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The Influence of Digital Leadership, Digital Culture, Digital Literacy, and Cyberloafing on Employee Performance at PT Envicon Ekatama

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ABSTRACT

Digital transformation encourages companies to develop technology-based work environments to improve employee performance. However, the effectiveness of digital transformation depends not only on technology but also on leadership, organizational culture, digital literacy, and employees' online behavior, highlighting the need to examine their combined influence on performance. This study aimed to analyze the effects of digital leadership, digital culture, digital literacy, and cyberloafing on employee performance at PT Envicon Ekatama. A quantitative research design was employed, using primary data collected through online questionnaires distributed to 174 employees selected through probability sampling. The data were analyzed using multiple linear regression with SmartPLS 4.1.1.8. The results showed that digital leadership ($t = 2.848$; $p = 0.002$), digital culture ($t = 2.881$; $p = 0.002$), digital literacy ($t = 4.855$; $p < 0.001$), and cyberloafing ($t = 3.898$; $p < 0.001$) each had a positive and statistically significant effect on employee performance, with digital literacy demonstrating the strongest statistical influence. Collectively, the four variables significantly affected employee performance ($F = 82.174$; $p < 0.001$), explaining 67.4% of its variation ($R^2 = 0.674$). These findings contribute to understanding the organizational and individual factors associated with employee performance in technology-based work environments. Practically, they suggest that companies should strengthen digital leadership, foster an adaptive digital culture, improve employees' digital literacy, and manage cyberloafing constructively to support better employee performance.

1. Introduction

The advancement of digital technology has transformed business processes and human resource management across industries. Digital transformation requires not only technological readiness but also effective leadership, an adaptive organizational culture, and employees who possess the digital competencies necessary to perform their tasks effectively. In Indonesia, digital competitiveness continues to be an important concern. Although the country's digital competitiveness ranking improved in the years leading up to 2024, it declined again in 2025, highlighting the continuing need to strengthen digital capabilities and human resources (Bris, 2025). Within this context, employee performance is a critical determinant of organizational effectiveness because employees must achieve work targets while adapting to technological developments. Employee performance is therefore associated not only with the achievement of work outcomes but also with employees' ability to respond to changes in their working environment (Nurhayati, 2024; Pusparani, 2021).

At the organizational level, PT Envicon Ekatama has integrated various digital technologies into its operations. However, inconsistencies in employee performance have been observed, indicating the importance of examining organizational and individual factors associated with performance in a technology-based working environment. Four factors are particularly relevant: digital leadership, digital culture, digital literacy, and cyberloafing. Digital leadership concerns leaders' ability to guide employees through technological changes, while digital culture reflects organizational values and practices that encourage technology adoption, adaptation, and collaboration. Digital

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literacy represents employees' ability to use digital technology effectively in completing their work. Cyberloafing, meanwhile, concerns the use of internet access or digital resources for personal activities during working hours. Examining these factors together provides a more comprehensive understanding of how leadership, organizational practices, individual competencies, and digital behavior relate to employee performance.

Previous studies have reported differing findings regarding the relationship between digital leadership and employee performance. Qiao et al. (2024) and Kamaruddin et al. (2024) reported positive relationships, suggesting that leaders who effectively guide digital transformation can support employees' performance. However, Sulhan et al. (2023) found no statistically significant effect of digital leadership on employee performance. These contrasting findings indicate that the relationship may depend on organizational conditions and the way digital leadership is implemented. Digital culture also warrants further examination because an organizational environment that encourages digital adoption and adaptation may support employee effectiveness. Nevertheless, previous research has produced mixed findings regarding this relationship (Azra et al., 2024; Junaedi et al., 2023; Muniroh et al., 2022). Such inconsistencies provide a basis for further empirical investigation in a specific organizational context.

Digital literacy and cyberloafing represent two additional dimensions of employee performance in digital work environments. Digital literacy concerns employees' ability to access, understand, process, and communicate information through digital technology and to apply these capabilities to work-related tasks. As organizational processes become increasingly technology-dependent, employees' digital competence may become an important factor in completing tasks effectively. Cyberloafing, in contrast, concerns employees' personal use of digital resources during working hours. Although such behavior may divert attention from work, its relationship with employee performance requires empirical examination rather than an assumption that all non-work-related digital activity produces the same outcome. Considered together, these variables capture both the organizational conditions that support technology use and employees' individual capabilities and behavior. However, the findings of previous studies on digital leadership and digital culture remain inconsistent, while the combined relationships among all four factors require further examination in the organizational setting of PT Envicon Ekatama.

Based on this research gap, the main research problem is whether digital leadership, digital culture, digital literacy, and cyberloafing are significantly associated with employee performance at PT Envicon Ekatama, both individually and simultaneously. Accordingly, this study aims to analyze the partial effects of digital leadership, digital culture, digital literacy, and cyberloafing on employee performance and to examine their simultaneous effect. By investigating these relationships within a single organizational setting, the study seeks to provide empirical evidence regarding the relative contributions of the four factors to employee performance in a technology-based work environment.

This study contributes theoretically by bringing leadership, organizational culture, digital competence, and employee digital behavior into a unified empirical framework for examining employee performance. It also extends the discussion of digital transformation by considering both enabling factors, such as digital leadership and digital literacy, and employee behavior, as represented by cyberloafing. Practically, the findings can inform PT Envicon Ekatama's human resource management strategies, particularly in strengthening leaders' digital capabilities, fostering an adaptive organizational culture, developing employees' digital literacy, and managing non-work-related digital activities appropriately. The novelty of this study lies in the simultaneous examination of these four factors within the context of PT Envicon Ekatama, providing organization-specific evidence to support performance improvement in a digitally enabled workplace.

2. Literature Review

2.1. Conceptual and Theoretical Foundations

2.1.1. Digital Leadership

Digital leadership refers to a leader's ability to guide an organization and its employees through technology-driven changes. This form of leadership plays a role in fostering adaptation, innovation, productivity, and the utilization of technology in work processes. Research by Qiao et al. (2024),

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Kamaruddin et al. (2024), and Paulina (2024) indicates that digital leadership has a positive impact on employee performance.

2.1.2. Digital Culture

Digital culture is an organizational culture that supports the use of digital technology in work activities. This culture is reflected in the ability to adapt, collaborate, innovate, and use technology effectively. Research by Ferdian and Rahmawati (2020), Azra et al. (2024), and Luthra et al. (2025) demonstrates that digital culture contributes positively to enhancing employee performance.

2.1.3. Digital Literacy

Digital literacy refers to an individual's ability to use digital technology to access, understand, process, and communicate information, as well as to complete work tasks. This competence is crucial in an increasingly digitized work environment. Research by Ramadhan (2021), Dunan and Jericho (2025), Maszudi and Pratiwi (2025), and Yanto (2025) shows that digital literacy has a positive and significant impact on employee performance.

2.1.4. Cyberloafing

Cyberloafing is defined as the use of the internet or a company's digital resources for personal purposes during working hours (Mukhlisin, 2025; Kusherawati, 2024). Such activities may include using social media, reading news, engaging in entertainment, or participating in other online activities unrelated to work (Sulistyan et al., 2020). According to Blanchard and Henle cyberloafing is categorized into minor cyberloafing and serious cyberloafing. Excessive engagement in this behavior has the potential to diminish focus and productivity.

2.2. Review of Empirical Studies

Previous studies indicate that digital leadership, digital culture, digital literacy, and cyberloafing are linked to employee performance. Qiao et al. (2024) and Paulina (2024) found a positive influence of digital leadership. Meanwhile, Ferdian and Rahmawati (2020), Azra et al. (2024), and Luthra et al. (2025) demonstrated the positive impact of digital culture. Research by Ramadhan (2021), Dunan and Jericho (2025), and Yanto (2025) also indicates that digital literacy affects performance. Studies regarding cyberloafing have yielded mixed results, although some have found that the behavior can reduce performance (Ngowella et al., 2022; Kusherawati, 2024; Saputri, 2022).

These varying results indicate a research gap, particularly concerning the influence of these four variables on employee performance. This study examines the collective impact of digital leadership, digital culture, digital literacy, and cyberloafing on the employee performance of PT Envicon Ekatama.

2.3. Identification of the Research Gap

The research gap arises from the differences in previous findings and the need to examine the four variables simultaneously in a specific organizational context. First, previous research has reported inconsistent results regarding digital leadership, as positive relationships were identified by Qiao et al. (2024) and Kamaruddin et al. (2024) whereas Sulhan et al. (2023) found a non-significant effect. Second, although studies by Ferdian and Rahmawati (2020), Azra et al. (2024), and Luthra et al. (2025) indicate a positive relationship between digital culture and employee performance, further examination is needed to understand this relationship within the operational context of PT Envicon Ekatama.

Third, previous research has identified digital literacy as a factor associated with employee performance (Dunan & Jericho, 2025; Maszudi & Pratiwi, 2025; Ramadhan, 2021; Yanto, 2025), but its contribution alongside digital leadership, digital culture, and cyberloafing remains to be examined within the same model in this company. Fourth, research on cyberloafing has indicated potential negative relationships with employee performance (Kusherawati, 2024; Ngowella et al., 2022; Saputri, 2022), making it important to test its actual relationship in the present research setting.

Accordingly, the principal research gap concerns the simultaneous examination of digital leadership, digital culture, digital literacy, and cyberloafing as factors associated with employee performance at PT Envicon Ekatama. This study addresses the gap by testing the partial effects of each independent variable and their simultaneous effect on employee performance. The study therefore provides organization-specific empirical evidence on how leadership, organizational culture, digital competence, and employees' online behavior relate to performance in a technology-based workplace.

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2.4. Development of the Conceptual Framework

The research's conceptual framework illustrates the relationships between digital leadership (X1), digital culture (X2), digital literacy (X3), and cyberloafing (X4)—acting as independent variables—and employee performance (Y), acting as the dependent variable. Testing was conducted partially via H1–H4 and simultaneously via H5.

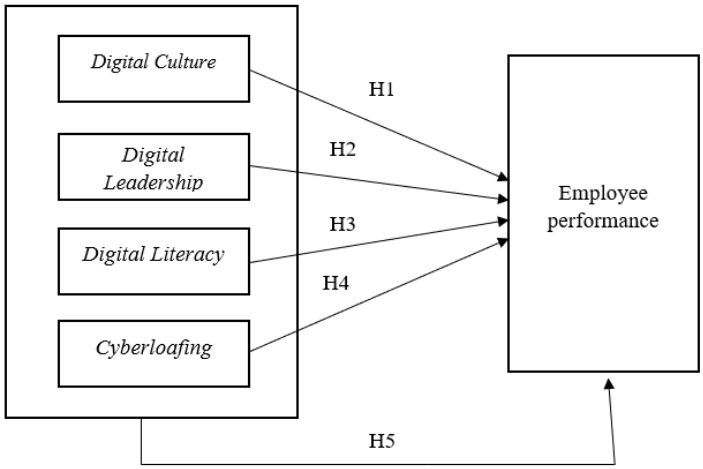


Fig. 1. Conceptual Framework of the study.

2.5. Hypotheses or Research Propositions

2.5.1. Digital Leadership and Employee Performance

Digital leadership can foster employee adaptation, productivity, and innovation in the face of digital transformation. Findings by Qiao et al. (2024) and Kamaruddin et al. (2024) support the existence of an influence on employee performance.

H1: Digital leadership has a significant effect on the employee performance of PT Envicon Ekatama.

2.5.2. Digital Culture and Employee Performance

An organizational culture that supports technology usage can enhance employees' adaptability and work effectiveness. Ferdian and Rahmawati (2020), Azra et al. (2024), and Luthra et al. (2025) indicate that digital culture influences performance.

H2: Digital culture has a significant effect on the employee performance of PT Envicon Ekatama.

2.5.3. Digital Literacy and Employee Performance

The ability to use technology effectively can help employees perform their work better. Ramadhan (2021), Maszudi and Pratiwi (2025), and Yanto (2025) found a positive influence of digital literacy on performance.

H3: Digital literacy has a significant effect on the employee performance of PT Envicon Ekatama.

2.5.4. Cyberloafing and Employee Performance

Using the internet for personal purposes during working hours can reduce employees' focus and productive time. Ngowella et al. (2022), Kusherawati (2024), and Saputri (2022) demonstrated a relationship between cyberloafing and employee performance.

H4: Cyberloafing has a significant effect on the employee performance of PT Envicon Ekatama.

2.5.5. Simultaneous Effect

Digital leadership, digital culture, digital literacy, and cyberloafing are factors related to employee behavior and capabilities within a digital-based work environment. Based on prior research and the conceptual framework employed, these four variables are tested simultaneously against employee performance.

H5: Digital leadership, digital culture, digital literacy, and cyberloafing have a significant simultaneous effect on the employee performance of PT Envicon Ekatama.

3. Research Methods

3.1. Research Design

This study employed a quantitative research design to examine the effects of digital leadership, digital culture, digital literacy, and cyberloafing on employee performance at PT Envicon Ekatama. A quantitative approach was selected to enable the statistical examination of relationships between the independent variables and the dependent variable.

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The research model consisted of four independent variables—digital leadership (X1), digital culture (X2), digital literacy (X3), and cyberloafing (X4)—and one dependent variable, employee performance (Y). The analysis examined both the individual relationships between each independent variable and employee performance and the simultaneous effect of the four independent variables.

3.2. Research Context and Setting

The research was conducted at PT Envicon Ekatama, focusing on employees working within the company's technology-based operational environment. The company was selected as the research setting because its operations incorporate digital technologies, making it relevant for examining the relationships between digital leadership, digital culture, digital literacy, cyberloafing, and employee performance. The study focused on understanding how organizational factors and employee digital capabilities and behaviors relate to performance in this specific organizational context.

3.3. Population and Sample

The target population consisted of all employees of PT Envicon Ekatama. Participants were selected using a purposive sampling technique based on predetermined criteria relevant to the research objectives. A total of 174 employees participated in the study, as reported in the research data. The sample was intended to provide information about employees' perceptions of digital leadership, digital culture, digital literacy, cyberloafing, and employee performance.

3.4. Data Sources and Data Collection

This study used primary data collected directly from employees through an online questionnaire. The questionnaire was distributed to the selected respondents to obtain information relating to the five research variables. Online data collection enabled the researchers to gather responses in a structured format for subsequent quantitative analysis. The collected responses served as the primary data source for evaluating the proposed relationships between the independent variables and employee performance.

3.5. Measurement of Variables and Research Instruments

The research instrument measured five variables: digital leadership (X1), digital culture (X2), digital literacy (X3), cyberloafing (X4), and employee performance (Y). Each construct was operationalized through indicators specified in the research instrument. The measurement focus for each variable is presented in Table 1.

Table 1. Variable Measurement

Variable	Measurement
Digital Leadership (X1)	Measured based on leadership indicators regarding the direction and support of digital technology adoption.
Digital Culture (X2)	Measured based on organizational culture regarding digital-based usage, adaptation, collaboration, and innovation.
Digital Literacy (X3)	Measured based on the ability to use and understand digital technology in the workplace.
Cyberloafing (X4)	Measured based on the use of the internet or digital technology for personal purposes during working hours.
Employee performance (Y)	Measured based on employee work performance and execution.

Source: Author processed

These operational definitions established the measurement focus of each construct and provided the basis for evaluating the measurement model. The indicators were assessed using the research instrument administered to the respondents.

3.6. Data Analysis Techniques

Data analysis was conducted using Partial Least Squares Structural Equation Modeling (PLS-SEM) with SmartPLS 4. The analysis involved evaluating both the measurement model (outer model) and the structural model (inner model).

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The measurement model was assessed using outer loadings, Cronbach's alpha, composite reliability, average variance extracted (AVE), cross-loadings, the Fornell–Larcker criterion, and the heterotrait–monotrait ratio (HTMT). These assessments were used to examine indicator performance, construct reliability, convergent validity, and discriminant validity.

The structural model was evaluated using inner variance inflation factor (VIF), the coefficient of determination (R^2), path coefficients, the F-test, and effect size (f^2). Path coefficients were used to examine the direction and magnitude of the relationships between the independent variables and employee performance. Statistical significance was evaluated using a p-value threshold of less than 0.05 or a t-statistic greater than 1.96. Effect sizes were used to assess the relative contribution of the independent constructs to the dependent construct.

Model quality and predictive performance were also assessed using the standardized root mean square residual (SRMR), normed fit index (NFI), predictive relevance (Q^2), PLS Predict, and the cross-validated predictive ability test (CVPAT). These procedures provided additional information about model fit and predictive capability.

2.4. Validity, Reliability, and Trustworthiness

The quality of the research instrument and model was assessed through validity and reliability procedures within the PLS-SEM framework. Indicator reliability was examined using outer loadings, while internal consistency reliability was assessed using Cronbach's alpha and composite reliability. Convergent validity was evaluated using average variance extracted (AVE). Discriminant validity was assessed using cross-loadings, the Fornell–Larcker criterion, and HTMT.

The structural model was also evaluated for potential multicollinearity using inner VIF. The coefficient of determination (R^2), path coefficients, effect sizes (f^2), and predictive assessment procedures were used to examine the explanatory and predictive performance of the model.

The evaluation criteria applied in this study are summarized in Table 2.

Table 2. Model Evaluation Criteria

Evaluation	Criteria
Outer Loading	≥ 0,70
Cronbach's Alpha	≥ 0,70
Composite Reliability	≥ 0,70
AVE	≥ 0,50
HTMT	< 0,85–0,90
SRMR	< 0,08
Inner VIF	≤ 5
R^2	≥ 0,19
Path Coefficient	p < 0,05 atau t > 1,96
F^2	≥ 0,02

Source: Author processed

These criteria served as the basis for assessing the measurement model's validity and reliability, structural model quality, and the statistical relationships between the research variables.

3.8. Ethical Considerations

The study collected primary data from employees through an online questionnaire. Because the research involved employee responses, confidentiality and the appropriate handling of respondent information were relevant considerations. However, the original methodological description did not specify whether formal informed consent procedures, institutional ethical approval, anonymity safeguards, or data protection protocols were implemented. These details should be reported according to the procedures actually followed during data collection.

3.9. Research Procedure

The research procedure comprised several stages. First, the research variables and their relationships were established in accordance with the research objectives. Second, the questionnaire was

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prepared to measure digital leadership, digital culture, digital literacy, cyberloafing, and employee performance. Third, the questionnaire was distributed online to the selected employees of PT Envicon Ekatama. Fourth, the collected responses were organized for quantitative analysis. Finally, SmartPLS 4 was used to evaluate the measurement model and structural model, including construct validity, reliability, multicollinearity, explanatory power, path coefficients, effect sizes, and predictive performance.

3.10. Methodological Limitations

This study focused on employees of a single company, PT Envicon Ekatama. Consequently, the findings reflect the organizational context examined and may not be directly generalizable to organizations operating in different sectors or working environments. The study also relied on questionnaire-based primary data, meaning that the results depend on the responses provided by participants. Furthermore, the methodological description does not specify the detailed respondent selection criteria, the measurement scale used, the sources of the individual measurement items, or the procedures used to address potential response bias. These details should be clarified in the final manuscript where applicable. Future research may examine the proposed relationships in additional organizational settings and provide more detailed reporting of sampling, instrument development, and data collection procedures.

4. Results and Discussion

4.1. Research Results

4.1.1. Sample Description and Descriptive Statistics

This study examined the relationships between digital leadership, digital culture, digital literacy, cyberloafing, and employee performance at PT Envicon Ekatama. The analysis was conducted using Partial Least Squares Structural Equation Modeling (PLS-SEM) with SmartPLS 4. The study involved 174 employees, as reported in the research abstract. However, the demographic characteristics of the respondents and the descriptive statistics for the research variables were not provided in the available results. Therefore, these characteristics cannot be reported without the corresponding data.

4.1.2. Data Quality and Preliminary Analysis

The preliminary structural model assessment included an inner variance inflation factor (VIF) test to evaluate potential multicollinearity among the independent variables. The inner VIF test results showed VIF values of 1.533 for Cyberloafing, 1.809 for Digital Culture, 1.714 for Digital Leadership, and 1.851 for Digital Literacy. All values fell below the threshold of 5; therefore, the model exhibited no multicollinearity issues and was suitable for analyzing the relationships between the variables. The results are presented in Table 3.

Table 3. Inner VIF Test Results

Variable Relationship	VIF
Cyberloafing → Employee Performance	1.533
Digital Culture → Employee Performance	1.809
Digital Leadership → Employee Performance	1.714
Digital Literacy → Employee Performance	1.851

Source: SmartPLS 4 data processing results (2026).

The R^2 value for employee performance is 0.674, while the adjusted R^2 is 0.667. Thus, Digital Leadership, Digital Culture, Digital Literacy, and Cyberloafing are able to explain 67.4% of the variation in Employee Performance, while the remaining 32.6% is explained by other factors outside the model. These results demonstrate the strong explanatory power of the model. Table 4 presents the R^2 and adjusted R^2 values for employee performance.

Table 4. Coefficient of Determination Results

Dependent Variable	R^2	Adjusted R^2
Employee Performance	0.674	0.667

Source: SmartPLS 4 data analysis results (2026).

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The R^2 value of 0.674 indicates that digital leadership, digital culture, digital literacy, and cyberloafing jointly explained 67.4% of the variation in employee performance. The remaining 32.6% was associated with factors outside the research model. The adjusted R^2 value was 0.667.

4.1.3. Main Analytical Results

The main analytical results included structural path coefficients, effect sizes, and predictive performance assessments. The PLS-SEM algorithm model output is presented in Figure 2.

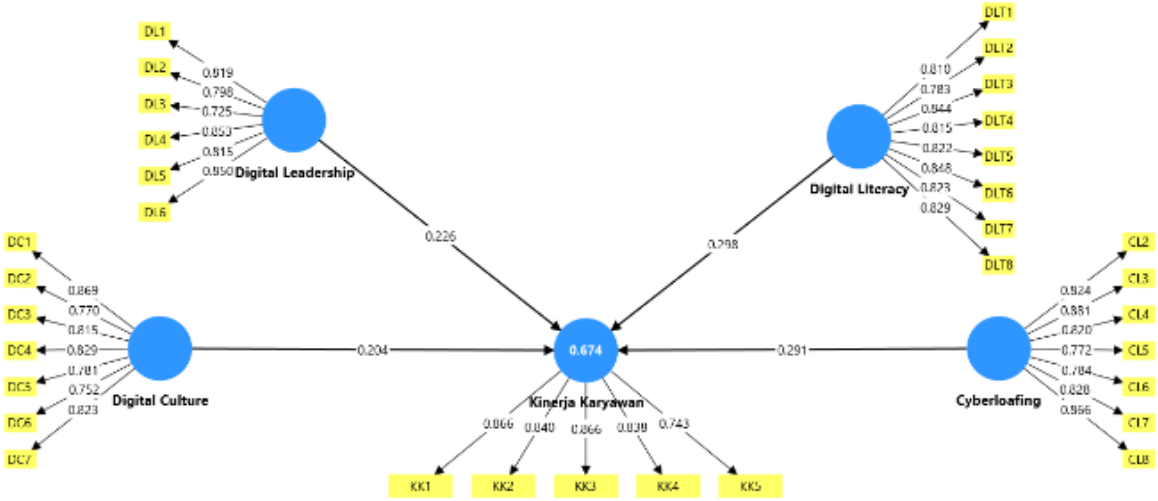


Fig. 2. PLS-SEM Algorithm Model Output

The effect size results show that Cyberloafing has an f^2 value of 0.169, making it the variable with the greatest relative influence on Employee Performance. Digital Literacy has a value of 0.147, Digital Leadership 0.091, and Digital Culture 0.070. All four fall into the medium effect category based on the criteria used in this study.

a. Simultaneous Test

The F-test yielded an F-calculated value of 82.174 with a significance level of 0.000 (<0.05). These results indicate that Digital Leadership, Digital Culture, Digital Literacy, and Cyberloafing collectively have a significant effect on Employee Performance. Thus, the research model is deemed valid for use.

b. Effect Size (f^2)

The effect size results show that Cyberloafing has an f^2 value of 0.169, making it the variable with the greatest relative influence on Employee Performance. Digital Literacy has a value of 0.147, Digital Leadership 0.091, and Digital Culture 0.070. All four fall into the medium effect category based on the criteria used in this study.

Table 5. Effect Size (f^2)

Variable	Performance	Note
Cyberloafing	0.169	Moderate Effect
Digital Culture	0.070	Moderate Effect
Digital Leadership	0.091	Moderate Effect
Digital Literacy	0.147	Moderate Effect

Source: SmartPLS 4 data analysis results (2026).

c. PLS Predict and CVPAT

The PLS Predict results indicate that the RMSE values for the PLS-SEM model regarding the Employee Performance indicators (KK1–KK5) range from 0.523 to 0.666, which is lower than the range of 0.585 to 0.720 observed for the linear regression (LM) model. These results demonstrate that the PLS-SEM model possesses good predictive capability with lower prediction error.

The CVPAT results also highlight the

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superiority of the PLS-SEM model. The average loss difference between PLS-SEM and IA is -0.247, with a t-value of 2.611 and a p-value of 0.010. Meanwhile, the comparison with the LM model yields an average loss difference of -0.082, a t-value of 5.143, and a p-value of 0.000. The negative values indicate that the prediction error level of the PLS-SEM model is lower than that of both comparison models.

4.1.4. Hypothesis Testing Results / Key Findings

Hypothesis testing employed the bootstrapping technique to obtain path coefficient values, t-statistics, and p-values. A relationship is considered significant if the p-value is < 0.05. The test results indicate that all independent variables have a positive and significant effect on Employee Performance. The partial hypothesis testing results are presented in Table 6.

Table 6. Hypothesis Testing Results

	Original sample (O)	T statistics	P values	Desc.
Cyberloafing → Employee Performance	0.291	3.898	0.000	Accepted
Digital Culture → Employee Performance	0.204	2.881	0.002	Accepted
Digital Leadership → Employee Performance	0.226	2.848	0.002	Accepted
Digital Literacy → Employee Performance	0.298	4.855	0.000	Accepted

Source: SmartPLS 4 data analysis results (2026).

The results indicate that Digital Literacy has the highest path coefficient (0.298), followed by Cyberloafing (0.291), Digital Leadership (0.226), and Digital Culture (0.204). All t-statistic values exceed 1.96, and all p-values are below 0.05; therefore, all four partial hypotheses are accepted.

4.1.5. Visual Presentation of Results

The findings are presented through five tables and one figure. Table 3 reports the inner VIF values, Table 4 presents the coefficient of determination, Table 5 reports the effect sizes, and Table 6 presents the hypothesis testing results. Figure 2 displays the PLS-SEM algorithm model output generated using SmartPLS 4.

Together, these visual elements summarize the structural model assessment, explanatory power, relative effect sizes, predictive performance, and hypothesis testing outcomes. The results indicate that all four independent variables had positive and statistically significant relationships with employee performance, while the model explained 67.4% of its variation and showed lower predictive loss than the two comparison benchmarks.

4.2 Research Discussion

4.2.1 Interpretation of Key Findings

a. The Influence of Digital Leadership on Employee Performance

The research results indicate that Digital Leadership has a positive and significant influence on employee performance. A path coefficient of 0.226, a t-statistic of 2.848, and a p-value of 0.002 demonstrate that the better the implementation of Digital Leadership, the higher the employee performance.

The indicator with the highest outer loading is DL4 (0.853), representing a leader's ability to provide understanding to reduce resistance to information technology innovations. This finding indicates that leadership-provided education, guidance, and support regarding technological changes are crucial aspects of implementing Digital Leadership. Employees tend to be more receptive to digital transformation when leaders can clearly explain the changes and the use of technology.

Strong Digital Leadership implementation can also create a work environment that is more responsive to technological advancements. Such leadership can boost motivation, accelerate decision-making, and foster digital-based collaboration, thereby supporting employee productivity. These results align with the findings of Kamaruddin et al. (2024) and Qiao et al. (2024), which demonstrate the positive influence of Digital Leadership on employee performance.

b. The Influence of Digital Culture on Employee Performance

Digital Culture was found to have a positive and significant influence on employee performance, with a coefficient of 0.204, a t-statistic of 2.881, and a p-value of 0.002. These results indicate that the more effectively digital culture is implemented within

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a company, the better the employee performance.

Indicator DC1 had the highest outer loading (0.869), relating to employees' ability to respond quickly to workplace changes. This demonstrates that adaptability is a dominant aspect in shaping digital culture. In digital transformation, both companies and employees are required to adjust to constantly evolving work methods, communication patterns, and technological advancements.

A strong digital culture makes an organization more responsive to change and innovation. Employees accustomed to a digital-based work culture also find it easier to leverage technology to enhance efficiency, accelerate communication, and strengthen collaboration. These research findings are consistent with Azra et al. (2024), Efawati (2024), and Medah et al. (2023), who state that digital culture supports performance improvement through an innovative and adaptive work environment.

c. The Influence of Digital Literacy on Employee Performance

The research results indicate that digital literacy has a positive and significant influence on employee performance, with a coefficient of 0.298, a t-statistic of 4.855, and a p-value of 0.000. These results show that the higher an employee's digital literacy, the better their performance.

Indicator DLT6 had the highest outer loading (0.848), representing the ability to keep up with digital technology developments relevant to the job. This indicates that an employee's ability to update their knowledge and skills in line with technological advancements is a crucial component of digital literacy.

Employees with strong digital literacy tend to use technology more effectively and efficiently, master new technologies faster, reduce errors, and improve work quality. Thus, strengthening digital competence is essential for supporting performance in work environments undergoing digital transformation. These findings align with Dunan et al. (2025), Maszudi et al. (2025), and Ramadhan (2021).

d. The Influence of Cyberloafing on Employee Performance

Cyberloafing was found to have a positive and significant influence on employee performance, with a coefficient of 0.291, a t-statistic of 3.898, and a p-value of 0.000. These results indicate that the appropriate management of cyberloafing can be linked to increased employee productivity.

During the initial outer loading test phase, indicator CL1 was removed because its value was 0.658, falling below the 0.70 threshold. This indicator was deemed not to adequately represent the cyberloafing construct; one reason was that access to corporate email was restricted to specific positions, rendering the statement less relevant for some respondents.

Following the removal of CL1, indicator CL3 emerged as having the highest outer loading (0.881), relating to the use of the internet for brief entertainment breaks during work. This finding indicates that brief internet-based entertainment activities constitute the most dominant form of cyberloafing in this study. Such activities can serve as recovery mechanisms that help alleviate boredom and fatigue, enabling employees to refocus on their work.

Nevertheless, cyberloafing requires balanced management, as excessive use can diminish productivity. The effect size result was 0.169, making cyberloafing the variable with the greatest relative influence on performance, falling within the moderate effect category. This finding is consistent with Marifah (2025), Ngowella et al. (2022), and Saputri (2022).

e. The Influence of Digital Leadership, Digital Culture, Digital Literacy, and Cyberloafing on Employee Performance

The research results indicate that Digital Leadership, Digital Culture, Digital Literacy, and Cyberloafing simultaneously exert a significant influence on Employee Performance. The simultaneous test yielded an F-statistic of 82.174 with a significance level of 0.000, demonstrating that the four variables collectively have a significant impact on Employee Performance.

The model's explanatory power regarding Employee Performance is indicated by an R^2 value of 0.674. This means that 67.4% of the variation in Employee Performance can be explained by these four variables, while 32.6% is influenced by factors outside the research model. This value demonstrates that the combination of the four variables possesses strong explanatory power regarding changes in Employee Performance.

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Conceptually, these four variables play distinct roles within the digital work environment. Digital Leadership directs change and technology utilization; Digital Culture fosters an environment adaptive to innovation; Digital Literacy enhances employees' ability to use technology; and Cyberloafing relates to employee behavior regarding technology usage during work hours. The combination of these factors shapes organizational conditions that can influence the effectiveness of employee performance.

These findings support the human resource management grand theory proposed by Armstrong which positions human resource management as a crucial factor in achieving organizational performance. In the context of digital transformation, technology-supportive leadership, an adaptive culture, enhanced digital literacy, and the management of employee digital behavior can all facilitate sustained performance improvement.**4.2.2.**

4.2.2. Comparison with Previous Studies

The positive relationship between digital leadership and employee performance is consistent with findings reported by Kamaruddin et al. (2024) and Qiao et al. (2024). These studies support the relevance of leadership in guiding employees through digital transformation. Similarly, the positive effect of digital culture aligns with Azra et al. (2024), Efawati (2024), and Medah et al. (2023), which associate an adaptive and innovative digital work environment with improved employee performance. The digital literacy findings are also consistent with Dunan et al. (2025), Maszudi et al. (2025), and Ramadhan (2021), emphasizing the importance of employees' ability to use and adapt to digital technologies.

The positive cyberloafing result differs from the potential performance-reducing relationship discussed by Marifah (2025), Ngowella et al. (2022), and Saputri (2022). This difference suggests that cyberloafing should be interpreted in relation to its form, extent, and organizational context rather than assumed to have a uniformly negative or positive effect. The present findings therefore contribute context-specific evidence from PT Envicon Ekatama while highlighting the need for further investigation into the conditions under which cyberloafing is associated with employee performance.

4.2.3. Theoretical Contributions

This study contributes to human resource management theory by demonstrating the relevance of organizational and individual factors in explaining employee performance in a technology-based workplace. Consistent with the human resource management perspective proposed by Armstrong the findings indicate that leadership, organizational culture, employee capabilities, and workplace behavior are relevant to organizational performance. By examining digital leadership, digital culture, digital literacy, and cyberloafing simultaneously, the study extends the discussion of employee performance beyond any single organizational or individual factor. The findings also highlight the importance of distinguishing the statistical relationship between cyberloafing and performance from a causal claim that personal internet use necessarily improves productivity.

4.2.4. Practical and Policy Implications

PT Envicon Ekatama should strengthen digital leadership by helping managers communicate technological changes, guide technology adoption, and reduce employee resistance to digital innovation. The company should also foster an adaptive digital culture that encourages collaboration, innovation, and responsiveness to workplace changes. Because digital literacy had the highest path coefficient, training and continuous digital competency development should be prioritized. Cyberloafing should be managed through clear internet-use policies and proportionate supervision, while recognizing that the positive statistical relationship found in this study does not justify unrestricted non-work-related internet use. These measures should be evaluated against actual employee performance outcomes.

4.2.5. Integration with the Research Gap

The study addresses the identified research gap by examining the four variables together within the organizational context of PT Envicon Ekatama. The significant results provide empirical evidence that digital leadership, digital culture, digital literacy, and cyberloafing are associated with employee performance both individually and collectively. The positive cyberloafing coefficient is particularly relevant because it differs from findings that emphasize potential performance reductions (Marifah, 2025; Ngowella et al., 2022; Saputri, 2022). This result reinforces the need to examine

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cyberloafing in specific organizational settings and to avoid generalizing its relationship with performance without considering the behavior being measured and the context in which it occurs.

4.2.6. Acknowledgement of Study Limitations

The findings are based on employees of PT Envicon Ekatama and therefore reflect a specific organizational setting. Their applicability to other companies or industries should be considered cautiously. In addition, the positive relationship between cyberloafing and employee performance does not establish causality or demonstrate that all forms of cyberloafing are beneficial. The model also leaves 32.6% of the variation in employee performance unexplained, indicating that other factors may be relevant. These limitations should be considered when interpreting the findings and applying them to broader organizational contexts.

5. Conclusion

5.1. Summary of Key Findings

This study examined the effects of digital leadership, digital culture, digital literacy, and cyberloafing on employee performance at PT Envicon Ekatama. All four variables had positive and statistically significant relationships with employee performance, and their combined effect was statistically significant. Digital literacy had the highest path coefficient, followed by cyberloafing, digital leadership, and digital culture. The model explained 67.4% of the variation in employee performance. These findings indicate that employee performance in a technology-based workplace is associated with a combination of leadership practices, organizational culture, digital capabilities, and employee online behavior.

5.2. Theoretical Contributions

The study contributes to the human resource management perspective by integrating organizational factors and individual digital capabilities and behavior into one empirical model of employee performance. The findings support the relevance of the perspective proposed by Armstrong et al. (2020) in a digitally enabled work environment. They also highlight the importance of examining cyberloafing contextually, as its positive relationship with performance in this study should not be interpreted as evidence that unrestricted personal internet use necessarily improves productivity.

5.3. Practical and Policy Implications

PT Envicon Ekatama should improve digital leadership through guidance and support for technological change, cultivate an adaptive and collaborative digital culture, and strengthen employee digital literacy through training and competency development. The company should also establish clear and proportionate policies for managing cyberloafing. These measures should focus on improving work quality and productivity while ensuring that personal internet use does not interfere with employees' responsibilities.

5.4. Limitations of the Study

This study focuses on one company, which limits the extent to which its findings can be generalized to other organizational contexts. In addition, although the model explains 67.4% of the variation in employee performance, the remaining 32.6% is associated with factors not included in the analysis. The observed positive relationship between cyberloafing and performance also requires cautious interpretation because it does not establish causality or show that all forms of cyberloafing produce beneficial outcomes.

5.5. Directions for Future Research

Future research should examine the proposed relationships across different companies, industries, and organizational settings to assess the generalizability of the findings. Additional variables, including digital competence, technostress, technology acceptance, and employee engagement, could be incorporated to explain more of the variation in employee performance. Researchers could also employ alternative analytical approaches, such as covariance-based structural equation modeling (CB-SEM), and investigate the conditions under which cyberloafing is associated with positive or negative employee outcomes.

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