.894	Valid & Reliable
Independence (INP)	0.635	0.857	Valid & Reliable
Job Satisfaction (KK)	0.718	0.934	Valid & Reliable
Internal Auditor Performance (KAI)	0.714	0.863	Valid & Reliable

The AVE values for all constructs are above the minimum threshold of 0.50, indicating that each variable meets the criteria for discriminant validity. Additionally, the Cronbach's Alpha values for all variables exceed 0.70, suggesting that all constructs in this research model are reliable and suitable for further structural analysis using SEM-PLS.

Inner Model Test

Structural model analysis aims to test the relationship between latent variables through the evaluation of path coefficients and their significance. The t-statistic value is calculated using the bootstrapping technique to assess the strength of the relationship in the research model. Based on the figures shown in the structural model, the relationship between Professionalism and Job Satisfaction shows the highest statistical t-value of 10.204, followed by Leadership Style and Job Satisfaction at 12.069, which indicates a very strong and significant influence. The relationship between Independence and Job Satisfaction is also significant with a value of 2.336, while Locus of Control on Job Satisfaction is relatively weak at 1.756 and insignificant. Regarding Internal Auditor Performance, a significant influence is shown by Leadership Style on Performance at 2.534 and Job Satisfaction on Performance at 2.280. Meanwhile, Locus of Control on Performance (1.544) and Independence on Performance (0.897) are classified as insignificant. These results confirm the dominant role of professionalism, leadership, and job satisfaction in improving internal auditor performance. The bootstrapping results can be seen as follows:

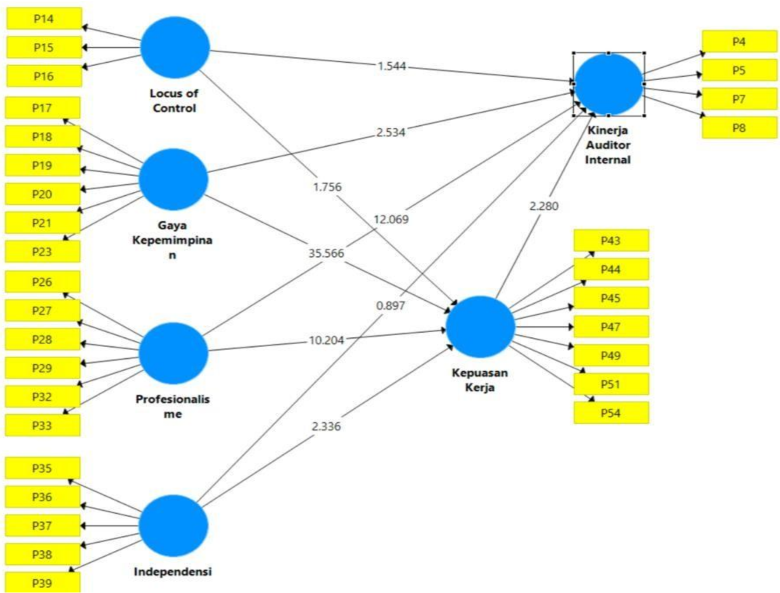

Figure 2. Bootstrapping Result

Hypothesis

Hypothesis significance was evaluated through path coefficients, t-values, p-values, and estimation parameters. The results show the direction and strength of the influence between latent variables in the research structural model.

Table 4. Results of the Test of Relationships Between Variables Direct influence

Relationship Between Variables	Original Sample (O)	t Statistics	t Table	Conclusion
LoC → KAI	0.281	1.544	1.96	Hypothesis rejected
LoC → KK	0.045	1.756	1.96	Hypothesis rejected
GP → KAI	1.044	2.534	1.96	Hypothesis accepted
GP → KK	0.964	35.566	1.96	Hypothesis accepted
PRO → KAI	0.919	12.069	1.96	Hypothesis accepted
PRO → KK	0.125	10.204	1.96	Hypothesis accepted
INP → KAI	0.058	0.897	1.96	Hypothesis rejected
INP → KK	0.032	2.336	1.96	Hypothesis accepted
KK → KAI	0.908	2.280	1.96	Hypothesis accepted

The test results show that leadership style and professionalism have a significant direct effect on both internal auditor performance and job satisfaction. Conversely, locus of control and independence do not have a direct effect on performance, although independence has a significant effect on job satisfaction. Job satisfaction has been proven to play an important role in improving internal auditor performance.

Table 5. Test Results of Indirect Influence

No	Mediation Relationship	Original Sample (O)	P-Values	Criteria	Conclusion
1	LoC → KK → KAI	0.041	0.118	> 0.05	Hypothesis rejected
2	GP → KK → KAI	0.875	0.012	< 0.05	Hypothesis accepted
3	PRO → KK → KAI	0.114	0.011	< 0.05	Hypothesis accepted
4	INP → KK → KAI	0.029	0.064	> 0.05	Hypothesis rejected

This table shows that job satisfaction mediates the influence of leadership style and professionalism on internal auditor performance but does not mediate the influence of locus of control and independence.

R-Square Test

The R-Square value indicates the amount of variation in the dependent variable that can be explained by the independent variables in the research model, as summarized in the following table to assess the strength and explanatory power of the structural model:

R-Square Test Table

Variable	R Square
Job Satisfaction (JS)	0.987
Internal Auditor Performance (IAP)	0.627

The R Square value indicates that the independent variables are able to explain 98.7% of the variation in job satisfaction and 62.7% of the variation in internal auditor performance, which indicates that the explanatory power of the model is in the very strong and moderately strong categories. This study on the determinants of internal auditor performance at Muhammadiyah and Aisyiyah Universities (PTM/A) tested 13 hypotheses to understand the dynamics of professionalism and organizational governance. The following is an in-depth discussion of each hypothesis based on the results of the analysis and support from previous studies:

Direct Influence on Internal Auditor Performance (KAI). H1: Locus of Control (LoC) on KAI (Rejected). The results show a t-value of 1.544 (< 1.96), which means that LoC does not have a significant effect on performance. This finding is in line with Yulius' (2022) research in state-owned enterprises, which states that external factors such as organizational structure are often more dominant than individual personal control. H2: Leadership Style on KAI (Accepted). With a value of t=2.534, leadership style is proven to have a significant positive effect. This supports the findings of Hazaea et al. (2024) that effective leadership direction is crucial in improving the effectiveness of internal audit tasks. H3: Professionalism on KAI (Accepted). This variable has the strongest influence with a t-value of 12.069. In line with the study by Chen et al. (2023), integrity and professional dedication are the main foundations for improving audit quality and organizational accountability. H4: Independence on KAI (Rejected). The t-value of 0.897 indicates that independence does not directly affect performance in PTM/A. This suggests that in certain institutional contexts, organizational culture may play a greater role than individual independence, similar to the argument made by Najaf et al. (2023).

Direct Effect on Job Satisfaction (JS). H5: Locus of Control on JS (Rejected). The t-value of 1.756 indicates no significant effect. This differs from several general studies, indicating that auditor satisfaction at PTM/A does not depend on their perception of self-control. H6: Leadership Style on JS (Accepted). This effect is very dominant with a t-value of 35.566. Based on Social Exchange Theory, a positive relationship between leaders and subordinates creates a sense of appreciation that directly increases job satisfaction (Serafim et al., 2024). H7: Professionalism on JS (Accepted). The t-value of 10.204 proves that professional auditors feel more satisfied with their work due to the fulfillment of ethics and competence. H8: Independence on KK (Accepted). With a t-value of 2.336, independence provides auditors with satisfaction in making objective decisions.

The Role of Job Satisfaction and Mediation. H9: Job Satisfaction on KAI (Accepted). The t-value of 2.280 confirms that job satisfaction is a driver of performance. This supports the research by Xiao et al. (2024), which states that positive feelings toward work strengthen contextual performance. H10: Mediation of KK on LoC to KAI (Rejected). The p=0.118 (> 0.05) value indicates that job satisfaction fails to bridge LoC to performance. H11: Mediation of KK on Leadership Style to KAI (Accepted). The p-value of 0.012 proves that leadership improves performance by first creating a satisfying work environment. H12: Mediation of KK on Professionalism to KAI (Accepted). With a p-value of 0.011, professionalism is proven to strengthen performance by increasing auditors' satisfaction in performing their duties ethically. H13: Mediation of KK on Independence to KAI (Rejected). The value of p=0.064 shows that although independence provides satisfaction, it does not automatically translate into improved performance through this mediation channel. Overall, leadership style and professionalism emerged as the main determinants of audit success in the PTM/A environment. To improve the performance of internal auditors, institutions need to focus on strengthening adaptive leadership styles and developing sustainable professionalism in order to create high job satisfaction.

Conclusion

This study provides an in-depth understanding of the factors that drive the success of internal auditors in higher education institutions. The main focus is on how individual characteristics and the organizational environment work together to create optimal work results in order to maintain institutional accountability. Based on the analysis results, professionalism emerges as the most fundamental pillar for an auditor. Integrity, commitment to ethics, and dedication in carrying out duties have been proven to significantly improve the overall quality of organizational supervision. In addition, an effective and collaborative leadership style plays a crucial role as a guide that provides motivation and support for auditors in facing various work obstacles. Another important aspect that was revealed is the crucial role of job satisfaction. This satisfaction serves as a bridge that strengthens the influence of leadership and professionalism on work performance. When auditors feel appreciated by their leaders and feel competent in their profession, they tend to have higher work enthusiasm, which then leads to improved task performance. Conversely, individual beliefs about self-control and independence were found to have no significant direct impact on final work results. This indicates that in the higher education institution environment, collectivity factors through leadership direction and organizational professionalism standards are far more dominant than internal psychological factors or independence alone. In conclusion, strengthening university governance is highly dependent on human resource development that focuses on professional ethics and leadership quality improvement. Creating a work environment that provides satisfaction for auditors will ensure that the supervisory function remains strong in supporting the organization's goals in a sustainable manner.

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