

The Influence of Digital Leadership Style on Employee Performance at the Regional Financial and Revenue Management Agency of Binjai City

Fitri Ulyani Nasution, Abdi Sugiarto

Abstract

This study investigates the influence of digital leadership on employee performance within an organizational setting. A total of 91 respondents participated, and data were analyzed using descriptive statistics and regression analysis. The descriptive findings indicate that both digital leadership ($M = 4.75$; $SD = 0.39$) and employee performance ($M = 4.87$; $SD = 0.54$) were rated at high levels, suggesting that the organizational environment is already characterized by effective leadership practices and strong performance outcomes. The regression analysis demonstrates that digital leadership has a significant positive effect on employee performance, with a regression coefficient ($B = 1.187$), standardized Beta ($\beta = 0.751$), and t-value (9.548). These results imply that every one-unit increase in digital leadership contributes to a 1.187-unit increase in employee performance, confirming the central role of leadership in enhancing employee outcomes. The constant value (9.312) also indicates that employee performance remains at a positive baseline, but digital leadership strengthens and elevates it further. The model summary reveals a correlation coefficient ($R = 0.755$) and coefficient of determination ($R^2 = 0.532$), indicating that digital leadership explains 53.2% of the variance in employee performance, while the remaining 46.8% is influenced by other factors not examined in this study. Overall, the findings highlight that digital leadership is a critical driver of employee performance in the digital era, emphasizing the importance of adopting effective digital leadership strategies to optimize organizational outcomes.

Keywords: Digital Leadership, Employee Performance, Organizational Effectiveness

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Introduction

The rapid advancement of information and communication technology has significantly transformed organizational dynamics, requiring leaders to adapt to digital-oriented environments. Digital leadership has emerged as a response to these technological developments, reflecting the ability of leaders to manage communication, influence subordinates, and direct organizations toward achieving strategic objectives through the effective use of internet-based technology [1]. Van Wart et al. conceptualized digital leadership (also referred to as e-leadership) as a set of competencies that enable leaders to function effectively in digital contexts. Their framework highlights five essential indicators: (a) effective digital communication, namely the ability to deliver information and instructions clearly and transparently through digital media; (b) virtual collaboration, which refers to the leader's capability to foster teamwork through online platforms; (c) change management, which indicates the leader's capacity to guide organizations in adapting to technological advancements; (d) technological empowerment, namely the utilization of digital tools to support productivity and innovation; and (e) building digital trust, which emphasizes sustaining healthy and trustworthy relationships despite virtual interactions [2].

Employee performance remains a critical determinant of organizational success, particularly within public institutions where service quality and accountability are paramount. According to Hellwig, employee performance is defined as the degree of success in completing assigned responsibilities, encompassing not only the outcomes of work but also the processes, attitudes, and behaviors involved. To measure performance, Hellwig identified several key indicators: (a) quality of work, referring to accuracy, neatness, and precision of outputs; (b) quantity of work, referring to the amount of tasks completed within a specified timeframe; (c) timeliness, which measures the extent to which tasks are finished according to predetermined schedules; (d) effectiveness in resource utilization, which evaluates how efficiently employees use facilities, time, and energy; (e) independence, which reflects the ability to work with minimal reliance on others; and (f) teamwork, which denotes an individual's contribution to positive relationships and synergy within the team [3].

Previous studies on leadership and performance have primarily focused on conventional leadership styles such as transformational, transactional, or situational leadership, leaving a gap in understanding how digital leadership impacts employee performance, especially within government agencies [4]. Given the increasing reliance on digital systems in financial management and public administration, it is crucial to examine this relationship in the context of local government institutions.

This research addresses the problem of how digital leadership influences employee performance in the Regional Financial and Revenue Management Agency of Binjai City. The novelty of this study lies in integrating the conceptual framework of digital leadership indicators proposed by Van Wart et al. with employee performance measures established by Hellwig, thereby offering a comprehensive model for evaluating leadership effectiveness in digital governance [5].

Accordingly, the purpose of this article is to analyze the influence of digital leadership style on employee performance within the aforementioned institution. The study is expected to provide both theoretical contributions to leadership literature in the digital era and practical insights for policymakers in improving organizational performance through effective digital leadership practices.

Literature Review

Leadership has long been recognized as a critical determinant of organizational success, shaping employee behavior, motivation, and performance. Traditional leadership theories, such as transformational, transactional, and situational leadership have dominated much of the

scholarly discourse. Transformational leadership emphasizes vision, inspiration, and the ability to bring change, whereas transactional leadership focuses on exchange relationships and performance-based rewards [6]. Situational leadership highlights the importance of adapting leadership styles based on task maturity and follower readiness. While these frameworks remain relevant, the accelerating pace of digitalization has created new contexts where leadership requires distinctive competencies, giving rise to the concept of digital leadership [7].

Digital leadership (also known as e-leadership) is defined as the capacity of leaders to leverage internet-based technologies to manage communication, influence subordinates, and achieve organizational goals. Van Wart et al. operationalized digital leadership into several key dimensions: (a) effective digital communication, where leaders must convey messages clearly through virtual platforms; (b) virtual collaboration, which involves facilitating teamwork in geographically dispersed settings; (c) change management, emphasizing the ability to guide employees through technological transitions; (d) technological empowerment, where leaders harness digital tools to improve efficiency and innovation; and (e) building digital trust, which highlights maintaining strong and reliable relationships despite virtual interaction. This framework indicates that digital leadership is not merely about technology adoption, but about integrating technology with leadership competencies to enhance organizational effectiveness [8].

Employee performance, on the other hand, represents the level of achievement in fulfilling job responsibilities. Hellwig defined performance as the successful completion of assigned tasks while considering both quality and quantity, as well as the processes, attitudes, and behaviors underlying them. According to Hellwig, performance can be assessed through six indicators: quality of work, quantity of work, timeliness, effectiveness in resource utilization, independence, and teamwork. These dimensions reflect a holistic view, where performance is not solely measured by outputs but also by efficiency, collaboration, and adaptability [9].

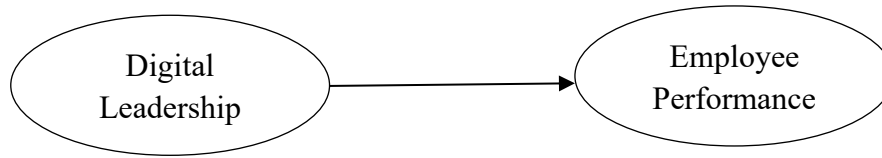
Several studies have explored the link between leadership and performance. For instance, transformational leadership has been shown to enhance employee performance by fostering intrinsic motivation and commitment. Similarly, transactional leadership can improve performance in contexts requiring clear structures and accountability. However, with the rise of digital workplaces, researchers argue that traditional leadership frameworks may not fully capture the complexities of virtual collaboration, remote work, and technology-driven environments. Digital leadership thus emerges as a timely framework for understanding leadership effectiveness in modern organizations [10].

In public sector organizations, particularly financial management agencies, the adoption of digital systems has become increasingly critical. The digitalization of financial reporting, tax management, and revenue collection requires leaders who are adept at managing both technological infrastructures and human resources. Studies indicate that when leaders demonstrate strong digital competencies, employees are more likely to adapt to new systems, perform efficiently, and maintain accountability. Conversely, a lack of digital leadership may lead to resistance, decreased motivation, and inefficiencies in service delivery [11].

The scientific novelty of this study lies in combining Van Wart et al.'s digital leadership framework with Hellwig's performance measurement model, thereby providing a comprehensive lens to evaluate leadership effectiveness in digital governance. Whereas most prior research on digital leadership has focused on private sector organizations, this study addresses a critical gap by situating the analysis within a local government agency responsible for financial and revenue management [12].

In conclusion, the literature suggests that digital leadership has the potential to significantly influence employee performance by enhancing communication, collaboration, adaptability, and trust in digital environments. However, empirical studies in the public sector remain limited, particularly in the context of local government financial management agencies.

This research thus contributes to the growing body of knowledge by empirically examining how digital leadership style impacts employee performance within the Regional Financial and Revenue Management Agency of Binjai City. This study conceptualized digital leadership as the independent variable (X) and employee performance as the dependent variable (Y) as shown on the following figure.



The hypothesis is:

Ha : Digital leadership positively influences employee performance at the Regional Financial and Revenue Management Agency of Binjai City.

Ho : Digital leadership does not positively influence employee performance at the Regional Financial and Revenue Management Agency of Binjai City.

Research Methodology

This study employs a quantitative associative-causal research design, which aims to analyze the pattern of relationships between variables in order to determine the influence of two independent (exogenous) variables on a dependent (endogenous) variable. The research was conducted at the Regional Financial and Revenue Management Agency (Badan Pengelolaan Keuangan dan Pendapatan Daerah) of Binjai City. The data collection process was carried out from March to August 2025.

According to Sugiyono, a population is defined as the generalization area consisting of objects or subjects that possess specific qualities and characteristics established by the researcher to be studied and from which conclusions are drawn. In this study, the population comprises the entire workforce of the Agency, totaling 91 employees, with the following distribution:

Table 1. Population Size

No.	Status	Number of Employees
1.	ASN	91
Total		91

Sumber : Regional Financial and Revenue Management Agency of Binjai City

The sampling technique employed in this study was purposive sampling. According to Sugiyono, purposive sampling is a technique for determining samples based on specific considerations. The rationale for using purposive sampling is that it is appropriate for quantitative research, particularly studies that do not aim for broad generalization. Based on this approach, in this study, the selection of participants was intentionally limited to individuals serving as civil servants (ASN), ensuring that the focus remained on a specific and relevant occupational group [13]. Altogether, the research involved 91 employees who fulfilled the inclusion criteria and were officially designated as the sample for data collection and analysis. [14].

The data utilized in this research were obtained from questionnaires distributed to respondents across all divisions of the Agency. The analytical method applied was quantitative data analysis using SPSS version 25.0.

The data collected using structured questionnaires distributed to all employees across divisions within the office. The data will be analyzed using quantitative statistical methods with SPSS version 25.0. Several steps will be performed.

Validity testing ensures that questionnaire items accurately measure the intended variables. An item is valid if the correlation coefficient (*r-count*) exceeds the critical value (*r-table*). Reliability testing will use Cronbach's alpha, where a value greater than the critical value indicates reliability.

The regression model applied in this study was formulated as follows:

$$Y=a+bX$$

Where:

Y = Employee Performance

X = Digital Leadership Style

a = Constant

b = Regression Coefficient

The t-test was conducted to determine the significance of the influence of the independent variable on the dependent variable. Furthermore, the coefficient of determination (R^2) was used to measure the extent of the effect of the independent variable on the dependent variable. In other words, the coefficient of determination was applied to evaluate how strongly the independent variable, namely Digital Leadership Style (X), influences the dependent variable, Employee Performance (Y). The value of R^2 ranges between 0 and 1 ($0 < R^2 < 1$), indicating that when $R^2 = 0$, there is no influence between X and Y, while the closer R^2 approaches 1, the stronger the relationship between X and Y. The determination test was conducted using SPSS version 25.0.

Results

4.1 Research Findings

4.1.1 Descriptive Analysis

Descriptive analysis in this test was employed to identify the minimum and maximum scores, mean scores, and standard deviations of each variable. The results are presented as follows:

The table title is at the top, while the image title is written below. If tables and figures can be included in a single column, then the writing example is as follows:

Table 1. Descriptive Statistics					
Variable	N	Minimum	Maximum	Mean	Std. Deviation
Digital Leadership	91	3.35	5.00	4.75	0.39
Employee Performance	91	3.53	5.00	4.87	0.54

Source: SPSS output, version 25.0

The descriptive statistical results indicate that the variable of Digital Leadership (N = 91) obtained a minimum score of 3.35 and a maximum score of 5.00, with a mean value of 4.75 and a standard deviation of 0.39. This demonstrates that the respondents' perceptions of digital leadership are relatively high and consistent, as reflected in the small standard deviation.

Similarly, the variable of Employee Performance ($N = 91$) recorded a minimum score of 3.53 and a maximum score of 5.00, with an average score of 4.87 and a standard deviation of 0.54. These findings suggest that employee performance is also rated at a high level, with slightly greater variation compared to digital leadership.

Overall, the results imply that both digital leadership and employee performance among the respondents fall within a high category, indicating a generally positive trend in leadership practices and performance outcomes within the organization.

4.2 Validity and Reliability Tests

The validity test was conducted using the Corrected Item-Total Correlation. Results showed that all items of both variables had correlation coefficients above the threshold value (0.2387) with significance levels below 0.05. Thus, all items were considered valid (Sugiyono, 2017).

Reliability was tested using Cronbach's Alpha. The values for both variables were above 0.60, indicating strong internal consistency:

1. Digital Leadership : $\alpha = 0.911$ (5 items)
2. Employee Performance : $\alpha = 0.918$ (6 items)

This confirms that the research instrument was reliable [13].

4.3 Regression Analysis

4.3.1 Simple Linear Regression

A regression analysis was conducted to evaluate the effect of digital leadership on employee performance.

Table 2. Regression Results

Model	B	Std. Error	Beta	t
(Constant)	9.313	2.233	–	4.195
Digital Leadership	1.184	0.154	0.775	9.748

Dependent Variable: Employee Performance

The regression equation can be expressed as:

The regression analysis results show that the constant value is 9.313 with a significance indicated by a t-value of 4.195, suggesting that employee performance is already at a positive level even without the influence of digital leadership. The regression coefficient (B) for Digital Leadership is 1.184 with a standard error of 0.154, and a standardized Beta value of 0.775. The t-value of 9.748 demonstrates that digital leadership has a strong and statistically significant effect on employee performance. These findings indicate that every one-unit increase in digital leadership contributes to an increase of 1.184 units in employee performance, confirming that digital leadership plays a crucial role in enhancing employee outcomes.

4.3.2 Coefficient of Determination (R^2)

The coefficient of determination (R^2) was calculated to measure the proportion of variance in employee performance explained by digital leadership.

Table 3. Coefficient of Determination

Model	R	R^2	Adjusted R^2
1	0.755	0.532	0.679

Source: SPSS output, version 25.0

The model summary shows a correlation coefficient (R) of 0.755, indicating a strong positive relationship between digital leadership and employee performance. The coefficient of determination (R^2) is 0.532, meaning that digital leadership explains 53.2% of the variance in employee performance. Furthermore, the Adjusted R^2 value of 0.679 suggests that after adjusting for the number of predictors, the model still explains approximately 67.9% of the variance, confirming that digital leadership makes a substantial contribution to predicting employee performance.

4.3.3 Hypothesis Testing (t-Test)

The hypothesis testing was carried out using the t-test.

H₀ : Digital leadership does not positively influence employee performance.

H_a : Digital leadership positively influenced employee performance.

Table 4. t- Test Result

Model	B	Std. Error	Beta	t
(Constant)	9.312	2.233	–	4.285
Digital Leadership	1.187	0.111	0.751	9.548

Dependent Variable: Employee Performance

The regression results indicate that the constant value is 9.312 with a t-value of 4.285, showing that employee performance already has a positive baseline even without the influence of digital leadership. The regression coefficient (B) for Digital Leadership is 1.187 with a standard error of 0.111, while the standardized coefficient (Beta) is 0.751. The t-value of 9.548 confirms that digital leadership has a significant and strong positive effect on employee performance. This implies that for every one-unit increase in digital leadership, employee performance is expected to increase by 1.187 units, highlighting the pivotal role of digital leadership in enhancing employee outcomes.

Conclusion

The results of the descriptive statistical analysis reveal that both digital leadership and employee performance are at a high level among the respondents. The mean score for digital leadership was 4.75 with a relatively small standard deviation of 0.39, indicating that the perception of leadership practices is consistently high across the sample. Similarly, employee performance achieved a mean score of 4.87 with a standard deviation of 0.54, reflecting strong performance outcomes with slightly more variation compared to digital leadership. These findings demonstrate that the organizational environment is characterized by effective leadership practices and satisfactory employee performance levels.

The regression analysis further supports the positive influence of digital leadership on employee performance. The regression coefficient of 1.187 with a standardized Beta of 0.751 and a t-value of 9.548 confirms that digital leadership significantly contributes to improving employee performance. This means that for every one-unit increase in digital leadership, employee performance is predicted to rise by approximately 1.187 units. The constant value of 9.312 also indicates that even in the absence of digital leadership, employee performance remains at a positive baseline, but leadership acts as a crucial factor in strengthening and enhancing that performance.

The model summary reinforces these findings, with a correlation coefficient (R) of 0.755 demonstrating a strong relationship between the two variables. The coefficient of determination (R^2) of 0.532 reveals that digital leadership accounts for 53.2% of the variance

in employee performance, while the adjusted R^2 value indicates the model's reliability and predictive strength. The remaining 46.8% of the variance is influenced by other factors outside the scope of this study, such as motivation, organizational culture, work environment, or personal attributes of employees. Taken together, the results underscore the pivotal role of digital leadership in shaping employee performance, highlighting that organizations aiming to achieve optimal outcomes in the digital era must prioritize the development and implementation of effective digital leadership strategies.

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