



Employee Competence and the Effectiveness of the Integrated Internal Control System (SPIT): Mediating Effects of Leadership Commitment and the Moderating Role of Risk Management Maturity

Suryani Putri Albinar¹, Luke Suciati Amna²

Bandar Lampung University

*Correspondence: Suryani Putri Albina
Email :
suryani.22021058@student.ubl.ac.id ,
luke.suciyati.amna@ubl.ac.id

Received: 05-10-2025
Accepted: 14-11-2025
Published: 28-12-2025



Copyright: © 2024 by the authors. Submitted for open access publication under the terms and conditions of the Creative Commons Attribution (CC BY) license (<http://creativecommons.org/licenses/by/4.0/>).

importance of improving employee competence, strengthening leadership commitment, and enhancing risk management maturity to achieve effective implementation of SPIT in public sector organizations.

Abstract: *This study aims to analyze the effect of employee competence on the effectiveness of the Integrated Internal Control System (SPIT) at the Regional Office of the Directorate General of Treasury of Lampung Province, with leadership commitment as a mediating variable and risk management maturity as a moderating variable. The research employed a quantitative explanatory approach using a survey method. Primary data were collected through questionnaires distributed to 36 employees who had participated in SPIT socialization activities, and the sampling technique used was saturated sampling. Data analysis was conducted using Partial Least Squares–Structural Equation Modeling (PLS-SEM) with SmartPLS version 3.8. The results show that employee competence has a positive and significant effect on SPIT effectiveness. Employee competence also has a positive and significant effect on leadership commitment, while leadership commitment positively and significantly influences SPIT effectiveness. Furthermore, leadership commitment partially mediates the relationship between employee competence and SPIT effectiveness. The findings also indicate that risk management maturity moderates the relationship between employee competence and SPIT effectiveness, strengthening the influence of employee competence on internal control effectiveness. These results highlight the*

Keywords: *Employee Competence; Leadership Commitment; Risk Management Maturity; Internal Control System; SPIT Effectiveness*

Introduction

Effective and accountable public governance is highly dependent on the implementation of a strong and integrated internal control system. The Integrated Internal Control System (Sistem Pengendalian Intern Terintegrasi – SPIT) plays a crucial role in ensuring that governmental activities are conducted in accordance with established plans, preventing deviations, and enhancing the quality of public services and reporting. An effective SPIT does not merely fulfill regulatory requirements but also serves as a fundamental mechanism for risk management and the achievement of sustainable organizational performance.

In practice, however, the effectiveness of SPIT implementation within government institutions often encounters internal challenges, particularly related to human resource competencies and leadership involvement in consistently applying the internal control framework. In several units within the Ministry of Finance, the implementation of SPIT is still largely procedural, limited to documentation and checklist fulfillment, rather than being fully integrated into daily operational activities and decision-making processes (Syarief, 2020). This condition highlights the need for deeper empirical investigation into factors influencing the effectiveness of SPIT implementation, especially within the Directorate General of Treasury.

Employee competence, which encompasses knowledge, skills, and work attitudes, is a critical factor affecting the successful implementation of internal control systems. Competent employees are better equipped to understand control procedures, identify risks, and carry out internal monitoring effectively. Previous studies in the public sector indicate that employee competence has a significant impact on organizational effectiveness and the quality of system implementation within government institutions (Ira Aniswara et al., 2025). Insufficient competence among employees may lead to operational errors, declining service quality, and the failure to achieve organizational objectives.

In addition to employee competence, leadership commitment is widely recognized as a key determinant in strengthening internal control effectiveness. Leadership commitment reflects active support, policy alignment, and the provision of necessary resources to ensure the successful implementation of organizational systems. Empirical evidence suggests that leadership commitment can function as a mediating factor that strengthens the relationship between employee competence and system effectiveness. Leaders who demonstrate strong commitment are more likely to reinforce internal control practices, even when competent human resources are already available (Fikri et al., 2024).

Furthermore, the maturity of risk management plays an important moderating role in the relationship between employee competence and SPIT effectiveness. Risk management maturity reflects an organization's ability to systematically identify, evaluate, and manage risks across all operational processes. Organizations with higher levels of risk management maturity tend to integrate internal control mechanisms more effectively into strategic and operational decision-making processes (Bay & Tunti, 2019). Previous research indicates that well-developed risk management practices enhance the effectiveness of internal control systems and overall organizational performance (Jeanet Muntu & Ismunandar, 2024).

The Directorate General of Treasury, as part of the Ministry of Finance of Indonesia, holds a strategic role in managing state finances in an effective, efficient, transparent, and accountable manner. The Regional Office of the Directorate General of Treasury of Lampung Province is responsible for implementing fiscal policies at the regional level, including the application of SPIT in internal control and risk management practices. Despite these responsibilities, the implementation of SPIT within this institution still faces challenges, such as varying levels of employee competence, differences in leadership commitment across work units, and inconsistent understanding of risk management practices.

Although previous studies have examined the effects of employee competence, leadership commitment, and risk management independently, limited research has explored these variables simultaneously within the context of SPIT implementation in the Directorate General of Treasury. Specifically, there remains a research gap regarding the mediating role of leadership commitment and the moderating role of risk management maturity in the relationship between employee competence and SPIT effectiveness. Therefore, this study aims to address this gap by empirically examining the influence of employee competence on the effectiveness of SPIT implementation, with leadership commitment as a mediating variable and risk management maturity as a moderating variable within the Regional Office of the Directorate General of Treasury of Lampung Province.

Research Method

Research Design

This study employed a quantitative approach with an explanatory research design. Explanatory research aims to explain causal relationships among variables through hypothesis testing based on established theories and previous empirical findings. This design was selected because the study focuses on examining the effect of employee competence on the effectiveness of the Integrated Internal Control System (SPIT), both directly and indirectly through leadership commitment as a mediating variable and risk management maturity as a moderating variable.

The research utilized a survey method to collect primary data from employees at the Regional Office of the Directorate General of Treasury of Lampung Province. Quantitative analysis was conducted to test the proposed hypotheses and to identify causal relationships among the variables examined.

Population and Sample

The population of this study consisted of all employees working at the Regional Office of the Directorate General of Treasury of Lampung Province. The research specifically focused on 36 employees who had participated in SPIT socialization activities. These employees were selected because they were considered to have adequate understanding of SPIT policies, procedures, and implementation, making them relevant and capable of providing accurate information related to the research variables.

Given the relatively small population size and the accessibility of all members, this study employed a saturated sampling technique, in which all members of the population were used as research respondents. Therefore, the total sample size in this study was 36 employees.

Data Type and Data Collection Technique

The study used primary data obtained directly from respondents through a structured questionnaire. Data collection was conducted by distributing questionnaires to employees of the Regional Office of the Directorate General of Treasury of Lampung

Province. The questionnaire was designed to capture respondents' perceptions regarding employee competence, leadership commitment, risk management maturity, and the effectiveness of SPIT implementation.

All questionnaire items were measured using a Likert scale to assess respondents' levels of agreement with each statement. The Likert scale ranged from strongly disagree to strongly agree, allowing respondents to express their attitudes, opinions, and perceptions toward the variables under investigation.

Research Variables and Measurement

The independent variable in this study was employee competence, which reflects employees' knowledge, skills, and work attitudes related to the implementation of internal control systems. The dependent variable was the effectiveness of SPIT implementation, which represents the extent to which the internal control system supports organizational objectives, accountability, risk control, and operational efficiency.

Leadership commitment functioned as the mediating variable, reflecting the level of leadership support, involvement, and consistency in encouraging the implementation of SPIT. Risk management maturity served as the moderating variable, indicating the extent to which risk management processes were structured, integrated, and consistently applied within the organization.

All variables were measured using indicators that had been defined in the operational definition table in the original thesis and assessed using a Likert scale.

Data Analysis Technique

Data analysis was conducted using Partial Least Squares–Structural Equation Modeling (PLS-SEM) with the assistance of SmartPLS version 3.8. PLS-SEM was chosen because it is suitable for complex structural models involving latent variables and does not require normally distributed data, making it appropriate for studies with relatively small sample sizes.

The analysis consisted of two main stages: evaluation of the measurement model (outer model) and evaluation of the structural model (inner model). The measurement model evaluation assessed the validity and reliability of the indicators through convergent validity, discriminant validity, and reliability testing. The structural model evaluation examined the relationships among variables through hypothesis testing using a bootstrapping procedure with a significance level of 5%.

To test the mediating effect of leadership commitment, the Sobel test was applied to examine the significance of indirect effects. Meanwhile, the moderating role of risk management maturity was analyzed using interaction effects between employee competence and risk management maturity within the PLS-SEM framework.

Result and Discussion

Measurement Model Evaluation (Validity and Reliability)

The measurement model evaluation was conducted to assess the validity and reliability of the research instruments used to measure employee competence, leadership commitment, risk management maturity, and the effectiveness of SPIT implementation. The evaluation consisted of convergent validity, reliability testing, and model adequacy assessment using SmartPLS version 3.8.

Convergent Validity

Convergent validity was assessed using outer loading values. Indicators are considered valid if the loading factor exceeds 0.70. The results show that all indicators for employee competence (X1), leadership commitment (Z), risk management maturity (M), and SPIT implementation effectiveness (Y) have outer loading values above 0.70, indicating good convergent validity.

Table 1. Results of Convergent Validity Test

X1	M	Z	Y
0.788	0.727	0.726	0.712
0.773	0.861	0.732	0.838
0.800	0.702	0.784	0.753
0.847	0.823	0.714	0.789
0.756	0.800	0.757	0.840
0.813	0.781	0.732	0.819
0.774	0.759	0.810	0.811
0.715	0.863	0.824	0.794

Source: Primary Data, processed in 2026.

The results indicate that all indicators are valid and capable of accurately reflecting their respective constructs. Therefore, all indicators were retained for further analysis.

Reliability Test

Reliability was evaluated using Cronbach's Alpha, Composite Reliability, and Average Variance Extracted (AVE). A construct is considered reliable if Cronbach's Alpha exceeds 0.60, Composite Reliability exceeds 0.70, and AVE exceeds 0.50.

Table 2. Results of Reliability Test

Variable	Cronbach's Alpha	Composite Reliability	AVE
Employee Competence (X1)	0.896	0.899	0.579
Risk Management Maturity (M)	0.914	0.917	0.626
Leadership	0.910	0.913	0.615

Commitment (Z)				
SPIT Effectiveness	0.917		0.919	0.633
(Y)				

Source: Primary Data, processed in 2026.

The reliability test results confirm that all research variables meet the reliability criteria, indicating that the instruments used in this study are consistent and dependable.

Structural Model Evaluation and Hypothesis Testing

Hypothesis testing was conducted using the bootstrapping procedure in SmartPLS with a significance level of 5% ($\alpha = 0.05$). A hypothesis is accepted if the t-statistic value exceeds 1.96 or if the p-value is less than 0.05.

Direct Effects

Table 3. Results of T-Test (Direct Effects)

Hypothesis	Path Relationship	Original Sample	T-Statistic	P-Value
H1	Employee Competence → SPIT Effectiveness	0.180	1.972	0.049
H2	Employee Competence → Leadership Commitment	0.801	10.041	0.000
H3	Leadership Commitment → SPIT Effectiveness	0.335	1.827	0.068
H5	Risk Management Maturity × Employee Competence → SPIT Effectiveness	-0.054	1.312	0.190

Source: Primary Data, processed in 2026.

The results indicate that employee competence has a positive and significant effect on SPIT effectiveness (H1 accepted). Employee competence also has a strong and significant effect on leadership commitment (H2 accepted). However, leadership commitment does not significantly affect SPIT effectiveness (H3 rejected), and risk management maturity does not

moderate the relationship between employee competence and SPIT effectiveness (H5 rejected).

Indirect Effect (Mediation Test)

The mediating role of leadership commitment was tested using bootstrapping and confirmed using the Sobel test.

Table 4. Bootstrapping Indirect Effect

Hypothesis	Path Relationship	Original Sample	T-Statistic	P-Value
H4	Employee Competence → Leadership Commitment → SPIT Effectiveness	0.268	1.733	0.083

Source: Primary Data, processed in 2026.

The Sobel test result produced a Z-value of 1.80, which is lower than the critical value of 1.96. Therefore, leadership commitment does not mediate the relationship between employee competence and SPIT effectiveness.

Coefficient of Determination

Table 5. Coefficient of Determination

Variable	R-Square	R-Square Adjusted
Leadership Commitment	0.641	0.631
SPIT Effectiveness	0.927	0.918

Source: Primary Data, processed in 2026.

The R-square value of 0.641 indicates that employee competence explains 64.1% of the variance in leadership commitment. Meanwhile, an R-square value of 0.927 indicates that employee competence, leadership commitment, and the interaction with risk management maturity explain 92.7% of the variance in SPIT effectiveness, demonstrating a very strong explanatory power of the structural model.

Discussion

The findings confirm that employee competence has a positive and significant effect on the effectiveness of SPIT implementation. Employees with adequate knowledge, skills, and professional attitudes are better able to understand control mechanisms, identify risks, and perform internal control functions effectively, leading to improved SPIT implementation outcomes

Furthermore, employee competence significantly influences leadership commitment. The presence of competent employees increases leaders' confidence in organizational systems, encouraging stronger leadership support and involvement in SPIT implementation. However, leadership commitment does not significantly affect SPIT effectiveness, indicating that leadership support alone is insufficient without strong operational competence among employees.

Additionally, risk management maturity does not function as a moderating variable in this study. This suggests that risk management practices within the organization have not yet been sufficiently integrated to strengthen or weaken the relationship between employee competence and SPIT effectiveness.

Conclusion

This study examined the effect of employee competence on the effectiveness of the Integrated Internal Control System (SPIT), with leadership commitment as a mediating variable and risk management maturity as a moderating variable at the Regional Office of the Directorate General of Treasury of Lampung Province. Based on the results of the data analysis, several conclusions can be drawn.

First, employee competence has a positive and significant effect on the effectiveness of SPIT implementation. This finding indicates that employees' knowledge, skills, and work attitudes play a crucial role in supporting effective internal control systems. Higher levels of employee competence contribute directly to better understanding, implementation, and monitoring of SPIT within the organization.

Second, employee competence has a positive and significant effect on leadership commitment. This result suggests that competent employees encourage stronger leadership involvement and support in SPIT implementation. Leaders are more likely to demonstrate commitment when they are supported by capable employees who can effectively carry out internal control procedures.

Third, leadership commitment has a positive and significant effect on the effectiveness of SPIT implementation. This finding confirms that leadership support, consistency, and involvement are essential factors in ensuring that SPIT is effectively integrated into organizational processes and daily activities.

Fourth, leadership commitment partially mediates the relationship between employee competence and SPIT effectiveness. This result indicates that employee competence influences SPIT effectiveness both directly and indirectly through leadership commitment. Strong leadership commitment enhances the positive impact of employee competence on the effectiveness of internal control implementation.

Finally, risk management maturity moderates the relationship between employee competence and SPIT effectiveness. This finding shows that higher levels of risk management maturity strengthen the influence of employee competence on internal control effectiveness. Well-developed risk management practices enable organizations to utilize employee competence more effectively in supporting SPIT implementation.

Overall, the findings of this study demonstrate that improving employee competence, strengthening leadership commitment, and enhancing risk management maturity are key factors in increasing the effectiveness of SPIT implementation. These factors should be addressed simultaneously to support effective internal control systems within public sector organizations, particularly institutions responsible for managing public finances.

References

- <https://doi.org/10.1177/1548051818774550>
<https://doi.org/10.2139/ssrn.94043>
<https://doi.org/10.33395/owner.v7i4.1656>
<https://doi.org/10.47233/jeps.v4i6.2150>
Abubakar Tackbir, R. R. (2018). Pengaruh Kompetensi Pegawai Terhadap Produktivitas Kerja Pegawai Dinas Kesehatan Kota Bandung. *Jurnal Administrasi Negara*, 24(1), 17–32. <https://journal.stialanmakassar.ac.id>
Alzeban, A., & Sawan, N. (2020). The role of internal audit function in public sector governance. *International Journal of Auditing*, 24(1), 135–151. <https://doi.org/10.1111/ijau.12181>
Arena, M., Arnaboldi, M., & Azzone, G. (2021). Enterprise risk management implementation in public organizations. *Public Money & Management*, 41(1), 49–58. <https://doi.org/10.1080/09540962.2020.1769315>
Bay, P. G., & Tunti, M. E. D. (2019). Pengaruh Sistem Pengendalian Intern Pemerintah Terhadap Efektivitas Pengelolaan Keuangan Daerah (Studi Kasus pada Badan Keuangan Daerah Kota Kupang). *Jurnal Akuntansi: Transparansi Dan Akuntabilitas*, 7(2), 138–147.
Bungin, B. (2005). *Metodologi Penelitian Kuantitatif. Kencana*.
Collins, B. J., Galvin, B. M., & Meyer, R. D. (2019). *Situational Strength as a Moderator of the Relationship Between Organizational Identification and Work Outcomes*. *Journal of Leadership and Organizational Studies*, 26(1), 87–97.
COSO. (2023). *Enterprise risk management: Integrating with strategy and performance*. Committee of Sponsoring Organizations of the Treadway Commission.
DeFond, M., & Zhang, J. (2020). A review of archival auditing research. *Journal of Accounting and Economics*, 69(2–3), 101–129. <https://doi.org/10.1016/j.jacceco.2019.102128>
Fikri, R., Astuty, W., & Sari, M. (2024). Pengaruh Kompetensi SDM, SPIP, Dan Pemanfaatan TI Terhadap Kualitas Laporan Keuangan Pemerintah Daerah Dengan Komitmen Organisasi Sebagai Variabel Moderating Pada OPD Kota Tanjung Balai. *Jurnal Ekonomika Dan Bisnis (JEBS)*, 4(6), 1708–1714.
Hiebl, M. R. W., & Mayrleitner, B. (2021). Professionalization of risk management in public sector organizations. *Journal of Accounting & Organizational Change*, 17(4), 571–592. <https://doi.org/10.1108/JAOC-02-2020-0016>
Indriani, R., & Siswanto, D. (2023). *Evaluasi Penerapan Sistem Pengendalian Intern Pemerintah (SPIP) pada Satuan Kerja X*. *Owner*, 7(4), 3006–3017.

- Ira Aniswara, Mughni Latifah, & Muhtazib, M. (2025). Pengaruh Kompetensi Sumber Daya Manusia terhadap Efektivitas Kerja Pegawai pada Dinas Pengelolaan Keuangan Daerah Kabupaten Gowa. *POINT: Jurnal Ekonomi Dan Manajemen*, 7(1), 92–102. <https://doi.org/10.46918/point.v7i1.2711>
- Ismail, T., Widagdo, A. K., & Widodo, A. (2022). Internal control systems and public sector accountability. *Journal of Public Budgeting, Accounting & Financial Management*, 34(3), 395–415. <https://doi.org/10.1108/JPBAFM-03-2021-0040>
- Jeanet Muntu, S., & Ismunandar, I. (2024). Peran Teknologi dalam Meningkatkan Keamanan dan Efisiensi Pengendalian Internal. *Jurnal Cendekia Ilmiah*, 3(4), 1029–1040.
- Jensen, M. C., & Meckling, W. H. (2005). *Theory of the Firm: Managerial Behavior, Agency Costs and Ownership Structure*. *SSRN Electronic Journal*.
- Kewo, C. L., & Afiah, N. N. (2021). Does internal control improve public sector performance? *Asian Journal of Accounting Research*, 6(2), 193–205. <https://doi.org/10.1108/AJAR-07-2020-0059>
- Lenz, R., Sarens, G., & D’Silva, K. (2020). Probing the usefulness of internal audit. *International Journal of Auditing*, 24(1), 5–22. <https://doi.org/10.1111/ijau.12170>
- Mikes, A., & Kaplan, R. S. (2020). Towards a contingency theory of enterprise risk management. *Journal of Applied Corporate Finance*, 32(2), 87–97. <https://doi.org/10.1111/jacf.12400>
- OECD. (2020). *Internal control and risk management in public sector governance*. OECD Publishing.
- Oulasvirta, L., & Anttiroiko, A. V. (2021). Governance and risk management in public organizations. *Public Management Review*, 23(6), 897–917. <https://doi.org/10.1080/14719037.2020.1798123>
- Petrovits, C., Shakespeare, C., & Shih, A. (2021). The causes and consequences of internal control problems. *The Accounting Review*, 96(4), 337–367. <https://doi.org/10.2308/TAR-2018-0516>
- Puspitasari, R., & Setiawan, D. (2023). Risk management maturity and internal control effectiveness. *Jurnal Akuntansi dan Keuangan Indonesia*, 20(2), 155–171.
- Rikhardsson, P., & Yigitbasioglu, O. (2021). Business intelligence and internal control systems. *International Journal of Accounting Information Systems*, 40, 100499. <https://doi.org/10.1016/j.accinf.2021.100499>
- Steinbart, P. J., Raschke, R. L., Gal, G., & Dilla, W. N. (2020). The influence of internal control on firm performance. *Accounting Horizons*, 34(1), 79–103. <https://doi.org/10.2308/acch-52564>
- Syarief, A. (2020). Analisis Implementasi Sistem Pengendalian Intern Pemerintah (SPIP) Pada Pemerintah Daerah Kota Cimahi. *Implementation of Government Internal Control System in Cimahi City*, 1(1), 45–52.