

The Effect of Digital Leadership Style on Employee Performance with Organizational Commitment as an Intervening Variable at the Regional Financial and Revenue Management Agency of Binjai City

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ABSTRACT

This study examines the effect of digital leadership style on employee performance with organizational commitment as an intervening variable at the Regional Financial and Revenue Management Agency of Binjai City. A quantitative research design was employed using Partial Least Squares–Structural Equation Modeling (PLS-SEM) with SmartPLS 3.0. Data were collected through structured questionnaires and analyzed by evaluating both the measurement and structural models. The measurement model results indicate that all indicators meet the criteria for convergent validity, with outer loading values exceeding 0.70, while discriminant validity is confirmed through cross-loading analysis. Reliability testing demonstrates strong internal consistency, as Cronbach's Alpha values range from 0.790 to 0.915, composite reliability values exceed 0.876, and Average Variance Extracted (AVE) values are above 0.50 for all constructs. The structural model shows high explanatory power, with adjusted R² values of 0.938 for employee performance and 0.738 for organizational commitment. Hypothesis testing reveals that digital leadership style has a positive and significant effect on employee performance ($\beta = 0.594$, $t = 8.077$, $p < 0.001$) and organizational commitment ($\beta = 0.861$, $t = 31.039$, $p < 0.001$), while organizational commitment also significantly influences employee performance ($\beta = 0.410$, $t = 5.908$, $p < 0.001$). Furthermore, organizational commitment is found to significantly mediate the relationship between digital leadership style and employee performance ($\beta = 0.353$, $t = 5.450$, $p < 0.001$), highlighting the critical role of digital leadership and organizational commitment in enhancing employee performance within public sector institutions.

Introduction

The development of digital technology has brought significant changes to organizational work patterns, including within the government sector. The utilization of information technology in bureaucratic governance requires leadership styles that are adaptive to the digital era (Sugiarto et al., n.d.). Digital leadership is not solely oriented toward the use of technology but also encompasses a leader's ability to manage change, guide subordinates in adapting to digital-based systems, and foster a work culture that is responsive to the challenges of digital transformation (Respati et al., 2023).

In government organizations, including the Regional Financial and Revenue Management Agency (BPKPAD) of Binjai City, the implementation of digital leadership is particularly crucial. This agency holds a strategic role in managing regional finances and local revenue (PAD), which demands high levels of accuracy, transparency, and accountability. Along with the implementation of digitalized systems in financial management and public service delivery, digital leadership is expected to enhance work effectiveness, accelerate service processes, and optimize employee performance (Nazariah et al., 2022).

However, in practice, digital transformation does not always proceed smoothly. Several challenges arise, including employee resistance to the adoption of new technologies, limited digital competencies, and decreased work motivation when not supported by strong organizational commitment. Organizational commitment plays a critical role in mediating the influence of digital leadership style on employee performance. This condition is consistent with findings in the MSME sector, where low levels of education and limited digital literacy have resulted in financial record-keeping and marketing activities being conducted conventionally, with minimal utilization of digital systems. Thus, in both MSMEs and formal organizational contexts, the success of digital transformation is largely determined by human resource readiness and the support of organizational commitment in encouraging sustainable technology adoption (Wahyuni & Sinaga, 2024). Employees with high organizational commitment tend to be more loyal, motivated, and willing to contribute optimally despite changes in work systems (Runa, 2020).

Employee performance within BPKPAD of Binjai City is a key determinant of organizational success in achieving revenue targets and effective regional financial management. When digital leadership is effectively implemented and supported by strong organizational commitment, employee performance is expected to improve in terms of service quality, work process efficiency, and financial reporting accountability. Conversely, if organizational commitment is low, digital leadership style may not have a significant impact on enhancing employee performance (Munir et al., 2023).

Based on the foregoing discussion, this study is important to examine the effect of digital leadership style on employee performance with organizational commitment as an intervening variable at the Regional Financial and Revenue Management Agency of Binjai City.

Method

This study employs a quantitative associative research design, which aims to examine the relationships among two or more variables (Sugiyono, 2021). The exogenous variable in this study is Digital Leadership Style (X), the endogenous variable is Employee Performance (Y), and Organizational Commitment (Z) serves as the intervening variable (Sugiarto et al., 2024).

The research was conducted at the Binjai City Mayor's Office, located at Jl. Jendral Sudirman No. 6, Kartini, Binjai Kota District, Binjai City, North Sumatra. The data collection period took place from March 2025 to August 2025.

The population of this study consists of all civil servant employees (ASN) working at the Binjai City Mayor's Office, totaling 91 employees. Given the relatively small population size, this study applied a saturated sampling technique, in which all population members were included as research respondents (Sugiyono, 2021).

Digital leadership style refers to a leader's competence in utilizing internet-based technologies to manage communication, influence subordinates, and direct the organization toward its goals (Van Wart et al., 2019). Employee performance is defined as the level of success in completing work responsibilities, measured through both quality and quantity of outcomes (Hellwig, 2016). Organizational commitment reflects employees' emotional attachment, perceived costs of leaving, and moral obligation to remain within the organization (Bagudek Tumanggor & Girsang, 2021).

Data were analyzed using Partial Least Squares–Structural Equation Modeling (PLS-SEM) with SmartPLS version 3.3.3. The measurement model (outer model) was evaluated through validity and reliability tests, including convergent validity, discriminant validity, Cronbach's Alpha, and composite reliability (Sekaran et al., 2021). The structural model (inner model) was assessed using the coefficient of determination (R^2), predictive relevance (Q^2), path coefficients, t-statistics through bootstrapping, and model fit indicators such as the Normed Fit Index (NFI) (Ulum et al., 2014).

Results and Discussion

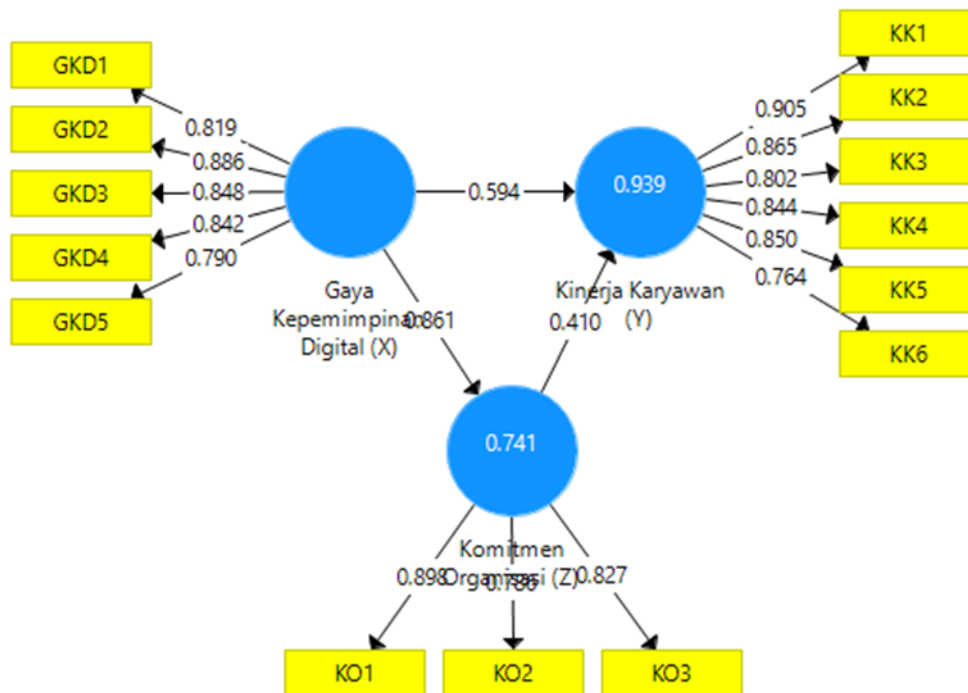
The evaluation of the outer model in this study was conducted using the algorithm analysis in SmartPLS software version 3.0. This procedure aimed to assess the validity and reliability of the measurement indicators through outer loading values, ensuring that the constructs met the required standards for convergent validity, discriminant validity, and reliability.

Convergent Validity

Convergent validity in the measurement model with reflective indicators is evaluated through the correlation between each indicator score and its corresponding construct score. An indicator is considered valid if it has an outer loading value greater than 0.70. However, in exploratory or early-stage research, outer loading values between 0.50 and 0.60 are still considered acceptable. Based on the outer loading results presented

in Table 4.1, all indicators demonstrate outer loading values above 0.70, indicating adequate convergent validity.

For the Digital Leadership Style (X) variable, indicators GKD1 to GKD5 show outer loading values ranging from 0.790 to 0.886, exceeding the minimum threshold. Therefore, all indicators are declared valid and appropriate for measuring digital leadership style at the Regional Financial and Revenue Management Agency of Binjai City.



Similarly, for the Organizational Commitment (Z) variable, indicators KO1, KO2, and KO3 exhibit outer loading values of 0.898, 0.786, and 0.827, respectively. These results indicate a strong relationship between the indicators and the organizational commitment construct.

For the Employee Performance (Y) variable, indicators KK1 to KK6 have outer loading values ranging from 0.764 to 0.905. All indicators meet the convergent validity criteria and are therefore valid for measuring employee performance.

Overall, all constructs in the research model meet the convergent validity criteria, indicating that the measurement model is suitable for further structural model analysis. Therefore, only indicators that met the validity criteria were retained and are presented in Table 1.

Table 1. Outer Loading

Indicator	Outer Loading	Remark
Digital Leadership Style (X)		
GKD1	0.819	Valid
GKD2	0.886	Valid
GKD3	0.848	Valid
GKD4	0.842	Valid
GKD5	0.790	Valid
Organizational Commitment (Z)		
SK1	0.898	Valid
SK2	0.786	Valid
SK3	0.827	Valid
Employee Performance (Y)		
KK1	0.905	Valid
KK2	0.865	Valid
KK3	0.802	Valid
KK4	0.844	Valid
KK5	0.850	Valid
KK6	0.764	Valid

Source: Output Smart PLS, 2025

Discriminant Validity

Discriminant validity aims to assess whether reflective indicators adequately distinguish their respective constructs based on the principle that indicators should have higher correlations with their own constructs than with others. The results of the cross-loading analysis are presented in Table 2.

Indicator	Digital Leadership Style (X)	Employee Performance (Y)	Organizational Commitment (Z)
GKD1	0.899	0.826	0.694
GKD2	0.886	0.871	0.780
GKD3	0.848	0.795	0.741
GKD4	0.842	0.764	0.705
GKD5	0.790	0.697	0.681
KK1	0.897	0.905	0.800
KK2	0.828	0.865	0.827
KK3	0.663	0.802	0.796
KK4	0.782	0.844	0.700
KK5	0.734	0.850	0.807
KK6	0.842	0.864	0.705
KO1	0.719	0.801	0.898
KO2	0.581	0.609	0.786
KO3	0.828	0.865	0.897

Source: Output Smart PLS, 2025

The results show that each indicator has the highest loading on its respective construct compared to other constructs, indicating good discriminant validity. Indicators of Digital Leadership Style load more strongly on their own construct than on Employee Performance or Organizational Commitment. Similarly, indicators of Employee Performance and Organizational Commitment demonstrate the highest loadings on their respective constructs.

Thus, all constructs in the research model fulfill the discriminant validity criteria, confirming that the measurement model is valid and suitable for further analysis.

Construct Reliability and Validity

Reliability testing was conducted using Cronbach Alpha, rho_A, and Composite Reliability values. A construct is considered reliable if these values exceed 0.70. Convergent validity was further assessed using the Average Variance Extracted, where values above 0.50 indicate adequate validity.

Table 3. Construct Reliability and Validity

Variable	Cronbach's Alpha	Composite Reliability	Average Variance Extracted (AVE)
Digital Leadership Style (X)	0.893	0.921	0.702
Employee Performance (Y)	0.915	0.935	0.705
Organizational Commitment (Z)	0.790	0.876	0.703

Source: Output Smart PLS, 2025

These results confirm that all constructs are reliable and possess strong convergent validity, indicating that the measurement model is robust and suitable for structural model testing.

Evaluation of the Structural Model (Inner Model)

The structural model evaluation was conducted to assess the strength and accuracy of the relationships among the latent constructs. This evaluation included the coefficient of determination, goodness of fit, and hypothesis testing.

Coefficient of Determination

The coefficient of determination (R^2) was used to evaluate the explanatory power of the model. As shown in Table 4.4, the Adjusted R^2 value for Employee Performance is 0.938, indicating that Digital Leadership Style and Organizational Commitment jointly explain 93.8% of the variance in employee performance. This represents a very strong explanatory power. Meanwhile, the Adjusted R^2 value for Organizational Commitment is 0.738, suggesting that Digital Leadership Style explains 73.8% of the variance in organizational commitment. These findings demonstrate that the structural model has strong predictive capability.

Table 4. R Square Result

Variable	R Square	R Square Adjusted
Employee Loyalty (Y)	0.939	0.938
Organizational Commitment (Z)	0.741	0.738

Source: Output Smart PLS, 2025

Goodness of Fit

The goodness of fit was evaluated using several indices, including SRMR and NFI, as shown in Table 5. The SRMR values for both the saturated and estimated models are 0.113, which fall within acceptable thresholds for PLS-SEM analysis. The NFI value for the estimated model is 0.883, approaching the ideal value of 1.00, indicating a good model fit.

Table 5. Fit Model

	Saturated Model	Estimated Model
SRMR	0.113	0.113
d_ ULS	1.352	1.352
d_ G	2,453	2,469
Chi-Square	759,336	799,736
NFI	0,763	0,883

Source: Output Smart PLS, 2025

The results indicate that the structural model demonstrates an adequate level of fit and is appropriate for hypothesis testing.

Hypothesis Testing Results

Hypothesis testing was conducted by examining the T-statistics and P-values. A hypothesis is accepted if the T-statistic exceeds 1.96 and the P-value is less than 0.05. The results of the direct effects are presented in Table 6.

Table 6. Path Coefficients

No.	Relationship Between Variables	Original Sample (O)	Sample Mean (M)	Std. Deviation	T-Statistics	P-Values	Decision
H1	Digital Leadership Style (X) → Employee Performance (Y)	0.594	0.593	0.074	8.077	0.000	Accepted
H2	Digital Leadership Style (X) → Organizational Commitment (Z)	0.861	0.865	0.028	31.039	0.000	Accepted
H3	Organizational Commitment (Z) → Employee Performance (Y)	0.410	0.409	0.069	5.908	0.000	Accepted

Source: Output Smart PLS, 2025

The results show that Digital Leadership Style has a positive and significant effect on Employee Performance ($\beta = 0.594$; $T = 8.077$; $P < 0.001$). This indicates that effective digital leadership enhances employee performance.

Digital Leadership Style also has a strong positive and significant effect on Organizational Commitment ($\beta = 0.861$; $T = 31.039$; $P < 0.001$), suggesting that adaptive digital leadership strengthens employees' commitment to the organization.

Furthermore, Organizational Commitment significantly influences Employee Performance ($\beta = 0.410$; $T = 5.908$; $P < 0.001$), indicating that higher organizational commitment leads to better employee performance.

The moderating effect of job stress on the relationship between Digital Leadership Style and employee loyalty was not significant. This finding indicates that job stress does not strengthen or weaken the influence of Digital Leadership Style on employee loyalty.

Furthermore, although job stress shows a statistically significant relationship with employee loyalty, it was not accepted as a strong direct predictor of loyalty. This suggests that job stress does not consistently determine employee loyalty in this organizational setting.

Conclusion

Based on the results of the analysis and discussion concerning the effect of Digital Leadership Style on Employee Performance with Organizational Commitment as an intervening variable at the Regional Financial and Revenue Management Agency of Binjai City, several conclusions can be drawn. Digital Leadership Style has a positive and significant effect on Employee Performance, indicating that leadership practices adaptive to digital technological developments, including the use of information systems, effective digital communication, and data-driven decision-making, are able to directly enhance employee performance. In addition, Digital Leadership Style also has a positive and significant effect on Organizational Commitment, suggesting that leaders who effectively manage and utilize digital technologies can foster employees' sense of attachment, loyalty, and responsibility toward the organization. Furthermore, Organizational Commitment has a positive and significant effect on Employee Performance, demonstrating that employees with higher levels of commitment tend to show more optimal performance in terms of quality, quantity, and timeliness of work completion. The findings also confirm that Organizational Commitment plays an intervening role in the relationship between Digital Leadership Style and Employee Performance, meaning that the influence of digital leadership on performance occurs not only directly but is also strengthened through increased organizational commitment. Moreover, the research model exhibits very strong explanatory power, as indicated by the high R-square value for Employee Performance, confirming that Digital Leadership Style and Organizational Commitment explain a substantial proportion of variations in employee performance at the institution.

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