

## **Linking Digital Leadership to Work Engagement through Digital Readiness: Creative MSMEs in the Kedu Residency, Central Java**

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**ABSTRACT.** This study explores the influence of digital leadership on employee work engagement within creative MSMEs in the Kedu Residency, with a particular focus on digital readiness as a mediating factor. The rapid advancement of digital technology poses significant challenges for MSMEs, necessitating effective leadership to enhance workforce engagement. Employing a quantitative approach, data were collected from 200 respondents using purposive sampling. Analysis was conducted through regression techniques and the Sobel test to assess the relationships among digital leadership, digital readiness, and work engagement. The findings reveal that digital leadership has a positive influence on digital readiness, which in turn significantly boosts employee work engagement. However, the direct effect of digital leadership on engagement was found to be negative when digital readiness among employees was insufficient. These results underscore the importance of enhancing digital readiness to fully leverage the benefits of digital leadership in increasing employee engagement. This research offers valuable insights for MSME owners aiming to improve workforce adaptability and engagement in the digital era.

Keyword: Digital Leadership; Work Engagement; Digital Readiness

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## INTRODUCTION

The creative industry MSMEs (Micro, Small, and Medium Enterprises) in the Kedu Residency have grown significantly and play a vital role in the regional economy, particularly in creating job opportunities and adding value to local products. However, amid the rapid development of digital technology, these MSMEs face challenges in adapting to and utilizing technology to enhance competitiveness and business innovation. Firmansyah, Herli, and Ghufrony (2025) revealed that the success of digital transformation in MSMEs is strongly influenced by internal factors, including organizational structure and readiness, which enable small businesses to respond to technological changes more efficiently (Firmansyah et al., 2025).

Alongside digital transformation, work patterns and labor demands have also undergone significant changes. The workforce is now expected not only to possess technical skills related to digital technology but also to demonstrate a high level of work engagement in order to adapt to digital work environments with optimal enthusiasm and effectiveness. Pingali et al. (2023) explain that digital readiness which comprises sensemaking ability, work agility, and technology implementation has become a key factor in successfully adapting the workforce in the era of small and medium enterprise digitalization (Pingali et al., 2023).

In the context of shifting work patterns, the role of leaders with *digital leadership* capabilities is crucial for driving technological transformation and managing teams effectively. Afshari et al. (2025) found that digital leadership competencies can foster successful digital transformation and accelerate technology adoption at the MSME level. Similarly, Imran et al. (2025) emphasized that digital leadership plays a significant role in ensuring the sustainability of small and medium enterprises by leveraging technology to enhance employee *work engagement*. Within this leadership framework, *trust* emerges as a foundational element that strengthens the relationship between leaders and their teams when adopting new technologies. As highlighted by Fatkhurrokhman and Pratama (2023), trust is essential in promoting loyalty and acceptance, especially in organizational and leadership contexts. Therefore, a digital leader's effectiveness lies not only in technological proficiency but also in their capacity to cultivate trust within the team in navigating rapid digital change.

The current challenge faced by creative industry MSMEs in the Kedu Residency is the low level of work engagement among the workforce, which is linked to the suboptimal implementation of digital leadership by business owners and the inadequate level of digital readiness among workers themselves. Abdallah, Safi, and Erturk (2024) emphasize that digital readiness is a critical factor in the success of digital transformation, including efforts to improve employee engagement (Abdallah et al., 2024). Therefore, this study aims to analyze the influence of digital leadership on the work engagement of MSME employees in the creative industry in the Kedu Residency, with digital readiness serving as a mediator that bridges digital work patterns with the need for an adaptive and engaged workforce.

The low level of work engagement among the workforce in creative industry MSMEs in the Kedu Residency has become a significant obstacle to business competitiveness in the digital era. Weak engagement can negatively impact employee motivation, productivity, and responsiveness to technological change—especially for small businesses that must remain adaptive and innovative. Li et al. (2024) found that the digital leadership capabilities of mid-level managers can significantly enhance employee engagement in the context of digital transformation. Conversely, poor

implementation of digital leadership may lead to a workforce that is less motivated and less connected to their work, which could ultimately undermine business competitiveness (Li et al., 2024).

The workforce of creative industry MSMEs in the Kedu Residency is not yet fully prepared to face the digital work patterns implemented by business leaders. Their digital readiness comprising sensemaking abilities, work agility, and technological implementation remains inadequate and has not yet bridged the demands of ever-evolving digital work environments (Pingali et al., 2023). This limitation hampers the workforce's ability to adapt to digital workflows, directly affecting levels of work engagement and weakening MSMEs' capacity to leverage technology in creating greater business value and competitiveness.

Although various previous studies have emphasized that digital leadership can positively impact work engagement and that digital readiness can strengthen the workforce's ability to adopt technology (Li et al., 2024; Pingali et al., 2023), no research has specifically examined the extent to which digital readiness mediates the relationship between digital leadership and work engagement in the context of creative industry MSMEs in the Kedu Residency. This gap provides a foundation for this study to address both academic and practical needs related to digital work patterns and the competitiveness of regional MSMEs, while also offering input for the development of workforce management models that are adaptive and relevant to the demands of the digital era.

Previous research has highlighted the significant role of digital leadership in enhancing work engagement, particularly in the context of technological adaptation and digital transformation within small and medium enterprises. Li et al. (2024) revealed that the digital leadership of mid-level managers can have a positive and substantial impact on employee engagement, especially by facilitating shifts in digital work patterns and fostering an adaptive work environment (Li et al., 2024). Moreover, Imran, Abdul Hamid, and Haque (2025) found that the positive effects of digital leadership can be amplified through the mediating mechanism of digital readiness, which enables SME employees to embrace and utilize technology to optimize their level of work engagement (Imran et al., 2025).

However, not all studies have revealed a direct and significant relationship between digital readiness or digital leadership and work engagement. Sari, Jaya, and Salsabela (2024) noted that while digital readiness may influence employees' acceptance of technology, this effect does not always translate directly into higher levels of work engagement (Sari et al., 2024). Likewise, Nugroho, Saputro, and Sugiharto (2024) found that digital leadership does not necessarily lead to increased innovative work behavior among employees directly; rather, this effect emerges when mediated by work engagement. This indicates that the patterns of relationships between these variables are not entirely consistent and may vary depending on the context and business sector (Nugroho et al., 2024).

These findings reveal relationship patterns that are not yet fully understood regarding the effects of digital leadership and digital readiness on work engagement. Some studies (Li et al., 2024; Imran et al., 2025) underscore the significant positive impact of digital leadership, even when mediated by digital readiness, while others (Sari et al., 2024; Nugroho et al., 2024) found no significant effects from each variable when considered independently. This inconsistency suggests that the underlying mechanisms linking these variables have not been fully explored and may vary depending on the context especially in small and medium enterprises with diverse digital work patterns and workforce characteristics.

Based on the literature review above, it can be concluded that no prior study has integrated digital leadership and digital readiness as a mediating factor to explain the relationship with work engagement levels among employees in creative industry MSMEs, particularly in the Kedu Residency. This gap presents an opportunity for future research to uncover the mediating role of digital readiness in the context of creative MSMEs currently facing digital work pattern transitions. By addressing this need, the research could contribute theoretical insights to the literature on digital management and workforce engagement, while also offering practical implications for small business actors aiming to optimize their business competitiveness in the digital era.

This study aims to analyze the influence of digital leadership on the work engagement level of employees in creative industry MSMEs in the Kedu Residency. Within the context of digital workflows and remote work patterns, a business leader's ability to optimize digital communication and facilitate work-related technology has proven to be significant in driving employee engagement (Boccoli et al., 2024). By understanding this influence, the study can provide a foundation for MSMEs to develop leadership models that are adaptive and aligned with workforce needs in the digital era.

In addition, this study also aims to analyze the role of digital readiness among workers as a mediator in the relationship between digital leadership and work engagement. Leso, Cortimiglia, and Ghezzi (2022) explain that the level of digital readiness in the workforce can strengthen the positive effects of digital leadership patterns on various work outcomes, including employee engagement levels. By examining this mediating mechanism, the study seeks to uncover relationship patterns that have not yet been fully revealed and to provide a more comprehensive picture of how digital work patterns are implemented among MSME employees.

This study also aims to provide recommendations for developing digital leadership capabilities and enhancing the level of digital readiness among the workforce in order to optimize work engagement in MSMEs located in the Kedu Residency. Referring to the findings of Wang, Mansor, and Leong (2024), which emphasize that digital leadership capabilities can serve as a foundation for fostering workforce competitiveness and innovation, this research is expected to offer strategic measures for business practitioners and policymakers. These measures would support equipping the workforce with adequate digital competencies to meet the demands of the digital work era.

This research broadens the scope of earlier studies on the link between digital leadership and work engagement by incorporating digital readiness as a mediating factor. Supporting this approach, Leso, Cortimiglia, and Ghezzi (2022) identified organizational elements especially digital readiness—as key mediators between digital leadership and outcomes like employee engagement. Unlike these findings, most previous studies tended to focus solely on direct associations between variables, without exploring the underlying mechanisms involved.

Focusing on creative industry MSMEs in the Kedu Residency highlights a unique local context that remains largely unexplored in studies on digital management and evolving work models. While most existing literature concentrates on large corporations, the distinct nature of creative MSMEs marked by cultural richness and limited digital infrastructure—has yet to receive sufficient academic attention. The study responds directly to this gap by offering insights tailored to the specific challenges and opportunities within this underserved sector.

This study also contributes to advancing academic discourse by framing the digitalization trends of small businesses and the implementation of hybrid work models as interrelated and relevant dimensions. Aligned with recent findings that digital leadership plays a crucial role in mobilizing digital capabilities at the level of small business actors through the use of digital platforms, this

research evaluates those developments within the practical context of hybrid work. In such settings, digital readiness emerges as a determining factor for the effectiveness of workforce engagement.

This study offers a significant novelty by positioning digital readiness as a specific mediator in the relationship between digital leadership and work engagement among employees of creative industry MSMEs in the Kedu Residency. Unlike most previous studies that have focused primarily on direct relationships between variables, this research introduces an integrated model that has not yet been explored in the context of local MSMEs—particularly in the Kedu region.

This model bridges digital work patterns with levels of employee engagement, thereby broadening the theoretical understanding in the fields of digital management and workforce engagement. On a practical level, the study also presents strategic implications for local MSME actors in formulating technological implementation models, strengthening workforce capabilities, and maximizing employee engagement to meet the evolving demands of the digital era.

At its core, digital leadership encompasses specific competencies that enhance a leader's effectiveness within a digital environment. According to Farkah in "Navigating Through the Digital Workplace" (2024), the key indicators of this competency include:

1. Digital interaction, referring to the ability to use digital media effectively for communication and task allocation.
2. Digital openness, which denotes a leader's willingness to embrace new technological innovations and to encourage their adoption by the team.
3. Digital role modeling, where the leader exemplifies the effective use of technology and promotes digital collaboration.

These dimensions are instrumental in shaping leadership styles that are responsive to the dynamics of the modern, digitally connected workplace.

Digital readiness reflects the extent to which organizations and their workforce are prepared to adopt and implement digital technology effectively. Pingali et al. (2023) demonstrate that the construct of digital readiness consists of three core dimensions:

1. Technological sensemaking the individual's ability to understand technological disruptions and interpret them to support informed decision-making,
2. Agility the degree to which the workforce and organization can respond swiftly to change, update strategies, and react to the dynamics of the digital marketplace,
3. Implementation of technology the consistent and effective application of new technologies in daily operations and business processes.

These three dimensions provide a solid framework for measuring how ready the creative MSME workforce in the Kedu Residency is to face digitalization challenges and foster work engagement in the era of digital transformation.

According to Oraphan et al. (2024), work engagement is defined as a positive psychological state associated with one's job, characterized by three key dimensions:

1. Vigor, which refers to the level of energy, mental resilience, and the willingness of employees to persevere through job-related challenges.
2. Dedication, reflecting feelings of pride, satisfaction, and enthusiasm toward one's work, as well as a desire to give one's best effort.
3. Absorption, describing a state in which individuals become deeply immersed in their tasks, often losing track of time due to their intense focus.

These dimensions collectively illustrate an engaged employee who is energized, committed, and fully present in their work activities. Let me know if you'd like help linking these concepts to your research model or discussing practical implications for MSMEs in the digital age.

## METHODS

This study is designed using a quantitative approach to examine the causal relationship between digital leadership, digital readiness, and work engagement among employees of creative industry MSMEs in the Kedu Residency. The research population includes MSME workers who are actively operating in various creative sub-sectors such as fashion, crafts, culinary, and digital media. A purposive sampling technique is employed, with criteria including employees who have worked for a minimum of one year and have experience using digital technology in their work activities. The total number of respondents selected for this study is 200 individuals. Data processing and analysis are conducted using SPSS software, and a Sobel test is applied to measure the significance of the mediating effect of digital readiness on the relationship between digital leadership and work engagement.

## RESULT AND DISCUSSION

Table 1. Coefficients of the Effect of Digital Leadership on Digital Readiness  
Coefficients<sup>a</sup>

Model	Unstandardized Coefficients		Standardized Coefficients		
	B	Std. Error	Beta	t	Sig.
1	(Constant) 4,272	1,396		3,060	,003
	digitalleadership 2,412	,069	,928	35,098	,000

a. Dependent Variable: digitalreadiness

Source: Authors' own work (2025)

The regression analysis results in Table 1 indicate that digital leadership has a positive and significant effect on digital readiness among employees of creative industry MSMEs in the Kedu Residency. The regression coefficient (B) is 2.412, with a t-value of 35.098 and a p-value of 0.000, demonstrating high statistical significance at the 99% confidence level. This suggests that the stronger the quality of digital leadership exhibited by MSME leaders, the higher the perceived level of digital readiness among their employees. The standardized Beta coefficient of 0.928 further confirms that the effect is remarkably strong on a standardized scale.

Table 1. Coefficients of the Effect of Digital Readiness on Work Engagement  
Coefficients<sup>a</sup>

Model	Unstandardized Coefficients		Standardized Coefficients		
	B	Std. Error	Beta	t	Sig.
1	(Constant) -1,691	,144		-11,743	,000
	digitalleadership -,557	,019	-,731	-29,896	,000
	digitalreadiness ,478	,007	1,633	66,730	,000

a. Dependent Variable: workengagement

Source: Authors' own work (2025)

The multiple regression results presented in Table 2 indicate that digital readiness has a positive and significant effect on work engagement ( $B = 0.478$ ;  $t = 66.730$ ;  $p = 0.000$ ). Interestingly, the direct influence of digital leadership on work engagement shows a negative and significant direction ( $B = -0.557$ ;  $t = -29.896$ ;  $p = 0.000$ ). This finding suggests that digital leadership, when not supported by sufficient digital readiness among the workforce, may actually introduce pressure or barriers that lower employee engagement levels. These results underscore the assumption that digital readiness serves as a crucial intermediary mechanism that enables digital leadership to positively impact employee engagement.

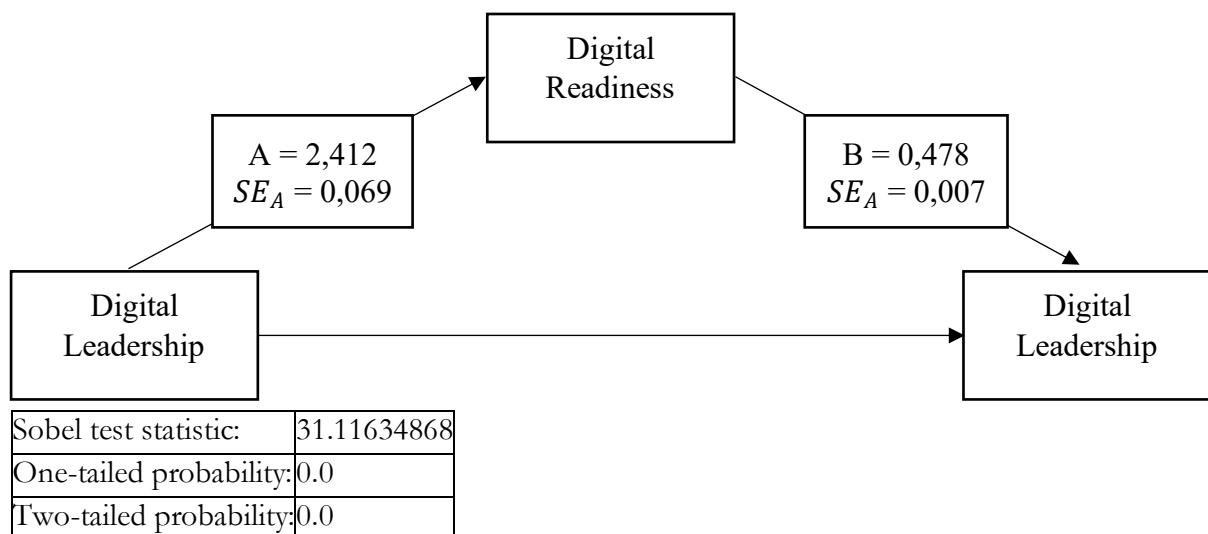


Figure 1. Sobel Test

Source: Authors' own work (2025)

The Sobel test was conducted as illustrated in Figure 1. The test produced a statistical value of 31.116 with a p-value of 0.000, indicating that the mediating effect of the digital readiness variable is statistically significant.

This confirms that digital readiness functions as a significant mediator in the relationship between digital leadership and work engagement. In other words, digital leadership will only be effective in enhancing employee engagement if the workforce possesses sufficient digital readiness to adopt and operate technology in their daily work activities.

## CONCLUSION

This study demonstrates that digital leadership significantly influences employee work engagement in creative MSMEs in the Kedu Residency, with digital readiness serving as an essential mediating factor. Despite the positive findings, there are limitations, including a restricted sample size and a focus on a single region, which may affect the generalizability of the results. The managerial implications of this study emphasize the importance of developing digital leadership capabilities among MSME owners and enhancing employee digital readiness to foster better work engagement. Future research is recommended to explore other variables that may influence this relationship and to conduct longitudinal studies to understand the dynamics of work engagement changes over time.

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