



Competency and Task Complexity Effects on Procurement Employee Performance with Locus of Control as Moderator

Azwandi^{1*}, Wibisono², Nurhatisyah³

^{1,2,3}Batam University, Indonesia

*Corresponding author: azwandi.anambas@gmail.com |

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Abstract

Purpose: This study aims to analyze the direct and indirect effects of competence and task complexity on procurement employee performance through locus of control.

Research Methodology: The study involved 41 employees of the Goods and Services Procurement Bureau of Riau Islands Province and used descriptive statistics and SEM-PLS analysis with Smart-PLS.

Results: Competence does not directly affect procurement employee performance, but its effect becomes significantly positive when moderated by locus of control. Task complexity has a positive and significant effect on performance, both directly and through the moderating role of locus of control. In addition, locus of control significantly improves employee performance, indicating that stronger internal control orientation enhances procurement performance.

Conclusions: This study concludes that task complexity and locus of control significantly improve procurement performance, while competence has no direct significant effect. However, competence affects performance indirectly through locus of control, indicating that employees' self-control ability strengthens the role of competence in improving procurement performance.

Limitations: This study is limited to 41 employees of the Goods and Services Procurement Bureau of Riau Islands Province; therefore, the findings may not be generalizable to other government institutions.

Contributions: This study contributes to public sector human resource management by highlighting the role of locus of control in strengthening procurement employee performance.

Keywords: *Competence, Employee Performance, Locus of Control, Procurement Employees, Task Complexity*

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1. Introduction

The development of bureaucracy in Indonesia has not yet fully achieved the expected outcomes of bureaucratic reform. Although various reform agendas have been implemented, several structural and managerial problems remain evident, including weak bureaucratic capacity, complex administrative procedures, limited transparency, and insufficient accountability in public service delivery (Rodhi, 2025). These conditions indicate that bureaucratic reform cannot be carried out partially, but requires comprehensive and continuous improvement in order to create a government system that is more responsive, efficient, professional, and oriented toward public needs. In this context, the quality of public

services provided by government institutions must continue to improve over time so that public trust in the bureaucracy can be strengthened (Akbar et al., 2025).

The Ministry of Administrative and Bureaucratic Reform has emphasized that the State Civil Apparatus must uphold the core values of BerAKHLAK, namely being service-oriented, accountable, competent, harmonious, loyal, adaptive, and collaborative. These values are expected to become the foundation for building a more resilient and professional bureaucracy, especially in responding to increasingly complex public demands. To support this agenda, the government needs to prepare competent and professional human resources who are able to carry out their duties effectively and adapt to changes in the public administration environment. Human resource development is therefore an important element in ensuring that bureaucratic reform can be implemented successfully (Rodhi, 2025).

The need for competent human resources is also highly relevant in the field of government goods and services procurement. Procurement activities play a strategic role because they are closely related to the effectiveness of budget use, the quality of public services, and the accountability of government programs (Asaduzzaman et al., 2025). In accordance with LKPP Circular Letter Number 8 of 2020 concerning the typology of commitment-making officials and competency standards for government goods/services procurement, officials involved in procurement management are required to meet specific competency standards. These standards are intended to ensure that procurement officials are able to carry out procurement processes professionally, transparently, and in accordance with applicable regulations (Maliah et al., 2025).

However, the availability of competent human resources in the field of goods and services procurement remains a challenge for the Riau Islands Provincial Government (Mulyadi et al., 2025). At present, the competency typology of procurement managers, particularly Commitment Making Officials, is still dominated by typology C, while typologies A and B are not yet available. This condition reflects a competency gap that must be addressed through systematic human resource development, training, certification, and institutional support. If this issue is not properly managed, it may affect the effectiveness of procurement implementation and the overall performance of employees responsible for goods and services procurement.

In addition to competence, task complexity is also an important factor that can influence employee performance in the procurement sector (Feryanto et al., 2025). Procurement employees are often faced with tasks that require technical understanding, regulatory compliance, decision-making accuracy, coordination with various stakeholders, and the ability to manage risks (Surya et al., 2024; Wijayanto & Purnomo, 2023). The higher the complexity of the task, the greater the demand for employees to demonstrate analytical ability, responsibility, and self-control. Therefore, employee performance in procurement is not only determined by competence, but also by the ability to manage complex tasks effectively (Magno & Lestari, 2023; Marlita et al., 2025).

Locus of control is considered an important psychological factor that may strengthen or weaken the relationship between competence, task complexity, and employee performance (Annisa & Ginarti, 2023). Employees with a strong internal locus of control tend to believe that their success is influenced by their own effort, ability, and decision-making (Caliendo et al., 2022; Winarko & Purnomo, 2023). In contrast, employees with an external locus of control may perceive that their performance is largely determined by external factors beyond their control. Thus, locus of control may function as a moderating variable that determines how competence and task complexity influence employee performance (Botha & Dahmann, 2024).

Based on the background above, this study formulates two main research problems. First, how do competence and task complexity directly influence the performance of goods and services procurement

employees in the Riau Islands Province? Second, how do competence and task complexity indirectly influence employee performance through locus of control? These questions are important to examine because employee performance in procurement is influenced not only by technical capability but also by psychological factors that shape employee behavior in dealing with work demands.

Therefore, this study aims to determine and analyze the direct influence of competence and task complexity on the performance of goods and services procurement employees in the Riau Islands Province. In addition, this study also aims to analyze the indirect influence of competence and task complexity on employee performance through locus of control as a moderating variable. The findings of this study are expected to provide theoretical contributions to human resource management studies, particularly in the field of public sector procurement, and practical recommendations for improving employee competence, managing task complexity, and strengthening employee performance in government institutions.

2. Literature Review

2.1 Competence

Competence refers to the knowledge, skills, attitudes, and abilities possessed by employees in carrying out their duties effectively. In the context of public sector procurement, competence is highly important because procurement employees are required to understand regulations, administrative procedures, technical specifications, and accountability principles (Sari et al., 2025; Sumaryadi & Kusnadi, 2021). Competent employees are expected to be able to complete procurement tasks accurately, transparently, and in accordance with applicable rules. The importance of competence is also emphasized in government procurement regulations, particularly through competency standards for commitment-making officials (Qizi, 2025; Supardi, 2023). In this study, competence is positioned as one of the main factors influencing procurement performance and locus of control. However, the findings show that competence does not directly have a significant effect on performance, but becomes significant when mediated by locus of control (Hairul et al., 2024; Salikhovna, 2025).

2.2 Task Complexity

Task complexity refers to the level of difficulty, variety, and uncertainty involved in completing work assignments. In goods and services procurement, task complexity may arise from regulatory requirements, coordination with multiple stakeholders, technical evaluation, budget limitations, and the need to ensure transparency and accountability (Chen et al., 2023; Wang et al., 2023). The more complex the task, the greater the demand for employees to use analytical skills, accuracy, and responsibility. In this study, task complexity has a positive and significant effect on procurement performance (Cheng et al., 2022). This indicates that higher task complexity can encourage employees to improve their work performance when they are able to manage work demands properly. Task complexity also has a significant effect on locus of control, meaning that complex work situations can strengthen employees' ability to control, evaluate, and direct their work behavior (Chen et al., 2024; Salihu et al., 2022).

2.3 Locus of Control

Locus of control is a psychological concept that describes the extent to which individuals believe that their success or failure is influenced by their own actions or by external factors. Employees with strong internal locus of control tend to believe that performance outcomes depend on their effort, ability, and decisions. In contrast, employees with external locus of control tend to view outcomes as influenced by luck, authority, or external conditions (Caliendo et al., 2022). In procurement activities, locus of control is important because employees must make decisions, solve problems, and ensure compliance with regulations. The findings of this study show that locus of control has a positive and significant effect on procurement performance. This means that employees with stronger locus of control are more

likely to perform better because they have greater confidence, responsibility, and control over their work outcomes (Jumiati & Kartiko, 2022).

2.4 Procurement Performance

Procurement performance reflects the ability of procurement employees to complete goods and services procurement processes effectively, efficiently, transparently, and accountably (Changalima & Mdee, 2023). Good procurement performance is important because procurement activities are closely related to public budget management, service quality, and institutional accountability. Therefore, procurement performance must be supported by competent human resources, clear procedures, and strong psychological readiness (Jaffu & Changalima, 2023). Employee performance in procurement is influenced by both technical and psychological factors. Technical factors include competence and the ability to handle complex tasks, while psychological factors include locus of control. This study shows that procurement performance is directly influenced by task complexity and locus of control, while competence influences performance indirectly through locus of control (Botha & Dahmann, 2024; Kustiawan & Ghazalie, 2025).

2.5 Relationship among Competence, Task Complexity, Locus of Control, and Performance

Competence and task complexity are important factors in determining procurement performance. Competence provides employees with the technical ability to perform tasks, while task complexity encourages employees to improve their problem-solving capacity (Qizi, 2025). However, competence alone may not be sufficient to improve performance if employees do not have strong self-control and confidence in managing their responsibilities (Muhwezi et al., 2023). Locus of control plays an important role in linking competence to procurement performance. The findings show that competence becomes significant when mediated by locus of control, indicating that competent employees need strong internal control to translate their abilities into better performance. Meanwhile, task complexity directly affects performance, meaning that its influence does not depend on locus of control as a mediating variable (Asaduzzaman et al., 2025; Caliendo et al., 2022).

3. Methodology

This research is classified as a US ex-post fact research, and is causal associative in nature using a quantitative approach. The research was conducted at the Goods and Services Procurement Bureau of the Regional Secretariat of the Riau Islands Province. The research will be carried out for 3 (three) months, from June to August 2024. The population in this study is all employees of the Bureau of Procurement of Goods and Services of the Regional Secretariat of the Riau Islands Province, totaling 41 employees. The sample is part of the population, because the population is less than 100, the entire population is sampled, thus the sample for this study is 41 people, and sampling was carried out using the saturated sample method, or census method.

The theoretical analysis uses an empirical review of previous research, theoretical mapping, and data analysis is carried out using partial least squares (PLS), a component or variant-based structural equation modeling (SEM). The Structural Equation Model (SEM) is a statistical method that can test a series of relationships that are relatively difficult to measure simultaneously. Metric data are numeric or contain numbers and can be used for mathematical calculations, such as test scores, IQ levels, and body weight. Metric data are also called numerical or quantitative data (Ghozali, 2014).

1. Measurement Model (Outer Model) Internal consistency (internal consistency)/composite reliability, Convergent Validity (average variance extracted / AVE), and Discriminant Validity (discriminant validity).
2. Structural Model Analysis (Inner Model) (1) Collinearity (collinearity / variance inflation factor /

VIF), (2) Testing the significance of the structural model path coefficient (structural model path coefficient), (3) Coefficient Determination (R-Square).

4. Results and Discussion

4.1 Inner Model Evaluation

The results obtained from the questionnaire distributed to respondents, namely employees at the Bureau of Goods and Services Procurement of the Regional Secretariat of the Riau Islands Province, from each of these variables, it can be explained that descriptive statistical analysis shows that the respondents' responses are related to the assessment of employee perceptions of their level of competence employees obtained an average value from the total score of respondents' responses of 3.54 with the criteria of less agree to agree. The results of the respondents show that, in general, employees of the Goods and Services Procurement Bureau of the Regional Secretariat of the Riau Islands Province have the perception that the competence of both the Commitment Making Officer (PPK) and the Working Group (Working Group) for procurement of goods and services in the Riau Islands Province is competent but not adequate or according to needs because there are still some employees who do not agree with this statement.

Table 1. Results of Research Instrument Validity Testing

Construct	Indicator	Outer Loading	AVE	Conclusion
Competence/Ability	KOM 1	0.958	0.891	Valid
	KOM 2	0.902		Valid
	KOM 3	0.947		Valid
	KOM 4	0.920		Valid
Task Complexity	KT 1	0.956	0.906	Valid
	KT 2	0.967		Valid
	KT 3	0.948		Valid
	KT 4	0.964		Valid
	KT 5	0.924		Valid
Performance	K 1	0.923	0.842	Valid
	K 2	0.939		Valid
	K 3	0.931		Valid
	K 4	0.959		Valid
	K 5	0.966		Valid
Locus of Control	LOC 1	0.953	0.908	Valid
	LOC 2	0.973		Valid
	LOC 3	0.930		Valid
	LOC 4	0.963		Valid
	LOC 5	0.946		Valid

Source: Results of Questionnaire Data Processing

From Table 1, it can be concluded that the results of validity testing for the indicators of each variable studied, namely the variables of competence, task complexity, locus of control, and performance, each have a valid statement, because all indicators of each variable have a value. loading factor was above 0.7. Validity testing was then conducted using the convergent method. Table 3 shows the results of convergent validity testing, which shows that the factor-loading value and Average Variance Extracted (AVE) value of each indicator is above 0.5 (AVE > 0.5). Reliability testing in this research was carried out using Cronbach's alpha (CA) and Composite Reliability (CR) values. According to Hair et al. (2014), an instrument is said to be reliable when the CA and CR values are > 0.7. The results of testing the

reliability of the instrument for each variable are presented in Table 2.

Table 2. Reliability Test Results

Construct Reliability and Validity	Cronbach's Alpha	ρ_A	Composite Reliability	Average Variance Extracted (AVE)
PERF	0.969	0.970	0.976	0.891
KOM	0.974	0.974	0.980	0.906
TASK	0.953	0.956	0.964	0.842
LOC	0.975	0.976	0.980	0.908

Source: Results of Questionnaire Data Processing

From Table 2, it can be seen that the results of the instrument reliability assessment of the competency, task complexity, locus of control, and employee performance variables have Cronbach's alpha (CA) and Composite Reliability (CR) values greater than 0.5.

Table 3. Discriminant Validity

	PERF	COM	TC	LOC
PERF	0.944			
COM	0.888	0.952		
TC	0.911	0.875	0.917	
LOC	0.940	0.903	0.915	0.953

Based on Table 3, it can be explained that all the square values of the AVE values (numbers in bold) are greater than the highest correlation of a variable with other variables. Therefore, it can be concluded that all research variables have good discriminant validity.

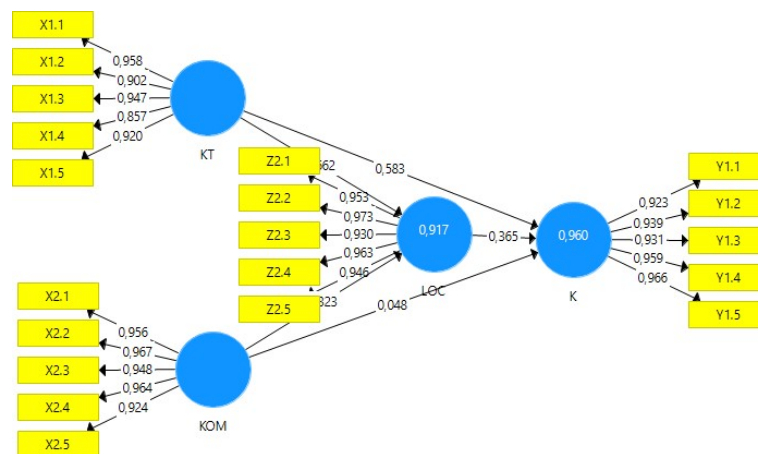


Figure 1. Coefficient of Determination (R-Square)

Based on Figure 1, the structural model shows that Task Complexity (KT) has a positive effect on Performance (K) with a coefficient of 0.583, while Competence (KOM) has a weaker direct effect on performance with a coefficient of 0.048. Locus of Control (LOC) also positively affects performance with a coefficient of 0.365. In addition, KT and KOM influence LOC, which indicates that locus of control plays an important role in strengthening employee performance. The R^2 values of 0.917 for LOC and 0.960 for performance show that the model has strong explanatory power.

Table 4. Direct Effect

Relationship	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics	P Values
COM → PERF	0.048	0.078	0.128	0.376	0.353
COM → LOC	0.323	0.312	0.155	2.091	0.019
TASK → PERF	0.583	0.563	0.174	3.345	0.000
TASK → LOC	0.662	0.673	0.145	4.578	0.000
LOC → PERF	0.365	0.357	0.173	2,110	0.018

Source: Results of Questionnaire Data Processing

Based on Table 4, competence has a positive but insignificant effect on performance, as shown by the coefficient value of 0.048, T-statistic of 0.376, and p-value of 0.353. Meanwhile, competence has a positive and significant effect on locus of control, with a coefficient of 0.323 and p-value of 0.019. Task complexity has a positive and significant effect on performance, with a coefficient of 0.583 and p-value of 0.000. Task complexity also significantly affects locus of control, with a coefficient of 0.662 and p-value of 0.000. In addition, locus of control has a positive and significant effect on performance, with a coefficient of 0.365 and p-value of 0.018. These results indicate that task complexity and locus of control play important roles in improving procurement employee performance.

4.2 Direct Influence

1. Competency on Performance

Based on the data presented in Table 4, competence has a positive but insignificant effect on the performance of goods and services procurement employees at the Bureau of Goods and Services Procurement of the Regional Secretariat of Riau Islands Province. This is shown by the coefficient value of 0.048 and the significance value of 0.353, with a probability value of $p = 0.353 > 0.05$. Therefore, H_0 is accepted, meaning that the effect of competence on performance is not significant.

2. Competence on Locus of Control

Based on the data presented in Table 4, competence has a positive and significant effect on locus of control, with a coefficient value of 0.323 and a significance value of 0.019. Since the probability value is $p = 0.019 < 0.05$, it can be concluded that an increase in competence will also increase locus of control. Therefore, H_0 is rejected.

3. Task Complexity on Performance

Based on the data presented in Table 4, task complexity has a positive and significant effect on procurement performance, with a coefficient value of 0.583 and a significance value of 0.000. Since the probability value is $p = 0.000 < 0.05$, it can be concluded that an increase in task complexity will also improve the performance of goods and services procurement employees. Therefore, H_0 is rejected.

4. Task Complexity on Locus of Control

Based on the data presented in Table 4, task complexity has a positive and significant effect on locus of control, with a coefficient value of 0.662 and a significance value of 0.000. Since the probability value is $p = 0.000 < 0.05$, it can be concluded that an increase in task complexity will also increase locus of control. Therefore, H_0 is rejected.

5. Locus of Control on Performance

Based on the data presented in Table 4, locus of control has a positive and significant effect on procurement performance, with a coefficient value of 0.365 and a significance value of 0.018. Since the probability value is $p = 0.018 < 0.05$, it can be concluded that an increase in locus of

control will improve procurement performance. Therefore, H_0 is rejected.

Table 5. Indirect Effect

Relationship	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics	P Values
COM → PERF	0.118	0.100	0.066	1.785	0.037
COM → LOC					
TASK → PERF	0.242	0.250	0.155	1.557	0.060
TASK → LOC					
LOC → PERF					

Source: Results of Questionnaire Data Processing

Based on Table 5, the indirect effect of competence on performance through locus of control is positive and significant, with an original sample value of 0.118, T-statistic of 1.785, and p-value of 0.037. This indicates that locus of control can mediate the relationship between competence and procurement employee performance. Meanwhile, the indirect effect of task complexity on performance through locus of control is positive but not significant, with an original sample value of 0.242, T-statistic of 1.557, and p-value of 0.060. Thus, task complexity tends to improve performance through locus of control, but the effect is not statistically significant at the 5% level.

4.3 Indirect Influence

1. Competence on Performance Mediated by Locus of Control

Based on the data presented in Table 5, the effect of competence on the performance of goods and services procurement employees through locus of control has a positive and significant effect, with a coefficient value of 0.118 and a significance value of 0.037. Since the probability value is $p = 0.037 < 0.05$, it can be concluded that the effect occurs indirectly through an intervening variable. This indicates that locus of control plays a role in mediating the relationship between competence and the performance of goods and services procurement employees at the Goods and Services Procurement Bureau of the Regional Secretariat of Riau Islands Province. The direct effect of competence on procurement performance is not significant; however, when mediated by locus of control, the effect becomes significant.

2. Task Complexity on Performance Mediated by Locus of Control

Based on the data presented in Table 5, the effect of task complexity on the performance of goods and services procurement employees through locus of control has a positive but insignificant effect, with a coefficient value of 0.242 and a significance value of 0.060. Since the probability value is $p = 0.060 > 0.05$, it can be concluded that locus of control does not mediate the relationship between task complexity and the performance of goods and services procurement employees at the Goods and Services Procurement Bureau of the Regional Secretariat of Riau Islands Province. The direct effect of task complexity on procurement performance is significant, but when mediated by locus of control, the effect becomes insignificant.

Table 6. Results of the Coefficient of Determination (R-Square)

Variable	R Square	R Square Adjusted
PERF	0.960	0.956
LOC	0.917	0.913

Source: Results of Questionnaire Data Processing

From Figure 1 and Table 6, the adjusted R^2 value for the performance variable is 0.956. This means

that competence, task complexity, and locus of control are able to explain the performance of goods and services procurement employees by 95.6%, while the remaining 4.4% is explained by other variables not examined in this research model.

Furthermore, the adjusted R^2 value for the locus of control variable is 0.913. This indicates that competence and task complexity are able to explain locus of control by 91.3%, while the remaining 8.7% is explained by other variables outside this study. Based on these results, the model has very strong explanatory power because the adjusted R^2 values for both the dependent and intervening variables are above 75%.

5. Conclusions

The research results show that the competence of PPK and Pokja at the Goods and Services Procurement Bureau of the Regional Secretariat of Riau Islands Province has a positive but insignificant effect on procurement performance. However, competence has a positive and significant effect on locus of control, meaning that higher competence can strengthen employees' locus of control. In addition, task complexity has a positive and significant effect on both procurement performance and locus of control, indicating that more complex tasks can encourage better performance and stronger self-control among employees.

The results also show that locus of control has a positive and significant effect on procurement performance. Furthermore, locus of control mediates the relationship between competence and procurement performance, meaning that competence improves performance indirectly through locus of control. However, locus of control does not mediate the relationship between task complexity and procurement performance because the effect of task complexity on performance occurs directly.

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Author Contributions

A contributed to conceptualization, methodology, data collection, formal analysis, and writing of the original draft. W was responsible for supervision, validation, data interpretation, manuscript review, and editing. N contributed to data curation, literature review, manuscript revision, and final approval of the article.

Conflicts of Interest

The authors declare that there is no conflict of interest regarding the publication of this study. This research was conducted independently, and no financial or personal relationships influenced the results or interpretation of the findings.

References

- Akbar, R. S., Abdurahman, A., Nursanto, G. A., & Hartati, B. (2025). Digitalization, organizational change, and human resource management at the immigration polytechnic. *Annals of Human Resource Management Research*, 5(3), 1–12. <https://doi.org/10.35912/ahrmr.v5i3.2838>
- Annisa, N. N., & Ginarti, S. (2023). Employee performance: Self-efficacy and locus of control. *International Journal on Social Science, Economics and Art*, 12(4), 200–206. <https://doi.org/10.35335/ijosea.v12i4.181>
- Asaduzzaman, M., Ismail, S., & Ahmad, H. (2025). Impact of adhering to public procurement principles on procurement performance in bangladesh. *Journal of Public Procurement*, 25(2), 299–320. <https://doi.org/10.1108/JOPP-09-2024-0104>
- Botha, F., & Dahmann, S. C. (2024). Locus of control, self-control, and health outcomes. *SSM-Population Health*, 25, 101566. <https://doi.org/10.1016/j.ssmph.2023.101566>
- Caliendo, M., Cobb-Clark, D. A., Obst, C., Seitz, H., & Uhlendorff, A. (2022). Locus of control and investment in training. *Journal of Human Resources*, 57(4), 1311–1349. <https://doi.org/10.3368/jhr.57.4.0318-9377r2>
- Changalima, I. A., & Mdee, A. E. (2023). Procurement skills and procurement performance in public organizations: The mediating role of procurement planning. *Cogent Business & Management*, 10(1), 2163562. <https://doi.org/10.1080/23311975.2022.2163562>
- Chen, J., Yang, Y., & Yu, J. (2024). Task complexity, organizational size, and performance: An examination of the US state budget agencies. *Public Management Review*, 26(4), 837–862. <https://doi.org/10.1080/14719037.2022.2116093>
- Chen, O., Paas, F., & Sweller, J. (2023). A cognitive load theory approach to defining and measuring task complexity through element interactivity. *Educational Psychology Review*, 35(2), 63. <https://doi.org/10.1007/s10648-023-09782-w>
- Cheng, X., Bao, Y., Zarifis, A., Gong, W., & Mou, J. (2022). Exploring consumers' response to text-based chatbots in e-commerce: The moderating role of task complexity and chatbot disclosure. *Internet Research*, 32(2), 496–517. <https://doi.org/10.1108/INTR-08-2020-0460>
- Feryanto, M., Mulyanti, R. Y., & Soma, A. M. (2025). The effect of training and work experience on performance: The mediating role of competence at PT chandra asri pacific. *Annals of Human Resource Management Research*, 5(3), 181–194. <https://doi.org/10.35912/ahrmr.v5i3.3249>
- Ghozali, I. (2014). *Structural equation modeling alternative method using partial least squares* (4th ed.). Diponegoro University Publishing Agency.
- Hair, J. F., Black, W. C., Babin, B. J., Anderson, R. E., & Tatham, R. L. (2014). *Multivariate data analysis*. Pearson Education.
- Hairul, H., Wibisono, C., & Catrayasa, I. W. (2024). The influence of the e-performance appraisal system, education and competence on employee performance through spiritual motivation in the regional office of the ministry of religion riau islands province. *Journal of Multidisciplinary Academic and Practice Studies*, 2(3), 173–188. <https://doi.org/10.35912/jomaps.v2i3.2384>
- Jaffu, R., & Changalima, I. A. (2023). Human resource development practices and procurement effectiveness: Implications from public procurement professionals in tanzania. *European Journal of Management Studies*, 28(2), 149–169. <https://doi.org/10.1108/EJMS-04-2022-0030>
- Jumiati, J., & Kartiko, A. (2022). Pengaruh self efficacy dan locus of control terhadap kinerja guru. *Academicus: Journal of Teaching and Learning*, 1(1), 32–44. <https://doi.org/10.59373/academicus.v1i1.5>
- Kustiawan, B., & Ghazalie, G. (2025). The role of leadership in increasing effectiveness national defense human resource management. *Annals of Human Resource Management Research*, 5(1), 137–147. <https://doi.org/10.35912/ahrmr.v5i1.2865>

- Magno, H. P., & Lestari, W. (2023). Impact of financial literacy and education on sme sustainability in dili timor-leste with financial behavior. *Jurnal Bisnis, Ekonomi, Manajemen, Dan Kewirausahaan*, 3(1), 21–31. <https://doi.org/10.52909/jbemk.v4i2.177>
- Maliah, M., Hidayat, T., Hendri, E., & Novalia, N. (2025). The influence of human resource competence and work ethic on the professionalism of employees at the large drug and food inspection center in Palembang. *Journal of Multidisciplinary Academic and Practice Studies*, 3(1), 1–12. <https://doi.org/10.35912/jomaps.v3i3.3290>
- Marlita, D., Dianingrum, M., Handayani, S., Perwitasari, E. P., & Liana, E. (2025). Analysis of motivation, competence and remuneration on employee performance through job satisfaction at PT XYZ cargo area. *Annals of Human Resource Management Research*, 5(1), 149–168. <https://doi.org/10.35912/ahrmr.v5i1.2807>
- Muhwezi, M., Mutebi, H., Mayanja, S. S., Tukamuhabwa, B., Namagembe, S., & Kalema, R. (2023). Information integration, procurement internal controls, material and purchasing procedure standardization and procurement performance in humanitarian organizations. *Journal of Humanitarian Logistics and Supply Chain Management*, 13(4), 410–432. <https://doi.org/10.1108/JHLSCM-11-2021-0115>
- Mulyadi, M., Sumardin, S., Sari, D. P., Sabri, S., & Sudianto, S. (2025). Exploring employee retention strategies in Indonesian startups: A qualitative study of human resource management practices. *Annals of Human Resource Management Research*, 5(3), 83–93. <https://doi.org/10.35912/ahrmr.v5i3.2990>
- Qizi, N. F. B. (2025). The theory of developing students' communicative competence based on the PIRLS international assessment program. *Global Academy of Multidisciplinary Studies*, 1(4), 239–248. <https://doi.org/10.35912/gams.v1i4.3549>
- Rodhi, N. N. (2025). Strategy to improve human resource performance in construction services companies. *Annals of Human Resource Management Research*, 5(1), 199–207. <https://doi.org/10.35912/ahrmr.v5i1.2924>
- Salihu, A. T., Hill, K. D., & Jaberzadeh, S. (2022). Effect of cognitive task complexity on dual task postural stability: A systematic review and meta-analysis. *Experimental Brain Research*, 240(3), 703–731. <https://doi.org/10.1007/s00221-021-06299-y>
- Salikhovna, K. K. (2025). The issues of developing students' linguistic competence in learning Arabic in scholarly and methodological literature. *Universal Teaching and Learning Journal*, 1(2), 145–156. <https://doi.org/10.35912/utlj.v1i2.3505>
- Sari, P. H. B., Rumengan, A. E., & Indrawan, M. G. (2025). The influence of regulation, planning and controlling on financial management performance through competence as an intervening variable in regional apparatus organizations in the district of Karimun. *Global Academy of Business Studies*, 2(1), 63–80. <https://doi.org/10.35912/gabs.v2i1.3587>
- Sumaryadi, S., & Kusnadi, K. (2021). Influence of strategic planning and competence on performance mediated by compliance management in TNI service. *Journal of Economics, Management, Entrepreneurship, & Business*, 1(2), 135–147. <https://doi.org/10.52909/jemeb.v1i2.56>
- Supardi, S. (2023). Determinant motivation and path career: Analysis competence, job satisfaction and leadership. *Journal of Economics, Management, Entrepreneurship, and Business*, 3(1), 18–33. <https://doi.org/10.52909/3m61eq57>
- Surya, A., Sagita, H., WA, A. R., CN, Y., Hasbullah, H., & Yulistina, Y. (2024). The influence of professionalism, work culture and competence on the quality of services at the personnel and training agency of Lampung province. *Journal of Multidisciplinary Academic Business Studies*, 2(1), 35–46. <https://doi.org/10.35912/jomabs.v2i1.2509>

- Wang, T., Li, S., Huang, X., & Lajoie, S. P. (2023). Task complexity affects temporal characteristics of self-regulated learning behaviours in an intelligent tutoring system. *Educational Technology Research and Development*, 71(3), 991–1011. <https://doi.org/10.1007/s11423-023-10222-3>
- Wijayanto, I., & Purnomo, B. R. (2023). Influence of jobship and organizational culture on employee performance with job satisfaction at kranggan office. *Jurnal Bisnis, Ekonomi, Manajemen, Dan Kewirausahaan*, 3(1), 32–42. <https://doi.org/10.52909/jbemk.v4i2.178>
- Winarko, G., & Purnomo, B. R. (2023). The influence of leadership and compensation on employee performance at cv gabryl utama beton, mojokerto. *Jurnal Bisnis, Ekonomi, Manajemen, Dan Kewirausahaan*, 3(1), 12–20. <https://doi.org/10.52909/jbemk.v4i2.176>