

The Role of Work Engagement in Mediating the Effects of Digital Leadership, Digital Competence, and Self-Efficacy on Employee Performance (A Study of Urban Village Offices in Tegal City)

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ABSTRACT

This study aims to analyze the influence of digital leadership, digital competence, and self-efficacy on employee performance and examine the role of work engagement in mediating this relationship among employees at village offices throughout Tegal City. The study population was all village employees in Tegal City, with a sample size of 265 respondents determined using a census sampling technique. This study employed a quantitative approach with a survey method through questionnaire distribution. Data analysis was performed using Partial Least Squares (PLS)-based Structural Equation Modeling (SEM) with the assistance of SmartPLS software, which included testing the measurement model (outer model) and the structural model (inner model). The results showed that digital leadership had no direct effect on employee performance, digital competence had a positive effect on employee performance, self-efficacy had a positive effect on employee performance, digital leadership had a positive effect on work engagement, digital competence had no effect on work engagement, self-efficacy had a positive effect on work engagement, and work engagement had a positive effect on employee performance. Furthermore, work engagement mediates the influence of digital leadership and self-efficacy on employee performance, but fails to mediate the influence of digital competence on employee performance.

INTRODUCTION

The rapid advancement of digital technology has transformed the way organizations conduct their operational activities, including the delivery of public services (Verhoef et al., 2021; Hanelt et al., 2021). Digital transformation not only requires the availability of technological infrastructure but also demands the readiness of human resources, particularly in terms of digital capabilities, adaptability to change, and leadership capable of managing such transformation (Criado et al., 2021). In this context, *digital leadership* has become a critical factor as it fosters innovation, enhances collaboration, and strengthens employee

engagement, thereby improving organizational performance (Zeike et al., 2022; AlNuaimi et al., 2022).

Within the public sector, particularly at the urban village (*kelurahan*) level, the implementation of digital public services continues to face various challenges (Criado et al., 2021; Mergel et al., 2021). Urban village employees, who serve as the frontline providers of public services, are expected to utilize digital technology effectively. However, limited technological adaptability, inadequate digital leadership, and low employee engagement have hindered the optimal implementation of digitalization. Similar conditions are evident in the urban villages of Tegal City, which are currently developing a digital-based public service system.

Employee performance data from urban village offices across Tegal City in 2025 indicate that the achievement of digital service performance indicators remains below the established targets (Internal Data of the Tegal City Government, 2025). The digital document verification rate reached only 75%, the utilization of the integrated public service application was 68%, and the response rate to online public complaints was only 60%. These relatively low achievements suggest that employee performance in supporting digital transformation has not yet reached an optimal level, mainly due to delays in data processing, limited initiative in utilizing digital applications, and insufficient responsiveness to digital service delivery.

Previous studies have demonstrated that *digital leadership*, digital competence, *self-efficacy*, and *work engagement* are associated with employee performance (van Laar et al., 2021; Bakker & de Vries, 2021). However, the findings remain inconsistent. While some studies report significant positive relationships among these variables, others have found insignificant effects (Tandon et al., 2022; Zeike et al., 2022). These inconsistencies indicate the existence of a research gap, providing an opportunity to re-examine the relationships among these variables, particularly by incorporating *work engagement* as a mediating variable.

In addition to *digital leadership*, digital competence and *self-efficacy* are also regarded as key determinants of employee performance (van Laar et al., 2021; Sánchez-Prieto et al., 2022). Digital competence enables employees to utilize technology effectively, thereby enhancing productivity and service quality, whereas *self-efficacy* strengthens employees' confidence in dealing with work-related challenges (Tandon et al., 2022). Meanwhile, *work engagement* reflects employees' involvement, enthusiasm, and commitment to their work, thereby potentially reinforcing the influence of these factors on improved employee performance (Bakker & de Vries, 2021).

This study is important because the success of digital transformation in public service delivery depends not only on the availability of technology but also on an organization's ability to effectively manage its human resources. The relatively low achievement of digital public service performance in urban village offices across Tegal City indicates persistent challenges related to the implementation of *digital leadership*, digital competence, and

employees' *self-efficacy*. Furthermore, the inconsistent findings of previous studies regarding the effects of these variables on employee performance highlight the need for further investigation.

Based on the empirical phenomenon and previous research findings, a gap remains between the demands of digital transformation and the actual conditions of employees in the urban village offices of Tegal City (Verhoef et al., 2021; Hanelt et al., 2021). The relatively low performance in digital public service delivery, together with the inconsistent findings in prior studies, underscores the need for a more comprehensive examination of the factors influencing employee performance. Therefore, this study aims to analyze the effects of *digital leadership*, digital competence, and *self-efficacy* on employee performance, with *work engagement* serving as a mediating variable. The findings are expected to contribute both theoretically and practically to improving the quality of digital public service delivery.

Digital leadership reflects a leader's ability to utilize digital technologies to direct, influence, and manage organizations throughout digital transformation. Leaders with strong digital competencies create adaptive work environments, foster innovation, accelerate decision-making, and enhance organizational effectiveness and efficiency. Consequently, employees become more productive, responsive to change, and capable of achieving higher performance. Previous studies have demonstrated that *digital leadership* has a positive and significant effect on employee performance by enhancing organizations' capability to leverage digital technologies in achieving organizational objectives (Paulina, 2023; Öngel et al., 2024; Yuan et al., 2024).

H1: *Digital leadership* has a positive and significant effect on employee performance.

Digital competence refers to employees' ability to effectively obtain, manage, evaluate, and utilize digital information and technologies in completing work tasks. Employees with strong digital competence are better able to adapt to technological advancements, operate various digital applications, and accomplish tasks more quickly, accurately, and efficiently. In the public sector, digital competence is a critical determinant of service quality and productivity. Research by Ingsih et al. (2024) found that digital competence positively influences service quality and employee performance. Similarly, Chaedir et al. (2024) reported that digital competence has a positive and significant effect on employee performance.

H2: Digital competence has a positive and significant effect on employee performance.

Self-efficacy is an individual's belief in their ability to perform tasks and overcome work-related challenges. Employees with high *self-efficacy* tend to be more confident, persistent, capable of making sound decisions, and highly motivated to achieve organizational goals. Consequently, they work more effectively and productively, leading to improved performance. Previous studies by Muttaqin et al. (2023), Lestari et al. (2024), and Suyasa and Agung (2024) consistently demonstrate that *self-efficacy* positively and significantly affects employee performance.

H3: *Self-efficacy* has a positive and significant effect on employee performance.

Work engagement is characterized by vigor, dedication, and absorption in work activities. Employees with high *work engagement* exhibit greater enthusiasm, commitment, and responsibility, enabling them to perform tasks effectively and achieve superior performance. Research conducted by Hidayat et al. (2024), Al-Haziati (2024), and Nugraha and Kharismasyah (2024) indicates that *work engagement* positively and significantly influences employee performance.

H4: *Work engagement* has a positive and significant effect on employee performance.

Digital leadership enables leaders to inspire, facilitate, and support employees during organizational digital transformation. Leaders with strong digital competencies foster collaboration, encourage innovation, support technology adoption, and establish effective communication, thereby increasing employees' sense of belonging, motivation, and engagement. Studies by Li et al. (2024) and Rochmatulaili et al. (2025) confirm that *digital leadership* positively and significantly influences *work engagement*.

H5: *Digital leadership* has a positive and significant effect on *work engagement*.

Digital competence enables employees to effectively use digital technologies, thereby enhancing confidence, productivity, and adaptability to technological change. According to the Job Demands–Resources (JD-R) Theory, digital competence serves as a personal resource that enhances employees' vigor, dedication, and absorption at work. Sang et al. (2023) and Ye et al. (2024) found that digital competence positively and significantly affects *work engagement*.

H6: Digital competence has a positive and significant effect on *work engagement*.

According to Social Cognitive Theory, individuals with high *self-efficacy* demonstrate greater confidence, motivation, persistence, and resilience in dealing with work challenges. These characteristics foster stronger enthusiasm, dedication, and engagement in work activities. Previous studies by Ningsih et al. (2024), Buulolo et al. (2025), and Chopra and Srivastava (2024) consistently reported a positive and significant relationship between *self-efficacy* and *work engagement*.

H7: *Self-efficacy* has a positive and significant effect on *work engagement*.

Digital leadership creates adaptive, innovative, and collaborative work environments by empowering employees throughout digital transformation. Such leadership enhances employees' motivation, commitment, and engagement, which ultimately leads to improved performance. Studies by Li et al. (2024) and Mollah et al. (2025) demonstrate that *work engagement* mediates the relationship between *digital leadership* and employee performance.

H8: *Work engagement* mediates the effect of *digital leadership* on employee performance.

Employees with strong digital competence are more capable of utilizing digital technologies effectively, which enhances confidence, motivation, and engagement at work. From the perspective of the JD-R Theory, digital competence functions as a personal resource that increases vigor, dedication, and absorption, ultimately improving performance. Research

by Ye et al. (2024) and Jannah et al. (2026) supports the mediating role of *work engagement* in the relationship between digital competence and employee performance.

H9: *Work engagement* mediates the effect of digital competence on employee performance.

Employees with high *self-efficacy* are more confident, motivated, and resilient in overcoming work challenges. This confidence promotes greater *work engagement*, which subsequently enhances productivity and employee performance. Studies by Wiyanto et al. (2024) and Wargoputri et al. (2024) demonstrate that *work engagement* significantly mediates the relationship between *self-efficacy* and employee performance.

H10: *Work engagement* mediates the effect of *self-efficacy* on employee performance.

RESEARCH METHOD

Research Model

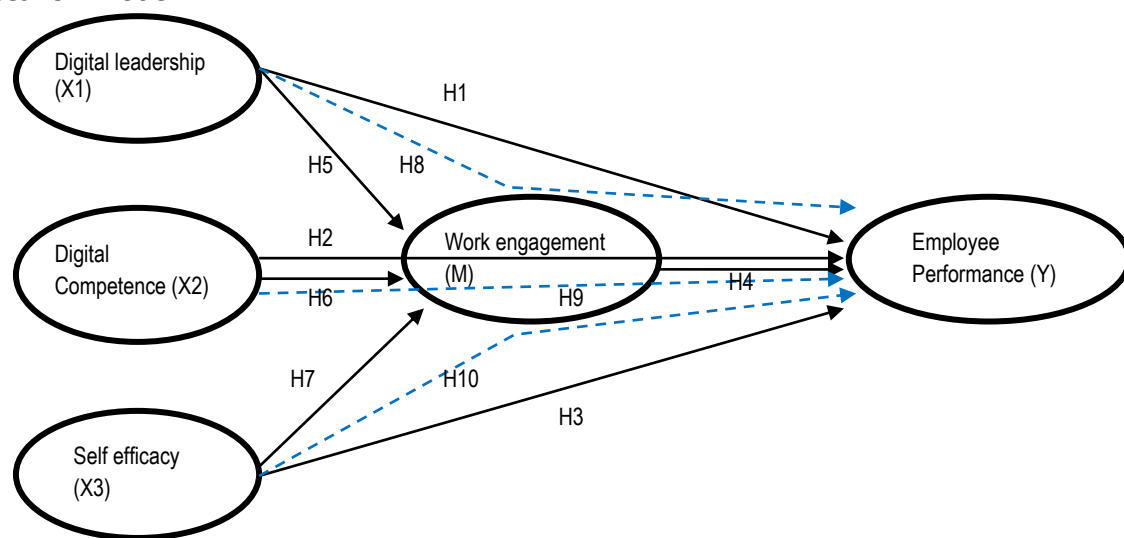


Figure 1. Research Model

Research Methods

The population in this study was 265 village employees from 27 villages in Tegal City. The sampling technique used saturated sampling, resulting in a sample size equal to the population size, namely 265 respondents. The data collection method used was a questionnaire. The questionnaire provided five answer choices, with scores given by respondents based on a Likert scale. Data analysis used the Partial Least Squares-Structural Equation Modeling (PLS-SEM) method using SmartPLS version 4 software.

RESULT AND DISCUSSION

Outer Model

The AVE and outer loading values for digital leadership, digital competence, self-efficacy, work engagement, and employee performance are greater than 0.5 and greater than 0.7, respectively. Therefore, the variables digital leadership, digital competence, self-efficacy,

work engagement, and employee performance are convergently valid. The square root of the AVE value for the same latent variable is greater than that for different variables, indicating that digital leadership, digital competence, self-efficacy, work engagement, and employee performance are valid discriminants. Meanwhile, digital leadership, digital competence, self-efficacy, work engagement, and employee performance have Cronbach's Alpha values above 0.7 and Composite Reliability values above 0.8, indicating reliable service quality, customer trust, customer satisfaction, and customer loyalty. The Q2 value ranges from 0.5 to 0.79, indicating high predictive model capability. The SRMR value is $0.054 < 0.08$, and the NFI (saturated) value is $0.969 > 0.90$, approaching 1. Therefore, it can be concluded that the model in this study meets the criteria for good model fit.

Inner Model

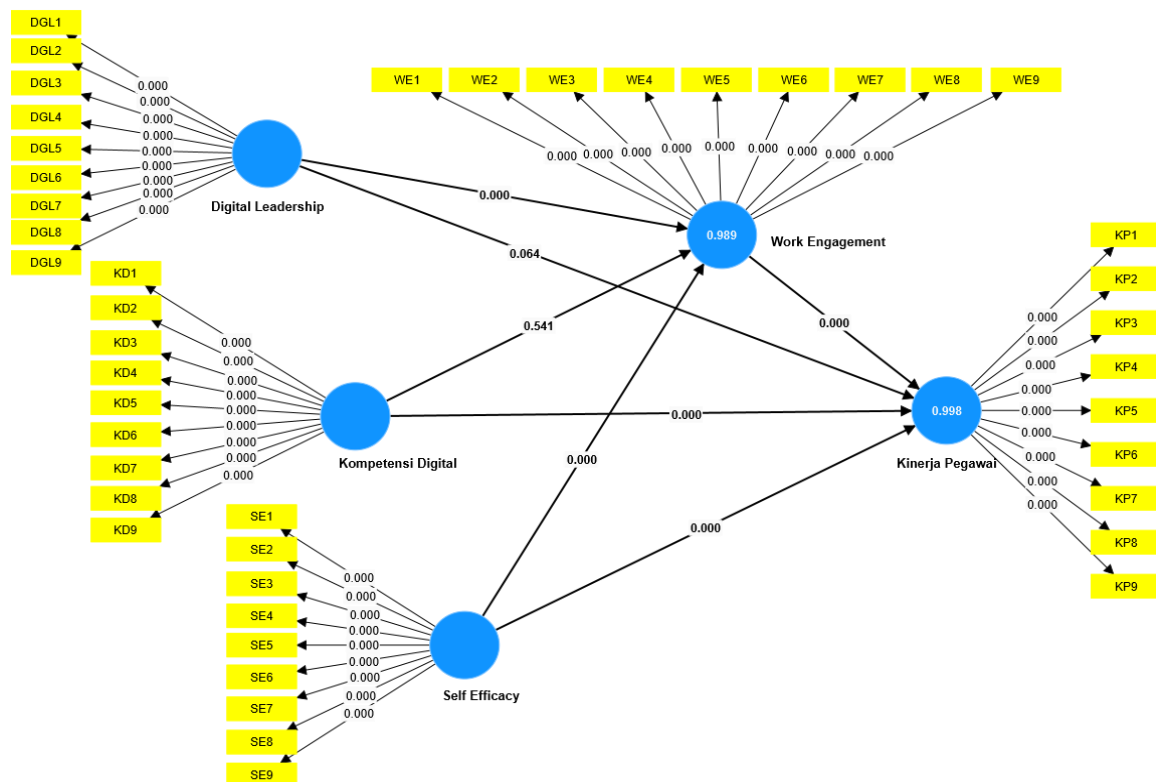


Figure 2. Inner Model

Direct Effect

Table 1. Direct Effect

Hypothesis	Relationship Between Variables	Original Sample	P-Value	Decision
H1	Digital Leadership → Employee Performance	0.072	0.064	Rejected
H2	Digital Competence → Employee Performance	0.288	0.000	Accepted
H3	Self-Efficacy → Employee Performance	0.368	0.000	Accepted
H4	Work Engagement → Employee Performance	0.275	0.000	Accepted
H5	Digital Leadership → Work Engagement	0.407	0.000	Accepted
H6	Digital Competence → Work Engagement	-0.053	0.541	Rejected
H7	Self-Efficacy → Work Engagement	0.642	0.000	Accepted

H1. The effect of digital leadership on employee performance has a positive original sample value of 0.072, with a probability value (p Value) of $0.064 > 0.05$ (hypothesis rejected). This means there is no direct effect of digital leadership on employee performance.

H2. The effect of digital competence on employee performance has a positive original sample value of 0.288, with a probability value (p Value) of $0.000 < 0.05$ (hypothesis accepted). This means there is a significant positive effect of digital competence on employee performance.

H3. The effect of self-efficacy on employee performance has a positive original sample value of -0.368, with a probability value (p Value) of $0.000 < 0.05$ (hypothesis accepted). This means there is a significant positive effect of self-efficacy on employee performance.

H4. The effect of work engagement on performance has a positive original sample value of 0.275, with a probability value (p Value) of $0.000 < 0.05$ (hypothesis accepted). This indicates a significant positive effect of work engagement on employee performance.

H5. The effect of digital leadership on work engagement has a positive original sample value of 0.407, with a probability value (p Value) of $0.000 < 0.05$ (hypothesis accepted). This indicates a significant positive effect of digital leadership on work engagement.

H6. The effect of digital competence on work engagement has a negative original sample value of -0.053, with a probability value (p Value) of $0.541 > 0.05$ (hypothesis rejected). This indicates no effect of digital competence on work engagement.

H7. The effect of self-efficacy on work engagement has a positive original sample value of 0.642, with a probability value (p Value) of $0.000 < 0.05$ (hypothesis accepted). This indicates that self-efficacy has a significant positive effect on work engagement.

Indirect Effects

Table 2. Indirect Effects

Hypothesis	Relationship Between Variables	Original Sample	P-Value	VAF	Decision
H8	Digital Leadership → Work Engagement → Employee Performance	0.112	0.000	0.6085	Accepted (Partial Complementary Mediation)
H9	Digital Competence → Work Engagement → Employee Performance	-0.015	0.530	0.0482	Rejected

H10	Self-Efficacy → Work Engagement → Employee Performance	0.177	0.000	0.3242	Accepted (Partial Complementary Mediation)
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H8. The effect of digital leadership on employee performance through the work engagement variable has an original sample value of 0.112 (positive), a probability value (ρ Value) of 0.000 ± 0.05 (mediating), and a VAF value of $0.2 < 0.6085 < 0.8$. This means that digital leadership has a positive effect on employee performance through work engagement with a partial complementary mediation.

H9. The effect of digital competence on employee performance through the work engagement variable has an original sample value of -0.015 (negative), a probability value (ρ Value) of $0.530 > 0.05$ (non-mediating), and a VAF value of $0.0482 < 0.2$. This means that digital competence does not have a positive effect on employee performance through work engagement.

H10. The influence of self-efficacy on employee performance through the work engagement variable has an original sample value of 0.177 (positive value), and a probability value (ρ Value) of $0.000 < 0.05$ (mediating) and a VAF value of $0.2 < 0.3242 < 0.8$. This means that self-efficacy has a positive effect on employee performance through work engagement with a partial complementary mediation nature.

Discussion

The Effect of Digital Leadership on Employee Performance

The findings indicate that digital leadership has no significant effect on employee performance. Therefore, the hypothesis stating that digital leadership positively influences employee performance is rejected. This finding suggests that leaders' ability to drive digital transformation has not yet directly improved employee performance. This condition may occur because the implementation of digital leadership is still at an early stage and has not been accompanied by adequate human resource readiness, organizational culture, or digital infrastructure. In public sector organizations, employee performance is influenced not only by digital leadership but also by other factors such as digital competence, work motivation, work systems, and work engagement. Consequently, although leaders have adopted digital approaches, their impact on employee performance has not yet been directly perceived by employees. These findings are consistent with Raharjo et al. (2024), who reported that digital leadership does not significantly influence employee performance because the success of digital transformation depends more on organizational readiness and employees' ability to adopt technology. Similarly, Zulkifli et al. (2023) found that digital leadership has no direct effect on performance but becomes more effective when supported by mediating variables such as organizational commitment or work engagement.

The Effect of Digital Competence on Employee Performance

The results show that digital competence has a positive and significant effect on employee performance; therefore, the proposed hypothesis is accepted. This finding indicates

that employees with higher digital competence tend to demonstrate better job performance. Employees who are capable of using, managing, evaluating, and utilizing digital technologies can adapt more easily to changes in work systems, complete tasks more quickly, accurately, and efficiently, and deliver higher-quality public services. In public sector organizations, digital competence serves as an essential resource for supporting digital transformation and improving employee productivity. These findings are consistent with Ingsih et al. (2024), who reported that digital competence positively influences employee performance through improvements in service quality and the utilization of smart digital services. Likewise, Nawawi et al. (2026) identified digital competence as a key determinant of employee performance in the public sector because it enhances the effectiveness of digitally supported work processes.

The Effect of Self-Efficacy on Employee Performance

The findings reveal that self-efficacy has a positive and significant effect on employee performance; thus, the proposed hypothesis is accepted. This suggests that the stronger employees' confidence in their ability to complete tasks and overcome workplace challenges, the higher their performance. Employees with high self-efficacy tend to be more confident in decision-making, better able to overcome work obstacles, highly motivated, and persistent in achieving organizational goals. Within public organizations, self-efficacy functions as an important psychological resource that enhances productivity, service quality, and adaptability to organizational changes, including digital transformation. These findings support Lestari et al. (2024), who found that self-efficacy positively and significantly affects employee performance by increasing confidence and work effectiveness. Similarly, Suyasa and Agung (2024) reported that higher levels of self-efficacy are associated with better employee performance in both task performance and contextual performance.

The Effect of Work Engagement on Employee Performance

The results demonstrate that work engagement has a positive and significant effect on employee performance; therefore, the hypothesis is accepted. This finding indicates that employees with higher levels of work engagement achieve higher levels of performance. Highly engaged employees display greater vigor, dedication, and absorption, enabling them to complete tasks more effectively, improve productivity, and provide higher-quality services. From the perspective of the Job Demands–Resources (JD-R) Theory, work engagement represents a positive psychological state that encourages employees to utilize available resources optimally, leading to superior performance. These findings are consistent with Sugiarto et al. (2024), who demonstrated that work engagement positively and significantly influences employee performance by strengthening motivation and organizational commitment. Likewise, Mundhra and Pramanik (2024) found that employees with high work engagement perform better because they are more enthusiastic, focused, and responsible in completing their work.

The Effect of Digital Leadership on Work Engagement

The findings indicate that digital leadership has a positive and significant effect on work engagement, supporting the proposed hypothesis. This suggests that the better leaders are at managing digital transformation, utilizing technology, fostering effective communication, and encouraging innovation, the higher employees' work engagement. Digital leadership creates an adaptive and collaborative work environment in which employees feel supported, valued, and provided with opportunities for growth in response to technological change. These conditions foster vigor, dedication, and absorption in employees' work. From the Job Demands–Resources (JD-R) Theory perspective, digital leadership represents an important job resource that enhances intrinsic motivation and employee engagement. These findings are consistent with Li et al. (2024), who found that digital leadership positively influences work engagement through increased employee empowerment and affective commitment. Similarly, Rochmatulaili et al. (2025) reported that digital leadership significantly enhances work engagement.

The Effect of Digital Competence on Work Engagement

The results show that digital competence does not have a significant effect on work engagement, leading to the rejection of the proposed hypothesis. This finding suggests that employees' ability to master and utilize digital technologies does not necessarily enhance their enthusiasm, dedication, or involvement in their work. Digital competence primarily functions as a technical capability that enables employees to perform their tasks efficiently, whereas work engagement is a psychological condition influenced by factors such as leadership, organizational support, work environment, recognition, and intrinsic motivation. Consequently, employees with high digital competence may not necessarily exhibit high work engagement if they are not supported by an organizational environment that fosters comfort, appreciation, and opportunities for professional development. These findings differ from Sang et al. (2023), who reported that digital competence positively influences work engagement through increased effort expectancy among university educators. However, they are consistent with Ye et al. (2024), who argued that improvements in work engagement during digital transformation result from the combined influence of organizational factors, leadership, and job resources rather than digital competence alone.

The Effect of Self-Efficacy on Work Engagement

The findings indicate that self-efficacy has a positive and significant effect on work engagement, supporting the proposed hypothesis. This suggests that employees who have greater confidence in their ability to accomplish tasks and overcome workplace challenges also demonstrate higher levels of engagement. Employees with strong self-efficacy tend to be more confident, persistent in overcoming obstacles, and highly motivated to achieve organizational goals. These characteristics promote vigor, dedication, and absorption in their work. According to Bandura's Social Cognitive Theory, self-efficacy is considered a personal resource that enhances both motivation and work engagement. These findings are consistent

with Wiyanto, Ratnaningsih, and Suratini (2024), who found that self-efficacy positively and significantly influences work engagement in the aviation sector. Likewise, Wargoputri, Wahyuningsih, and Surwanti (2024) reported that employees with higher self-efficacy demonstrate greater work engagement, which ultimately contributes to improved performance.

The Mediating Role of Work Engagement in the Relationship Between Digital Leadership and Employee Performance

The findings indicate that work engagement positively mediates the relationship between digital leadership and employee performance; therefore, the proposed hypothesis is accepted. This suggests that digital leadership does not directly improve employee performance but first enhances employees' engagement, which subsequently leads to better performance. Leaders who effectively utilize digital technologies, promote open communication, support innovation, and empower employees throughout digital transformation create a favorable work environment that strengthens employees' vigor, dedication, and absorption. High levels of work engagement encourage employees to become more productive, committed, and willing to contribute their best efforts to the organization. This finding supports the Job Demands–Resources (JD-R) Theory, which explains that leadership functions as a job resource capable of enhancing work motivation through work engagement, ultimately improving performance. These results are in line with Li et al. (2024), who found that digital leadership enhances work engagement through employee empowerment and affective commitment. Likewise, Rochmatulaili et al. (2025) demonstrated that work engagement mediates the relationship between digital leadership and employee performance, indicating that digital leadership becomes more effective in improving performance when it increases employees' engagement.

The Mediating Role of Work Engagement in the Relationship Between Digital Competence and Employee Performance

The results indicate that work engagement does not mediate the positive relationship between digital competence and employee performance; therefore, the proposed hypothesis is rejected. This finding suggests that although digital competence directly enhances employee performance, it does not improve performance indirectly through work engagement. Digital competence mainly functions as a technical capability that enables employees to perform their duties more effectively and efficiently, but it is insufficient to foster emotional and psychological attachment to work. Work engagement is influenced by numerous other factors, including organizational support, leadership style, organizational culture, recognition, and a supportive work environment. Therefore, improving digital competence without simultaneously creating a work environment that promotes enthusiasm, dedication, and involvement is unlikely to produce a significant mediating effect on performance. These findings are supported by Jannah et al. (2026), who found that although digital competence positively affects both work engagement and employee performance, work engagement does

not mediate the relationship between digital competence and performance. Similarly, Rahayu et al. (2025) reported that work engagement does not mediate the relationship between competence and employee performance, indicating that competence exerts a stronger direct effect on performance than an indirect effect through work engagement.

The Mediating Role of Work Engagement in the Relationship Between Self-Efficacy and Employee Performance

The findings demonstrate that work engagement positively mediates the relationship between self-efficacy and employee performance, supporting the proposed hypothesis. This indicates that employees' confidence in their own abilities not only directly improves performance but also enhances vigor, dedication, and absorption, which subsequently contribute to better performance. Employees with high self-efficacy tend to be more confident in facing challenges, more capable of overcoming work obstacles, and more motivated to achieve organizational goals. These characteristics foster stronger work engagement, encouraging employees to exert greater effort and achieve optimal performance. This finding is consistent with the Job Demands–Resources (JD-R) Theory, which proposes that self-efficacy, as a personal resource, enhances work engagement and subsequently improves performance. The results are consistent with Wiyanto et al. (2024), who found that work engagement mediates the relationship between self-efficacy and employee performance in the aviation sector. Likewise, Wargoputri et al. (2024) demonstrated that work engagement serves as a significant mediator that strengthens the relationship between self-efficacy and job performance, indicating that greater employee self-confidence leads to stronger performance when accompanied by higher levels of work engagement.

CONCLUSION

1. Digital leadership does not directly influence employee performance.
2. Digital competence has a direct positive influence on employee performance.
3. Self-efficacy has a direct positive influence on employee performance.
4. Digital leadership has a direct positive influence on work engagement.
5. Digital competence does not directly influence work engagement.
6. Self-efficacy has a direct positive influence on work engagement.
7. Work engagement has a direct positive influence on employee performance.
8. Work engagement mediates the positive influence of digital leadership on employee performance with a partial complementary mediation.
9. Work engagement does not mediate the influence of digital competence on employee performance.
10. Work engagement mediates the positive influence of self-efficacy on employee performance with a partial complementary mediation.

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