

How Digital Leadership Enhances Employee Creativity: The Mediating Roles of Digital Culture, Employee Digital Capability, and Innovation Self-Efficacy in Indonesian Startups

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ABSTRACT

Purpose – This study examines the relationship between Digital Leadership and Employee Creativity through the mediating roles of Digital Culture, Employee Digital Capability, and Employees' Innovation Self-Efficacy in Indonesian startup companies.

Design/Methodology/Approach – A quantitative cross-sectional survey was conducted with 171 employees of Indonesian startups. The proposed model was analyzed using Partial Least Squares Structural Equation Modeling (PLS-SEM) with SmartPLS 4.

Findings – Digital Leadership positively influences Digital Culture, Employee Digital Capability, and Employees' Innovation Self-Efficacy. However, only Digital Culture has a significant positive effect on Employee Creativity and significantly mediates the relationship between Digital Leadership and Employee Creativity. Neither Employee Digital Capability nor Employees' Innovation Self-Efficacy shows significant direct or mediating effects, while the direct relationship between Digital Leadership and Employee Creativity is also insignificant.

Originality/Value – This study extends previous digital leadership research by integrating environmental, competence-based, and psychological mechanisms into a parallel mediation model. The findings identify Digital Culture as the primary pathway through which Digital Leadership enhances Employee Creativity, offering theoretical and practical insights for startup organizations.

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1. Introduction

Digital transformation has become a critical strategic priority for organizations operating in increasingly volatile, uncertain, complex, and ambiguous environments. Advances in digital technologies including artificial intelligence, big data analytics, cloud computing, and digital platforms have fundamentally reshaped business models, operational processes, and interactions with customers and employees (Vial, 2019). Recent evidence illustrates the rapid adoption of digital technologies. According to the McKinsey Global Survey on AI, 78% of respondents reported that their organizations used artificial intelligence in at least one business function, increasing from 72% in early 2024 and 55% one year earlier (Singla et al., 2025). These developments demonstrate that digital transformation extends beyond technology adoption and requires organizations to redesign processes, structures, and leadership practices to fully realize digital opportunities (Verhoef et al., 2021). Furthermore, organizations are expected to develop dynamic capabilities that enable them to sense digital opportunities, seize them through strategic investments, and continuously transform organizational resources to remain competitive (Warner & Wäger, 2019).

Startup companies provide an appropriate context for examining digital transformation because they operate in highly dynamic and technology-driven environments characterized by rapid innovation, resource constraints, and intense market competition. To remain competitive, startups rely heavily on employee creativity to generate innovative ideas, solve complex problems, and adapt to continuous technological changes. Consequently, organizations require leaders who can effectively guide digital transformation while fostering an environment that supports innovation and creativity. Under these circumstances, leadership becomes a strategic organizational capability because leaders are responsible for directing digital initiatives, allocating digital resources, and facilitating continuous technological adaptation. Accordingly, digital leadership has emerged as an essential capability for developing employees' digital competencies and encouraging their creative contributions to organizational goals (Zhu et al., 2022).

While Digital Leadership provides strategic direction for digital transformation, its influence on Employee Creativity may occur through distinct mechanisms perceived and experienced by individual employees. Perceived Digital Culture captures employees' perceptions of workplace values and practices that support collaboration, openness, experimentation, and knowledge sharing. Employee Digital Capability reflects employees' competence in utilizing digital technologies and adapting their work practices, while Employees' Innovation Self-Efficacy reflects their confidence in performing innovation-related activities. Employees' Innovation Self-Efficacy reflects individuals' confidence in engaging in innovative activities (Çetinkaya & Sürücü, 2025). Collectively, these mechanisms explain how employees may translate Digital Leadership into creative behavior.

Although previous studies have confirmed the importance of Digital Leadership in fostering innovation and Employee Creativity, the mechanisms underlying this relationship remain theoretically fragmented. Existing studies have generally examined perceived Digital Culture, Employee Digital Capability, and Employees' Innovation Self-Efficacy separately rather than comparing their mediating roles within a single model. These constructs represent three conceptually distinct mechanisms operating at the individual level. Perceived Digital Culture represents an individually perceived environmental mechanism, Employee Digital Capability represents an individual competence-based mechanism, and Employees' Innovation Self-Efficacy represents an individual psychological mechanism. Examining these parallel

mechanisms simultaneously provides a more comprehensive explanation of how Digital Leadership is associated with Employee Creativity among employees of Indonesian startup companies.

Guided by Social Cognitive Theory (Bandura, 1997), this study argues that Employee Creativity is shaped through the reciprocal interaction between leadership, organizational environment, and individual capabilities. From this perspective, Digital Leadership is expected to influence Employee Creativity not only directly but also indirectly through perceived environmental mechanisms, such as Digital Culture, and individual mechanisms, including Employee Digital Capability and Employees' Innovation Self-Efficacy. Therefore, Social Cognitive Theory provides an appropriate theoretical foundation for explaining how Digital Leadership enhances Employee Creativity within startup companies. This study develops an integrative parallel mediation model by extending two complementary streams of digital leadership research. Yang et al. (2025) examined how Digital Leadership enhances Employee Creativity through psychological and social mechanisms, particularly Innovation Self-Efficacy and Knowledge Sharing, while also considering the moderating role of Technology Readiness. In contrast, Shin et al. (2023) examined how Digital Leadership contributes to Organizational Performance through Digital Culture and Employees' Digital Capabilities. Although both studies demonstrate that Digital Leadership operates through intervening mechanisms, they focus on different outcomes and examine different explanatory pathways.

Based on the identified research gap, this study addresses the following research question: How does Digital Leadership influence Employee Creativity through Digital Culture, Employee Digital Capability, and Employees' Innovation Self-Efficacy in Indonesian startup companies? To answer this question, the study examines both the direct effects of Digital Leadership on Digital Culture, Employee Digital Capability, and Employees' Innovation Self-Efficacy, as well as the indirect effects of these variables on Employee Creativity through the proposed mediation mechanisms. This study makes three contributions to the digital leadership literature. First, it conceptualizes Employee Creativity as the outcome of three complementary individual-level mechanisms: perceived Digital Culture as an individually perceived environmental mechanism, Employee Digital Capability as a competence-based mechanism, and Employees' Innovation Self-Efficacy as a psychological mechanism. Second, by integrating Social Cognitive Theory with the microfoundations perspective of Dynamic Capability Theory, this study explains how perceived environmental conditions, individual competencies, and psychological beliefs connect Digital Leadership with Employee Creativity. Third, this study extends empirical evidence from Indonesian startup companies and highlights the importance of employees' perceptions and individual responses during digital transformation.

2. Literature Review and Hypothesis Development

2.1 Theoretical Foundation

This study draws upon Social Cognitive Theory (SCT) (Bandura, 1997) and Dynamic Capability Theory (DCT) (Teece, 2018) to explain how Digital Leadership is associated with Employee Creativity at the individual employee level. SCT explains behavior through reciprocal interactions among environmental influences, personal factors, and behavioral outcomes. In the proposed framework, Digital Leadership and perceived Digital Culture represent environmental influences as perceived by employees. Employee Digital Capability represents individual competence, Employees' Innovation Self-Efficacy represents psychological belief, and Employee Creativity represents the individual behavioral outcome. DCT is applied through an individual-level microfoundations perspective. Although dynamic capabilities are commonly discussed at the organizational level, their development and implementation depend on the knowledge, cognition, competencies, and actions of individual organizational members (Kareem & Alameer, 2019). From this perspective, Employee Digital Capability represents an individual competence-based microfoundation that enables employees to recognize digital changes, utilize emerging digital opportunities, and adjust their work practices in response to technological developments.

Perceived Digital Culture is not conceptualized as an objective organizational-level dynamic capability. Instead, it refers to employees' individual perceptions of digital values, norms, and workplace practices that support openness, collaboration, experimentation, and technological adaptation. It therefore represents an individually perceived environmental mechanism that can support employees in enacting dynamic-capability processes through their daily work.

The integration of SCT and DCT provides a coherent individual-level explanation of the proposed model. SCT explains how employees' perceptions of leadership and their digital work environment interact with competence and psychological beliefs to influence creative behavior. The microfoundations perspective of DCT explains how employees develop and apply digital competencies and adapt their work practices in response to digital change. Accordingly, perceived Digital Culture, Employee Digital Capability, and Employees' Innovation Self-Efficacy are examined as parallel individual-level mechanisms rather than organizational-level or sequential mechanisms.

Within the proposed framework, Digital Leadership is conceptualized through employees' perceptions of leadership behaviors that provide direction and support for digital transformation (Nuraini, 2025). From the perspective of SCT, perceived Digital Leadership and perceived Digital Culture represent environmental influences experienced by individual employees. Employee Digital Capability and Employees' Innovation Self-Efficacy represent personal factors in the form of individual competence and psychological belief, respectively, while Employee Creativity represents the individual behavioral outcome. Thus, SCT explains how perceived environmental influences and personal factors interact in shaping employees' creative behavior.

DCT is applied through an individual-level microfoundations perspective, which recognizes that adaptation and capability development depend on employees' knowledge, cognition, competencies, and actions. From this perspective, perceived Digital Leadership encourages employees to develop and reconfigure their digital competencies and work practices in response to technological change. Perceived Digital Culture is not treated as an organizational-level capability but as an individually perceived environmental mechanism that supports openness, collaboration, experimentation, and digital adaptation. Accordingly, the integrated framework positions perceived Digital Culture as an environmental mechanism, Employee

Digital Capability as a competence-based mechanism, Employees' Innovation Self-Efficacy as a psychological mechanism, and Employee Creativity as an individual behavioral outcome.

2.2 Digital Leadership

Digital leadership has emerged as a critical organizational capability for navigating the challenges of digital transformation and sustaining competitive advantage in technology-driven environments. It refers to leaders' ability to strategically leverage digital technologies, foster innovation, and guide organizational change while aligning digital initiatives with business objectives. Unlike traditional leadership, digital leadership emphasizes the integration of technological competencies with strategic vision, enabling organizations to respond effectively to rapid technological advancements and changing market conditions (Merlano, 2024). From the perspective of Social Cognitive Theory, digital leadership functions as an environmental factor that shapes employees' beliefs, behaviors, and competencies through guidance, support, and role modeling. Leaders who actively encourage technology adoption, continuous learning, and experimentation create an environment that enhances employees' confidence and willingness to engage in innovative behaviors. At the same time, Dynamic Capability Theory suggests that digital leadership enables organizations to develop, integrate, and reconfigure digital resources and employee capabilities to respond to dynamic business environments (Ding, 2026).

Accordingly, Digital Leadership extends beyond encouraging technology adoption by shaping employees' perceptions of their digital work environment, strengthening their digital competencies, and fostering their innovation-related confidence. These perceived environmental, competence-based, and psychological mechanisms may influence how employees generate novel ideas and respond creatively to technological change. Therefore, digital leadership is considered a strategic driver of employee creativity and digital transformation, particularly in startup companies operating in rapidly evolving digital environments (Yansen & Yujie, 2023).

2.3 Digital Culture

Perceived Digital Culture refers to employees' individual perceptions of the digital values, norms, and workplace practices present within their immediate work environment. It reflects how employees personally interpret the extent to which their workplace supports openness in discussing failures, participative decision-making, cross-functional collaboration, reduced hierarchical barriers, continuous learning, and opportunities to contribute digital ideas. Digital Culture is therefore not merely reflected in the availability or adoption of digital technologies. Rather, it concerns the values and behavioral expectations that influence how employees understand, accept, and use those technologies in performing their work. This distinction is important because the implementation of digital technologies may create tension between established routines and new ways of working unless it is supported by cultural conditions that encourage employees to internalize and utilize digital technologies effectively (Nicolás-Agustín et al., 2026)

Digital Culture generally represents shared values, beliefs, assumptions, and organizational norms that encourage employees to embrace digital technologies, collaborate across functional boundaries, and continuously adapt to technological change (Pangarso et al., 2022). It provides social and behavioral guidance regarding how employees are expected to communicate, solve problems, exchange knowledge, and respond to digitally driven changes. Accordingly, a strong digital culture encourages employees to perceive digitalization not merely as the

introduction of new technological tools but as an integral part of how work, communication, learning, and innovation are conducted within the organization (Nicolás-Agustín et al., 2026). The characteristics of Digital Culture are commonly reflected in cross-functional teamwork, physical and virtual collaboration, equality in workplace interactions, mutual decision-making, tolerance for failure, agility, and the integration of digital technology into innovation activities (Kiefer, 2021). Digital Culture also supports flatter hierarchical relationships and decentralized decision-making, thereby enabling employees to communicate ideas more openly and become more actively involved in digital initiatives. In addition, flexible working practices, data-oriented thinking, experimentation, and the prioritization of digital processes represent important features of a workplace environment that is culturally supportive of digital transformation (Shin et al., 2023). These characteristics can reduce employees' reluctance to experiment because failures are viewed as opportunities for learning rather than merely as undesirable outcomes.

Although Digital Culture originates from values and practices embedded within the workplace, the present study does not conceptualize or measure it as an aggregated organizational-level construct. Instead, it is assessed through each employee's subjective perception and analyzed at the individual level. The existence of broadly shared organizational values does not necessarily mean that every employee experiences those values in the same manner. Employees may develop different perceptions depending on their interactions with leaders and colleagues, access to digital resources, participation in decision-making, and exposure to particular workplace practices. Therefore, differences in Digital Culture scores in this study represent differences in how individual employees perceive and experience the digital environment surrounding their work, rather than objective differences between organizations.

In this study, perceived Digital Culture is therefore positioned as an individually perceived environmental mechanism rather than a dynamic capability by itself. Nevertheless, these perceived environmental conditions may facilitate employee-level processes that contribute to the microfoundations of dynamic capabilities. Specifically, an environment that supports openness, experimentation, knowledge exchange, and adaptation may enable employees to recognize digital opportunities, respond to technological developments, and modify their work practices. However, this does not imply that perceived Digital Culture itself constitutes an organizational dynamic capability; instead, it provides a supportive environmental context within which relevant individual behaviors and competencies can develop.

2.4 Employee Digital Capability

Digital capability refers to an individual's ability to effectively utilize, manage, integrate, communicate, evaluate, and create information through digital technologies and networked devices in a safe and appropriate manner, thereby enabling active participation in economic and social life (Hussain & Phulpoto, 2024). In today's rapidly evolving technological environment, digital capability is no longer merely an optional advantage but has become an essential requirement for individuals seeking to remain competitive and adequately prepared for both current and future workplaces. (Mardiana & Yakub, 2025) further conceptualizes digital capability as a combination of knowledge, skills, and behaviors demonstrated when individuals engage with the online and virtual environment.

Within the workplace context, employee digital capability reflects employees' ability to navigate and utilize commonly used digital technologies to support and enhance various work-related activities, ranging from operational to non-operational functions (Maghrifani,

Fadli, & Ardekani, 2022). As digital technologies become increasingly embedded in organizational processes, employees are expected to use diverse technological tools proficiently and adaptively across different tasks, settings, and situations. In this regard, Blanka et al., (2022) emphasizes digital competence as a critical set of skills that enables employees to learn and perform effectively in an increasingly digitalized world. Beyond facilitating personal communication and engagement, strong digital competence also plays an important role in supporting employees' adaptability, work effectiveness, and long-term success in the future workplace.

In the present study, Employee Digital Capability is conceptualized and analyzed at the individual employee level. It does not represent team-level capability or the organization's aggregate digital capability. Rather, it captures employees' perceptions of the extent to which digital competencies are developed, supported, and applied within their work context. Accordingly, indicators concerning digital training, recruitment priorities, digital service utilization, digitalization skills, and discussions of digital projects are evaluated from the employees' perspective. Although some indicators refer to workplace practices, they reflect how individual employees perceive and experience the development and application of digital capability in their work. Therefore, Employee Digital Capability is positioned as an individual competence-based mechanism, conceptually distinct from Digital Leadership as a leadership influence and perceived Digital Culture as an individually perceived environmental condition.

2.5 Employee Innovation Self Efficacy

Bandura (1997) introduced the concept of self-efficacy, which refers to an individual's belief in their ability to achieve specific levels of performance. Such beliefs are shaped by personal behavior and motivation and develop progressively through sustained interactions with the surrounding environment. Thus, self-efficacy is not formed independently of environmental influences but emerges as a personal characteristic that evolves through the continuous interaction between individuals and their environment. In a creativity-related context, creative self-efficacy refers to an individual's belief in their capability to produce creative outcomes (Capron Puzozzo & Audrin, 2021)

Self-efficacy is particularly important in organizational innovation, as individuals with strong efficacy beliefs are more likely to initiate innovative activities and take appropriate action despite uncertainty and potential risks. This is because they tend to believe in their ability to address and overcome challenges that may arise throughout the innovation process (Nohut & Balaban, 2022). Similarly, employees with high levels of creative self-efficacy are more confident in their ability to achieve innovation-related goals and typically demonstrate stronger achievement motivation. Such confidence encourages employees to generate innovative ideas and motivates them to translate those ideas into practical actions and tangible outcomes (Khan, Raya, & Viswanathan, 2022).

2.6 Employee Creativity

Creativity refers to the ability to develop novel combinations by drawing on existing data, information, or other available elements (Bogar, 2023). Within an organizational context, creativity reflects employees' capacity to identify and apply creative solutions that can contribute to improving organizational profitability and performance (Luqman et al., 2021). More specifically, employee creativity is defined as the generation of novel and useful ideas

that provide value to the organization, including ideas related to new products, services, work processes, and management practices (Zhu et al., 2022).

Employee creativity emerges when individuals draw upon their expertise, critical thinking skills, and accumulated experience to explore and develop new ideas. Through this process, employees are better equipped to contribute to decision-making, address workplace problems, and complete assigned tasks more effectively and efficiently (Nguyen, Hooi, & Avvari, 2023). Therefore, employee creativity represents not only the ability to generate original ideas but also the capacity to apply relevant knowledge and experience in developing meaningful solutions to organizational challenges.

2.7 Hypothesis Development

2.7.1 Digital Leadership and Digital Culture

According to Social Cognitive Theory (Bandura, 1997), leaders provide environmental cues that influence how employees interpret and respond to their work environment. Digital leaders who demonstrate openness toward technology, support experimentation, encourage collaborative decision-making, and communicate the importance of digital transformation may shape employees' perceptions of workplace digital values and practices. Consequently, employees are more likely to perceive their work environment as open, collaborative, adaptive, and supportive of digital innovation.

This argument is supported by (Shin et al., 2023), who found that Digital Leadership significantly contributes to the development of Digital Culture by encouraging collaboration, openness, and continuous learning. Likewise, Trushkina et al. (Trushkina, Abazov, Rynkevych, & Bakhautdinova, 2020) emphasized that leaders play a crucial role in building a strong digital culture by removing communication barriers and promoting digital values throughout the organization. Therefore, the following hypothesis is proposed.

H1. Digital Leadership positively influences Digital Culture.

2.7.2 Digital Leadership and Employee Digital Capability

Digital Leadership also plays an essential role in developing employees' digital competencies. From the perspective of Social Cognitive Theory, leaders influence employees' learning processes by providing guidance, opportunities for experimentation, and continuous support. Employees who work under digitally oriented leaders are more likely to develop the knowledge and skills necessary to utilize digital technologies effectively.

This argument is supported by Shin et al. (2023), who found that Digital Leadership significantly enhances employees' digital capability by encouraging digital learning and technology utilization. Furthermore, (Sahibzada et al., (2025) suggested that digital leaders facilitate capability development by integrating digital resources and promoting continuous organizational learning. Therefore, the following hypothesis is proposed.

H2. Digital Leadership positively influences Employee Digital Capability.

2.7.3 Digital Culture and Employee Creativity

A supportive Digital Culture encourages employees to exchange knowledge, collaborate across functional boundaries, and experiment with new ideas. Such organizational conditions create psychological safety that enables employees to express creative ideas and develop innovative solutions. Therefore, organizations with stronger Digital Culture are expected to demonstrate higher levels of Employee Creativity.

Previous studies have consistently reported that Digital Culture positively contributes to organizational innovation and employee creativity by promoting knowledge sharing, openness, and collaboration (Marpaung et al., 2024). Accordingly, the following hypothesis is proposed.

H3. Digital Culture positively influences Employee Creativity.

2.7.4 Employee Digital Capability and Employee Creativity

Employees possessing stronger digital capabilities are better able to utilize digital technologies, access information efficiently, and integrate technological knowledge into problem-solving activities. Consequently, they are more capable of generating innovative ideas and creative work solutions that support organizational performance. Previous studies have demonstrated that employees' digital competencies positively influence creativity because digitally capable employees adapt more effectively to technological change and continuously develop innovative work practices (Blanka et al., 2022; Hussain & Phulpoto, 2024). Therefore, the following hypothesis is proposed.

H4. Employee Digital Capability positively influences Employee Creativity.

2.7.5 The Mediating Role of Employees' Innovation Self-Efficacy

Based on Social Cognitive Theory, leadership behavior constitutes an environmental influence that can shape employees' beliefs regarding their ability to perform particular tasks. Digital leaders can strengthen Employees' Innovation Self-Efficacy by communicating a clear digital vision, demonstrating openness to experimentation, providing constructive feedback, and making learning resources available to employees. These leadership practices provide employees with opportunities to acquire successful experiences, observe innovative behavior, and receive encouragement when addressing unfamiliar digital challenges. Consequently, employees become more confident in their ability to propose, develop, and implement new ideas in the workplace.

Employees with stronger Innovation Self-Efficacy are more likely to persist when their initial ideas encounter difficulties, explore alternative solutions, and accept the risks associated with experimentation. Such confidence helps employees translate the encouragement and resources provided by Digital Leadership into actual creative behavior. Previous research has demonstrated the importance of self-efficacy and creative self-efficacy in encouraging creativity and learning (Capron Puzozzo & Audrin, 2021). More specifically, Yang et al. (2025) found that Innovation Self-Efficacy serves as an individual psychological mechanism linking Digital Leadership with Employee Creativity. Therefore, Digital Leadership is expected to enhance Employee Creativity indirectly by strengthening employees' beliefs in their own innovative capabilities.

H5. Employees' Innovation Self-Efficacy mediates the relationship between Digital Leadership and Employee Creativity.

2.7.6 The Mediating Role of Digital Culture

From the perspective of Social Cognitive Theory, employees' behavior is influenced not only by personal characteristics but also by how they interpret their work environment. In this study, perceived Digital Culture represents an individually perceived environmental mechanism reflected in employees' perceptions of digital values, collaboration, experimentation, knowledge sharing, and openness toward technological change. Digital leaders shape these perceptions by encouraging employees to use digital technologies, involving them in digital initiatives, supporting collaboration, and demonstrating tolerance

for reasonable failures during experimentation. Through these leadership practices, employees may perceive their workplace as being more supportive of digital adaptation and innovation.

Employees who perceive a strong Digital Culture are more likely to exchange knowledge, explore new technological approaches, and express ideas without excessive concern about failure. These perceived environmental conditions can therefore transmit the influence of Digital Leadership into creative employee behavior. Shin et al. (2023) demonstrated that Digital Leadership contributes to the development of Digital Culture, while Çetinkaya and Sürücü (2025) showed that Digital Leadership and Digital Culture are associated with employees' innovative work behavior. Accordingly, perceived Digital Culture is expected to function as the environmental pathway through which Digital Leadership encourages employees to generate and implement creative ideas.

H6. Digital Culture mediates the relationship between Digital Leadership and Employee Creativity.

2.7.7 The Mediating Role of Employee Digital Capability

Employee Digital Capability represents an individual competence-based mechanism through which Digital Leadership may influence Employee Creativity. Digital leaders can strengthen employees' digital capabilities by providing access to digital resources, supporting continuous learning, encouraging the utilization of new technologies, and allowing employees to participate in digitally enabled work activities. Such leadership practices help employees acquire the knowledge and skills necessary to understand, operate, and integrate digital technologies into their daily work. Shin et al. (2023) found that Digital Leadership positively contributes to employees' digital capabilities, while Blanka et al. (2022) emphasized the central role of employee competencies in supporting workplace digital transformation.

Employees with stronger digital capabilities are better equipped to search for relevant information, combine knowledge from different sources, experiment with digital tools, and develop alternative solutions to workplace problems. These competencies enable employees to transform the technological resources and learning opportunities provided by Digital Leadership into creative outputs. Research has also shown that the influence of Digital Leadership on Employee Creativity can be transmitted through employee-level processes and behaviors (Zhu et al., 2022). Therefore, Employee Digital Capability is expected to serve as an individual competence-based pathway that connects Digital Leadership with Employee Creativity.

H7. Employee Digital Capability mediates the relationship between Digital Leadership and Employee Creativity.

3. Methodology

3.1 Research Design

This study employed a quantitative cross-sectional research design to examine the relationships among digital leadership, digital culture, employees' innovation self-efficacy, employee digital capability, and employee creativity. The empirical setting comprised startup companies in Indonesia, which provide a relevant research context due to their reliance on digital technologies, rapid adaptation to technological change, and continuous demand for innovation. The unit of analysis was the individual employee working in an Indonesian startup company.

3.2 Population and Sampling

A non-probability purposive sampling technique was employed because a complete sampling frame of startup employees in Indonesia was unavailable, and respondents were required to have relevant experience working in startup companies. Eligible respondents were employees currently employed in Indonesian startup companies. The respondents represented a diverse range of startup sectors, including e-commerce, financial technology (fintech), digital payments, education technology (edtech), artificial intelligence (AI), and other digital service providers. Geographically, respondents are primarily concentrated in several regions of Java and Sumatra. The respondents performed diverse work functions, including information technology and software engineering, data analytics, product development, digital marketing, business development, customer service, operations, finance, human resources, supply chain, and risk and compliance. This diversity of organizational backgrounds enhances the representativeness of the sample in capturing employees' perceptions of Digital Leadership, Digital Culture, Employee Digital Capability, Employees' Innovation Self-Efficacy, and Employee Creativity within Indonesia's digital startup ecosystem. A total of 174 responses were initially collected. Following the data screening process, three responses were excluded because they did not meet the predetermined eligibility and data-quality criteria. Consequently, 171 valid responses were retained for the final analysis, representing a usable response rate of 98.28%.

3.3 Data Collection

Primary data were collected using a structured online questionnaire administered through Google Forms and distributed electronically to employees working in startup companies in Indonesia primarily concentrated in several regions of Java and Sumatra. The online survey method was considered appropriate because employees in startup companies commonly operate in digitally oriented work environments and are geographically dispersed across Indonesia. Participation was voluntary, and respondents were informed that their responses would be treated confidentially and used solely for academic research purposes. In addition, respondents were assured that their responses would remain anonymous, that there were no right or wrong answers, and that they should answer each question honestly based on their own perceptions and experiences. These procedural remedies were implemented to reduce potential common method bias, social desirability bias, and evaluation apprehension. The questionnaire consisted predominantly of closed-ended statements designed to capture respondents' perceptions of the constructs included in the proposed research model. All measurement items were assessed using a seven-point Likert scale ranging from 1 ("strongly disagree") to 7 ("strongly agree"). The seven-point response format enabled respondents to express varying degrees of agreement with each statement and provided sufficient response variability for subsequent statistical analysis.

3.4 Measurement of Variables

This study consists of five main constructs: Digital Leadership (DL), Digital Culture (DC), Employee Digital Capability (EDC), Employee Creativity (EC), and Employees' Innovation Self-Efficacy (EISE). Digital Leadership, Digital Culture, and Employee Digital Capability were measured using items adapted from Shin et al. (2023), while Employee Creativity and Employees' Innovation Self-Efficacy were measured using items adapted from Yang et al. (2025). All measurement items were assessed using a seven-point Likert scale ranging from 1 ("strongly disagree") to 7 ("strongly agree").

Digital Leadership was measured using six indicators reflecting leaders' interest in digital technologies, digitalization expertise, ability to keep pace with digital developments, active involvement in digital transformation, ability to mobilize employee enthusiasm, and understanding of digital structures and processes. Digital Culture was measured as an individual perceptual construct. Respondents evaluated the extent to which they personally experienced digital values and workplace practices related to openness, participation, cross-functional collaboration, reduced hierarchical barriers, and the contribution of digital ideas. Therefore, the resulting scores represent employees' perceived Digital Culture rather than an aggregated organizational-level culture. Employee Digital Capability was measured reflectively because the indicators were treated as manifestations of employees' underlying perceptions regarding the development and application of digital competencies in their work. All indicators were adopted in their original form from (Shin et al., 2023)), without any modification to their conceptual meaning or measurement structure. The indicators were not aggregated to represent team-level or organizational-level capability. Instead, each respondent reported their individual perceptions and experiences of digital capability-related practices within their immediate work context. Accordingly, variations in Employee Digital Capability scores reflect differences in employees' perceived digital capability rather than differences between organizations.

Employee Creativity was assessed using four indicators reflecting the generation of creative ideas, creative problem-solving, new approaches to completing work tasks, and the ability to serve as a valuable source of ideas. Finally, Employees' Innovation Self-Efficacy was measured using three indicators capturing employees' confidence in applying innovation to solve problems, generating new ideas, and developing existing ideas into innovative solutions. The detailed measurement instruments are presented in Table 1:

Table 1. Variable Measurement Instruments

Variable	Definition	Indicators
Digital Leadership (DL)	Employees' perceptions of leaders' ability to strategically utilize digital technologies to drive business transformation, create sustainable competitive advantage, and foster an adaptive and innovative digital environment.	DL1: Interest in digital technologies DL2: Expertise in digitalization DL3: Ability to keep pace with digital developments DL4: Active involvement in digital transformation DL5: Ability to mobilize employee enthusiasm DL6: Understanding of digital structures and processes <i>Source: (Shin et al., 2023)</i>
Digital Culture (DC)	Employees' perceptions of digital values, norms, and workplace practices that promote openness, collaboration, adaptability, experimentation, and the contribution of digital ideas within their immediate work environment.	DC1: Failures are openly discussed within the team DC2: Decisions are made by considering the opinions of the entire team

Variable	Definition	Indicators
Employee Digital Capability (EDC)	Employees' individual perceptions of the extent to which digital competencies are developed, supported, and applied in performing their work.	DC3: Teams consist of members from different functions or divisions DC4: Hierarchical barriers are minimized in project work DC5: All team members contribute digital ideas <i>Source: (Shin et al., 2023)</i> EDC1: Digital training is provided to team members EDC2: Digital skills are considered in recruitment EDC3: Team members use all available digital services EDC4: The team possesses the skills required to digitalize the company EDC5: Digital projects, including failures and best practices, are openly discussed <i>Source: (Shin et al., 2023)</i>
Employee Creativity (EC)	Employees' ability to generate novel and useful ideas, develop creative solutions to work-related problems, and identify new approaches that contribute to organizational improvement and development.	EC1: Generates creative ideas to improve working conditions EC2: Develops creative solutions to work-related problems EC3: Identifies new ways of completing work tasks EC4: Serves as a valuable source of creative ideas <i>Source: (Yang et al., 2025)</i>
Employees' Innovation Self-Efficacy (EISE)	Employees' confidence in their ability to engage in innovative activities, generate new ideas, apply innovation to solve problems, and further develop existing ideas into innovative solutions.	EISE1: Confident in using innovation to solve problems EISE2: Capable of generating new ideas EISE3: Capable of developing others' ideas into one's own ideas <i>Source: (Yang et al., 2025a)</i>

3.5 Data Analysis

The data were analyzed using Partial Least Squares Structural Equation Modeling (PLS-SEM) with SmartPLS 4. PLS-SEM was selected because it is appropriate for prediction-oriented research involving complex models with multiple latent constructs, direct and indirect relationships, and relatively moderate sample sizes (Hair & Alamer, 2022) In addition, the proposed research model simultaneously examines multiple mediation relationships and

emphasizes the explanation of variance in Employee Creativity, making PLS-SEM an appropriate analytical approach. To strengthen the sample-size justification, a statistical power analysis was performed using G*Power 3.1. The analysis employed a linear multiple regression model with a maximum of three predictors directed toward a single endogenous construct, a medium effect size ($f^2=0.15$), a significance level of 0.05, and a statistical power of 0.80. The results indicated a minimum required sample size of 77 respondents. Therefore, the final sample of 171 respondents exceeded the minimum requirement and was considered adequate for estimating the proposed PLS-SEM model (Faul et al., 2009). The analytical procedure was conducted in two stages: assessment of the measurement model and evaluation of the structural model.

The measurement model was assessed by examining indicator loadings, internal consistency reliability, convergent validity, and discriminant validity. Indicator reliability was evaluated using outer loadings, while internal consistency reliability was assessed through Cronbach's alpha and Composite Reliability (CR). Convergent validity was examined using the Average Variance Extracted (AVE), with values above 0.50 indicating satisfactory convergent validity. Discriminant validity was evaluated using the Heterotrait–Monotrait ratio (HTMT).

Following confirmation of the measurement model, the structural model was evaluated using collinearity statistics, standardized path coefficients (β), and coefficients of determination (R^2). The statistical significance of the hypothesized relationships was assessed using a bootstrapping procedure with 5,000 resamples in SmartPLS 4, based on t-statistics and p-values. Relationships with p-values below 0.05 were considered statistically significant.

The analysis examined four direct relationships: Digital Leadership $\rightarrow$ Digital Culture (H1), Digital Leadership $\rightarrow$ Employee Digital Capability (H2), Digital Culture $\rightarrow$ Employee Creativity (H3), and Employee Digital Capability $\rightarrow$ Employee Creativity (H4). In addition, three mediation effects were assessed through specific indirect effects: the mediating role of Employees' Innovation Self-Efficacy in the relationship between Digital Leadership and Employee Creativity (H5), the mediating role of Digital Culture in the relationship between Digital Leadership and Employee Creativity (H6), and the mediating role of Employee Digital Capability in the relationship between Digital Leadership and Employee Creativity (H7). The significance of these indirect effects was determined using bootstrapped estimates.

4. Result and Discussion

4.1 Descriptive Statistics of Respondents

A total of 174 responses were initially collected from employees working in startup companies in Indonesia primarily concentrated in several regions of Java and Sumatra. Following the data screening process, three responses were excluded because they did not meet the predetermined eligibility and data-quality criteria. Consequently, 171 valid responses were retained for the final analysis, representing a usable response rate of 98.28%. The respondents represented employees from various startup sectors, including digital technology, e-commerce, financial technology, education technology, logistics, and other digitally enabled services.

The demographic characteristics of the respondents were examined based on gender, age, educational background, and work experience. Overall, the sample represented employees with diverse demographic and professional backgrounds across Indonesian startup companies. The detailed respondent characteristics are presented in Table 2.

Table 2. Descriptive Statistics of Respondents

Demographic Variables	Categories	Number of Respondents (n)	Percentage (%)
1 Gender	Male	79	46.20%
	Female	92	53.80%
	Total	171	100.00%
2 Age	17–25 years old	14	8.19%
	25–35 years old	58	33.92%
	35–45 years old	94	54.97%
	45–50 years old	4	2.34%
	> 55 years old	1	0.58%
	Total	171	100.00%
3 Education Level	High School	3	1.75%
	Diploma	18	10.53%
	Bachelor's Degree (S1)	130	76.02%
	Master's Degree (S2)	16	9.36%
	Doctoral Degree (S3)	4	2.34%
	Total	171	100.00%
4 Work Experience	< 2 years	31	18.13%
	2–5 years	76	44.44%
	5–10 years	45	26.32%
	> 10 years	19	11.11%
	Total	171	100.00%

Source: Processed data by the author in 2026

4.2 Measurement Model Assessment (Outer Model)

The measurement model was evaluated to determine the reliability and validity of the reflective constructs before testing the proposed hypotheses. Following the PLS-SEM procedure, the evaluation comprised indicator reliability, internal consistency reliability, convergent validity, and discriminant validity. Indicator reliability was assessed using outer loadings, internal consistency reliability was examined through Cronbach's alpha and Composite Reliability (CR), convergent validity was evaluated using the Average Variance Extracted (AVE), and discriminant validity was assessed using the Heterotrait–Monotrait Ratio (HTMT). These procedures ensure that the measurement model is reliable and that each construct adequately represents the intended latent variable.

4.2.1 Indicator Reliability, Internal Consistency Reliability, and Convergent Validity

Indicator reliability was first assessed by examining the outer loading values of each indicator. According to Hair et al, (2018) indicator loadings above 0.708 are generally considered satisfactory. Internal consistency reliability was evaluated using Cronbach's alpha and Composite Reliability (CR), with values above 0.70 indicating acceptable reliability. Convergent validity was assessed using the Average Variance Extracted (AVE), where values

greater than 0.50 indicate that a construct explains more than half of the variance of its indicators.

Table 3. Indicator Reliability, Internal Consistency Reliability, and Convergent Validity

Construct	Indicator	Outer Loading	Cronbach's Alpha	Composite Reliability	AVE
Digital Culture (DC)	DC1	0.845	0.901	0.926	0.715
	DC2	0.851			
	DC3	0.817			
	DC4	0.864			
	DC5	0.852			
Digital Leadership (DL)	DL1	0.797	0.877	0.907	0.618
	DL2	0.785			
	DL3	0.778			
	DL4	0.763			
	DL5	0.810			
	DL6	0.784			
Employee Creativity (EC)	EC1	0.782	0.857	0.903	0.701
	EC2	0.811			
	EC3	0.867			
	EC4	0.884			
Employee Digital Capability (EDC)	EDC1	0.808	0.883	0.915	0.684
	EDC2	0.862			
	EDC3	0.882			
	EDC4	0.843			
	EDC5	0.730			
Employees' Innovation Self-Efficacy (EISE)	EISE1	0.942	0.649	0.742	0.507
	EISE2	0.615			
	EISE3	0.506			

Source: Authors' calculations based on SmartPLS 4 output (2026).

As presented in Table 3, the outer loading values ranged from 0.506 to 0.942. All indicators measuring Digital Culture, Digital Leadership, Employee Creativity, and Employee Digital Capability exceeded the recommended threshold of 0.708, indicating satisfactory indicator reliability. The highest outer loading was recorded for EISE1 (0.942), while the lowest was recorded for EISE3 (0.506).

Two indicators of Employees' Innovation Self-Efficacy, namely EISE2 (0.615) and EISE3 (0.506), exhibited outer loading values below 0.708. According to (Hair et al., 2021) indicators with outer loadings between 0.40 and 0.70 should not be removed automatically. Their removal should be considered only when it improves Composite Reliability or Average Variance Extracted without reducing the theoretical content of the construct. In this study,

EISE2 and EISE3 were retained to preserve the theoretical coverage of Employees' Innovation Self-Efficacy because the construct continued to satisfy the minimum requirements for Composite Reliability and convergent validity.

Regarding internal consistency reliability, Cronbach's alpha values ranged from 0.649 to 0.901, while Composite Reliability values ranged from 0.742 to 0.926. Digital Culture, Digital Leadership, Employee Creativity, and Employee Digital Capability recorded Cronbach's alpha and Composite Reliability values above 0.70, demonstrating satisfactory internal consistency reliability. Although the Cronbach's alpha value for Employees' Innovation Self-Efficacy was slightly below the recommended threshold at 0.649, its Composite Reliability value of 0.742 exceeded the minimum threshold of 0.70. Therefore, the construct was considered sufficiently reliable for further analysis.

Nevertheless, the relatively low Cronbach's alpha and moderate outer loadings of EISE2 and EISE3 indicate that the results involving Employees' Innovation Self-Efficacy should be interpreted with caution. These values may suggest that the three indicators do not capture employees' innovation-related confidence with equal strength in the context of Indonesian startup companies. However, retaining the indicators was considered theoretically appropriate because Employees' Innovation Self-Efficacy still achieved acceptable Composite Reliability and convergent validity.

Furthermore, all constructs achieved Average Variance Extracted values above the recommended threshold of 0.50, ranging from 0.507 to 0.715. Digital Culture recorded an AVE of 0.715, Digital Leadership 0.618, Employee Creativity 0.701, Employee Digital Capability 0.684, and Employees' Innovation Self-Efficacy 0.507. These findings indicate that all constructs explained more than 50% of the variance in their respective indicators and, therefore, demonstrated satisfactory convergent validity.

4.2.2 Discriminant Validity

Discriminant validity was assessed using the Heterotrait–Monotrait Ratio (HTMT). According to Hair et al., (2018), HTMT values below 0.90 indicate that each construct is empirically distinct from the others.

Table 4. Discriminant Validity (HTMT)

Construct	DC	DL	EC	EDC	EISE
DC	-				
DL	0.655	-			
EC	0.809	0.661	-		
EDC	0.699	0.803	0.685	-	
EISE	0.840	0.349	0.557	0.424	-

Source: Authors' calculations based on SmartPLS 4 output (2026).

As presented in Table 4, the HTMT values ranged from 0.349 to 0.840, all of which were below the recommended threshold of 0.90. The highest HTMT value was observed between perceived Digital Culture and Employees' Innovation Self-Efficacy (0.840), while the lowest value was found between Digital Leadership and Employees' Innovation Self-Efficacy (0.349). Therefore, all constructs demonstrated satisfactory discriminant validity, indicating that Digital Leadership, perceived Digital Culture, Employee Digital Capability, Employees' Innovation Self-Efficacy, and Employee Creativity represent empirically distinct concepts.

4.3 Structural Model Assessment

After confirming that the measurement model satisfied the required reliability, convergent validity, and discriminant validity criteria, the structural model was evaluated to examine its explanatory power and test the hypothesized relationships among the latent constructs. The structural model assessment included collinearity diagnostics, coefficients of determination (R^2), structural path coefficients, and specific indirect effects.

Before evaluating the structural relationships, collinearity was assessed using the Variance Inflation Factor (VIF). The outer model VIF values ranged from 1.177 to 3.423, while the inner model VIF values ranged from 1.000 to 4.261. All values were below the recommended threshold of 5.0, indicating that critical collinearity was not present in either the measurement model or the structural model (Hair et al., 2021). Therefore, the estimated structural relationships were not considered to be substantially affected by multicollinearity.

Following (Hair et al., 2021) the significance of the structural relationships was assessed using a bootstrapping procedure with 5,000 resamples in SmartPLS 4. The results were evaluated based on standardized path coefficients (β), t-statistics, and p-values, with p-values below 0.05 indicating statistical significance. In addition to the hypothesized direct relationships involving the mediators, the specific indirect effects were examined to determine whether perceived Digital Culture, Employee Digital Capability, and Employees' Innovation Self-Efficacy mediated the relationship between Digital Leadership and Employee Creativity.

Although the primary focus of the study was on the proposed mediating mechanisms, the direct path from Digital Leadership to Employee Creativity was retained in the structural model as an additional analytical path. This relationship was not formulated as a separate hypothesis because the main objective of the study was to examine the mechanisms through which Digital Leadership influences Employee Creativity. Nevertheless, its inclusion enabled a more complete assessment of the specific indirect effects by accounting for the residual direct influence of Digital Leadership on Employee Creativity.

4.3.1 Coefficient of Determination (R^2)

The coefficient of determination (R^2) was used to assess the explanatory power of the structural model by indicating the proportion of variance in each endogenous construct explained by its predictors. According to (Hair et al., 2021) R^2 values of 0.75, 0.50, and 0.25 can generally be interpreted as substantial, moderate, and weak, respectively. However, these thresholds should be considered general guidelines because the interpretation of R^2 may also depend on the research context and model complexity.

Table 5. Coefficient of Determination (R^2)

Endogenous Construct	R^2	Interpretation
Perceived Digital Culture	0.347	Weak-to-moderate
Employee Digital Capability	0.515	Moderate
Employees' Innovation Self-Efficacy	0.156	Weak
Employee Creativity	0.582	Moderate

Source: Processed data by the author in 2026

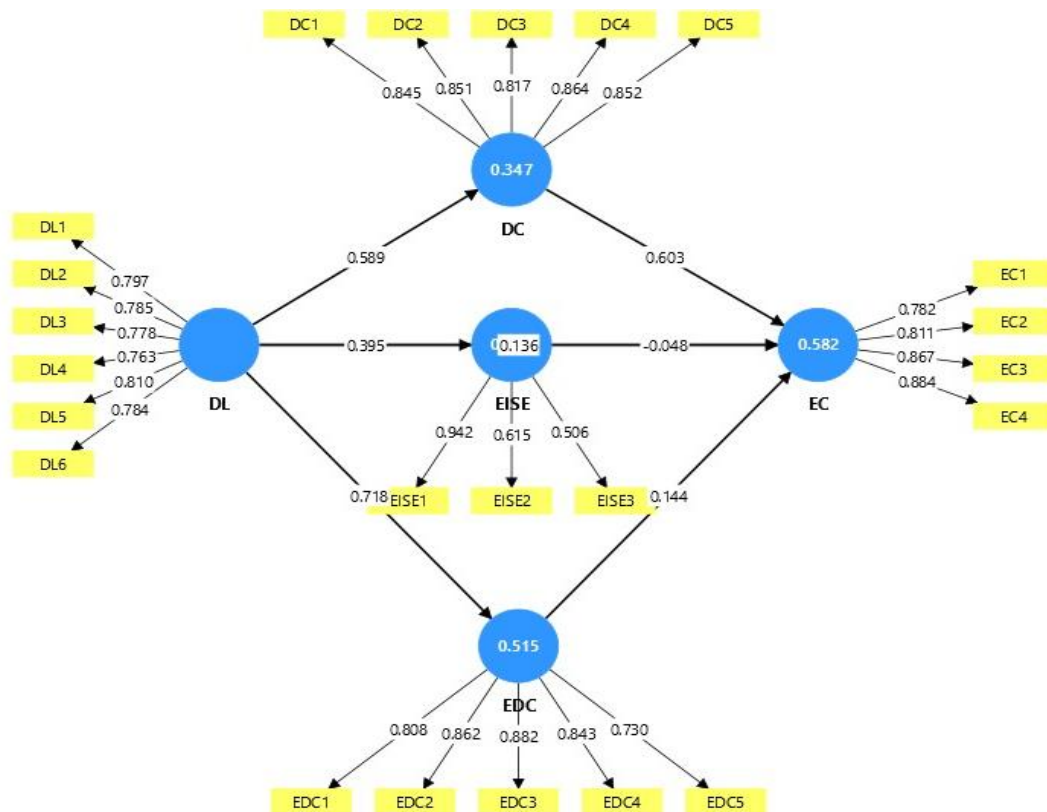
As presented in Table 5, Digital Leadership explained 34.7% of the variance in perceived Digital Culture, indicating weak-to-moderate explanatory power. This result suggests that Digital Leadership contributes meaningfully to employees' perceptions of digital values and practices in their work environment, although other contextual factors may also shape these perceptions.

Digital Leadership explained 51.5% of the variance in Employee Digital Capability, representing moderate explanatory power. This finding indicates that Digital Leadership provides a meaningful explanation of differences in employees' perceptions regarding the development, support, and application of digital competencies in their work. In contrast, Digital Leadership explained only 15.6% of the variance in Employees' Innovation Self-Efficacy, indicating weak explanatory power. Therefore, Employees' Innovation Self-Efficacy may also be shaped by other individual and contextual factors not included in the present model.

Furthermore, the model explained 58.2% of the variance in Employee Creativity. This value indicates that Digital Leadership, perceived Digital Culture, Employee Digital Capability, and Employees' Innovation Self-Efficacy collectively provide moderate explanatory power for Employee Creativity. The remaining 41.8% of the var

Figure 2 presents the final PLS-SEM structural model. The values displayed on the structural paths represent the standardized path coefficients, while the values shown within the endogenous constructs represent the coefficients of determination (R^2).

Figure 1. PLS-SEM Structural Model Results



Source: Authors' calculations based on SmartPLS 4 output (2026).

4.3.2 Direct Effects (Hypothesis Testing)

The significance of the direct relationships among the constructs was assessed using a bootstrapping procedure with 5,000 resamples in SmartPLS 4. The relationships were evaluated based on their standardized path coefficients (β), t-statistics, and p-values. A hypothesized relationship was considered statistically significant and supported when its p-value was below 0.05.

Table 6. Direct Effects and Component Paths

Hypothesis Relationship		β	t-value	P-value	Decision
H1	Digital Leadership → Perceived Digital Culture	0.589	8.436	< 0.001	Supported
H2	Digital Leadership → Employee Digital Capability	0.718	13.781	< 0.001	Supported
H3	Perceived Digital Culture → Employee Creativity	0.603	4.753	< 0.001	Supported
H4	Employee Digital Capability → Employee Creativity	0.144	1.311	0.190	Not supported
–	Digital Leadership → Employees' Innovation Self-Efficacy	0.395	5.323	< 0.001	Significant
–	Employees' Innovation Self-Efficacy → Employee Creativity	–0.048	0.398	0.690	Not significant
–	Digital Leadership → Employee Creativity	0.136	1.307	0.191	Not significant

Source: Processed data by the author in 2026

Note: The paths from Digital Leadership to Employees' Innovation Self-Efficacy and from Employees' Innovation Self-Efficacy to Employee Creativity are reported as component paths for evaluating the EISE mediation hypothesis. The direct path from Digital Leadership to Employee Creativity was included as an additional analytical path and was not formulated as a separate hypothesis.

As presented in Table 6, Digital Leadership had a positive and statistically significant effect on perceived Digital Culture ($\beta = 0.589$, $t = 8.436$, $p < 0.001$), thereby supporting H1. This result indicates that stronger Digital Leadership is associated with stronger employee perceptions of digital values, collaboration, experimentation, and technology-oriented practices within their work environment.

Digital Leadership also had a positive and statistically significant effect on Employee Digital Capability ($\beta = 0.718$, $t = 13.781$, $p < 0.001$), supporting H2. This relationship had the largest path coefficient among the examined direct relationships, indicating that Digital Leadership plays an important role in strengthening employees' perceptions regarding the development and application of digital competencies in their work.

Furthermore, perceived Digital Culture had a positive and significant effect on Employee Creativity ($\beta = 0.603$, $t = 4.753$, $p < 0.001$). Therefore, H3 was supported. This finding suggests that employees who perceive their work environment as supportive of digital collaboration, experimentation, knowledge sharing, and technological adaptation are more likely to demonstrate creative behavior.

In contrast, Employee Digital Capability did not have a statistically significant effect on Employee Creativity after the direct path from Digital Leadership to Employee Creativity was included in the structural model ($\beta = 0.144$, $t = 1.311$, $p = 0.190$). Therefore, H4 was not supported. Although the relationship remained positive, the result indicates that employees' perceived digital capabilities alone did not provide a statistically significant explanation of

their creative behavior when the other predictors in the model were considered simultaneously.

Regarding the component paths involving Employees' Innovation Self-Efficacy, Digital Leadership had a positive and statistically significant effect on Employees' Innovation Self-Efficacy ($\beta = 0.395$, $t = 5.323$, $p < 0.001$). However, Employees' Innovation Self-Efficacy did not significantly influence Employee Creativity ($\beta = -0.048$, $t = 0.398$, $p = 0.690$). These findings indicate that although Digital Leadership strengthened employees' confidence in their ability to engage in innovation, such confidence did not independently translate into higher Employee Creativity when the other constructs were included in the model.

Finally, the additional direct relationship between Digital Leadership and Employee Creativity was positive but not statistically significant ($\beta = 0.136$, $t = 1.307$, $p = 0.191$). This additional result does not represent a separate hypothesis. Instead, it was examined to provide a more complete assessment of the mediation structure. The mediation hypotheses were subsequently evaluated using the bootstrapped specific indirect effects.

4.3.3 Mediation Effects

The mediating roles of perceived Digital Culture, Employees' Innovation Self-Efficacy, and Employee Digital Capability were examined using a bootstrapping procedure with 5,000 resamples in SmartPLS 4. The significance of each mediation relationship was determined based on its standardized specific indirect effect (β), t-statistic, and p-value. A mediation hypothesis was considered supported when the specific indirect effect had a p-value below 0.05.

Table 7. Specific Indirect Effects

Hypothesis	Specific Indirect Effect	β	t-value	p-value	Decision
H5	Digital Leadership $\rightarrow$ Employees' Innovation Self-Efficacy $\rightarrow$ Employee Creativity	-0.019	0.378	0.705	Not supported
H6	Digital Leadership $\rightarrow$ Perceived Digital Culture $\rightarrow$ Employee Creativity	0.356	4.520	<0.001	Supported
H7	Digital Leadership $\rightarrow$ Employee Digital Capability $\rightarrow$ Employee Creativity	0.104	1.290	0.197	Not supported

Source: Processed data by the author in 2026

As presented in Table 7, perceived Digital Culture significantly mediated the relationship between Digital Leadership and Employee Creativity ($\beta = 0.356$, $t = 4.520$, $p < 0.001$). Therefore, H6 was supported. This finding indicates that Digital Leadership enhances Employee Creativity by strengthening employees' perceptions of a work environment that supports digital collaboration, knowledge sharing, technological experimentation, and openness to change. Because the specific indirect effect through perceived Digital Culture was significant, while the additional direct effect of Digital Leadership on Employee Creativity was not significant, perceived Digital Culture demonstrates an indirect-only mediation effect.

In contrast, Employees' Innovation Self-Efficacy did not significantly mediate the relationship between Digital Leadership and Employee Creativity ($\beta = -0.019$, $t = 0.378$, $p = 0.705$). Therefore, H5 was not supported. Although Digital Leadership significantly strengthened Employees' Innovation Self-Efficacy, Employees' Innovation Self-Efficacy did not subsequently exert a significant effect on Employee Creativity. This result suggests that

employees' confidence in their ability to engage in innovation was not, by itself, sufficient to translate Digital Leadership into creative behavior.

Employee Digital Capability also did not significantly mediate the relationship between Digital Leadership and Employee Creativity ($\beta = 0.104$, $t = 1.290$, $p = 0.197$). Therefore, H7 was not supported. Digital Leadership significantly strengthened Employee Digital Capability, but Employee Digital Capability did not have a significant effect on Employee Creativity when the other predictors were simultaneously considered. Thus, the development and application of employees' perceived digital capabilities did not independently transmit the influence of Digital Leadership to Employee Creativity.

Overall, the findings demonstrate that perceived Digital Culture was the only significant mediating mechanism in the proposed model. This result highlights the importance of employees' perceptions of a supportive digital work environment in translating Digital Leadership into creative behavior. In comparison, the individual psychological mechanism represented by Employees' Innovation Self-Efficacy and the individual competence-based mechanism represented by Employee Digital Capability did not demonstrate significant mediating effects.

4.4 Discussion

The structural model results supported H1, H2, and H3, while H4 was not supported. Regarding the mediation hypotheses, only the specific indirect effect through perceived Digital Culture was significant, supporting H6. The indirect effects through Employees' Innovation Self-Efficacy and Employee Digital Capability were not significant; therefore, H5 and H7 were not supported. Furthermore, the additional direct relationship between Digital Leadership and Employee Creativity was not statistically significant. Overall, the findings indicate that Digital Leadership is associated with Employee Creativity primarily through employees' perceptions of a supportive digital work environment.

4.4.1 The Effect of Digital Leadership on Digital Culture

The findings indicate that Digital Leadership has a positive and significant effect on perceived Digital Culture ($\beta = 0.589$, $p < 0.001$), supporting H1. This result suggests that leaders who actively embrace digital technologies, communicate a clear digital vision, and encourage digital transformation can strengthen employees' perceptions that their work environment supports collaboration, experimentation, knowledge sharing, and technological adaptation.

From the perspective of Social Cognitive Theory, leaders function as influential environmental agents whose behaviors are observed and interpreted by employees (Bandura, 1997). When leaders demonstrate openness to technological change, encourage participation, and tolerate reasonable failures during experimentation, employees are more likely to perceive digital values and practices as being supported in their immediate work environment. Thus, the result does not indicate that Digital Leadership directly creates an aggregated organizational culture; rather, it shows that leadership behaviors shape how individual employees perceive and experience Digital Culture.

This finding is consistent with Shin et al. (2023), who reported that Digital Leadership contributes to the development of Digital Culture by encouraging collaboration, technological adaptation, and innovation-oriented practices. The present study extends this evidence by demonstrating that, among employees of Indonesian startup companies, Digital Leadership is strongly associated with employees' individual perceptions of digital values and workplace practices.

4.4.2 The Effect of Digital Leadership on Employee Digital Capability

Digital Leadership had a positive and significant effect on Employee Digital Capability ($\beta = 0.718$, $p < 0.001$), supporting H2. This was the strongest direct relationship in the structural model. The result indicates that digitally oriented leaders can strengthen employees' perceptions regarding the development, support, and application of digital competencies by encouraging continuous learning, providing opportunities to use digital technologies, and involving employees in digital projects.

Social Cognitive Theory explains that employees develop competencies through guidance, observational learning, feedback, and opportunities for practice. Digital leaders provide environmental cues and learning opportunities that help employees become more capable of using digital tools in their work. From a dynamic capability perspective, these employee-level competencies can also be understood as individual microfoundations that enable employees to recognize and respond to technological changes.

The result is consistent with Shin et al. (2023), who demonstrated that Digital Leadership positively contributes to employees' digital capabilities. It also supports Blanka et al. (2022), who emphasized that employee competencies are important in workplace digital transformation. However, Employee Digital Capability in this study is analyzed at the individual employee level and reflects employees' perceptions of how digital competencies are developed and applied in their work, rather than an aggregated organizational digital capability.

4.4.3 The Effect of Digital Culture on Employee Creativity

Digital Culture had a positive and significant effect on Employee Creativity ($\beta = 0.603$, $p < 0.001$), supporting H3. This finding indicates that employees who perceive their work environment as open to digital experimentation, cross-functional collaboration, knowledge sharing, and constructive discussion of failure are more likely to generate novel and useful ideas.

This result is consistent with Social Cognitive Theory, which emphasizes that individual behavior is shaped by the interaction between personal characteristics and perceived environmental conditions. Employees who perceive that their workplace supports participation, learning, and experimentation may feel more comfortable expressing unconventional ideas, testing alternative approaches, and collaborating with colleagues to solve work-related problems. Therefore, it is employees' perceptions and experiences of Digital Culture—not an aggregated organizational-level assessment—that are associated with their creative behavior.

The finding is consistent with Pangarso et al. (2022), who emphasized the importance of digital organizational culture in supporting adaptive and innovation-oriented outcomes. It also aligns with Khan et al. (2022), who showed that a workplace innovation culture can encourage employee innovativeness and performance. The present finding demonstrates that perceived Digital Culture constitutes an important environmental condition associated with Employee Creativity among employees of Indonesian startup companies.

4.4.4 The Effect of Employee Digital Capability on Employee Creativity

Contrary to the proposed hypothesis, Employee Digital Capability did not have a statistically significant effect on Employee Creativity ($\beta = 0.144$, $p = 0.190$). Therefore, H4 was not supported. Although the path coefficient was positive, employees' perceived digital capabilities did not provide a significant explanation of Employee Creativity when Digital Leadership, perceived Digital Culture, and Employees' Innovation Self-Efficacy were considered simultaneously.

One possible explanation is that the ability to use digital technologies does not automatically result in the generation of novel and useful ideas. Digital capability may enable employees to access information, operate digital tools, and complete tasks more effectively, but creativity also requires opportunities to experiment, discretion in performing work, knowledge exchange, and an environment in which employees feel comfortable expressing new ideas. Therefore, digital competence may support employees' work performance without necessarily producing creative behavior directly.

The operationalization of Employee Digital Capability may also help explain this result. The construct captures employees' perceptions of the extent to which digital competencies are developed, supported, and applied in their work context, rather than directly testing their objective technical proficiency. Accordingly, employees may perceive that digital capability development is available within their workplace without necessarily using those capabilities to produce creative outputs.

This result does not mean that Employee Digital Capability is unimportant. Previous research has emphasized the importance of employee competencies in digital transformation and work productivity (Blanka et al., 2022; Mardiana & Yakub, 2025). Nevertheless, the present study indicates that Employee Digital Capability alone was insufficient to significantly explain Employee Creativity in the sampled Indonesian startup context.

4.4.5 The Mediating Role of Employees' Innovation Self-Efficacy

Employees' Innovation Self-Efficacy did not significantly mediate the relationship between Digital Leadership and Employee Creativity ($\beta = -0.019$, $p = 0.705$). Therefore, H5 was not supported. Although Digital Leadership significantly strengthened Employees' Innovation Self-Efficacy, Employees' Innovation Self-Efficacy did not subsequently have a significant effect on Employee Creativity.

One possible explanation is the conceptual distinction between confidence and actual creative behavior. Employees' Innovation Self-Efficacy reflects employees' beliefs regarding their ability to participate in innovation-related activities, whereas Employee Creativity concerns the actual generation of novel and useful ideas. Employees may therefore feel confident about their innovation capabilities without consistently expressing creative ideas in their daily work, particularly when opportunities, autonomy, or contextual support for implementing those ideas are limited.

This finding differs from Yang et al. (2025), who identified Innovation Self-Efficacy as a significant psychological mechanism linking Digital Leadership to Employee Creativity. Differences in organizational context, respondent characteristics, and measurement may contribute to the contrasting results. In the present study, the Employees' Innovation Self-Efficacy construct also exhibited relatively weaker psychometric properties than the other constructs. Although its Composite Reliability and AVE met the minimum requirements, its relatively low Cronbach's alpha and moderate indicator loadings suggest that the result should be interpreted cautiously.

From the perspective of Social Cognitive Theory, self-efficacy remains an important personal cognitive factor, but its behavioral consequences depend on the interaction between personal and environmental conditions. The present results suggest that employees' perceptions of a supportive Digital Culture provide a more influential pathway to Employee Creativity than innovation-related confidence alone.

4.4.6 The Mediating Role of Digital Culture

Perceived Digital Culture significantly mediated the relationship between Digital Leadership and Employee Creativity ($\beta = 0.356$, $p < 0.001$), supporting H6. Meanwhile, the additional direct relationship between Digital Leadership and Employee Creativity was not statistically significant ($\beta = 0.136$, $p = 0.191$). This pattern indicates an indirect-only mediation effect through perceived Digital Culture.

The finding suggests that Digital Leadership is associated with Employee Creativity primarily when leadership behaviors shape employees' perceptions that their work environment supports digital collaboration, experimentation, learning, and openness to change. Digital leaders provide behavioral cues and workplace experiences that influence how employees evaluate their surrounding environment. These individually perceived conditions subsequently encourage employees to exchange knowledge, explore alternative approaches, and express creative ideas.

This finding is consistent with Shin et al. (2023), who demonstrated a strong relationship between Digital Leadership and Digital Culture, and with Çetinkaya and Sürücü (2025), who emphasized the role of Digital Culture in connecting Digital Leadership with employees' innovative behavior. The present study extends these findings by positioning perceived Digital Culture as an individually perceived environmental mechanism rather than an aggregated organizational capability.

Therefore, perceived Digital Culture serves as the central pathway connecting Digital Leadership with Employee Creativity in Indonesian startup companies. The result indicates that leadership alone may not directly generate employee creativity; its influence becomes meaningful when employees perceive that digital values and supportive innovation practices are genuinely present in their immediate work environment.

4.4.7 The Mediating Role of Employee Digital Capability

Contrary to the proposed hypothesis, Employee Digital Capability did not significantly mediate the relationship between Digital Leadership and Employee Creativity ($\beta = 0.104$, $p = 0.197$). Therefore, H7 was not supported. Although Digital Leadership had a strong and significant effect on Employee Digital Capability, Employee Digital Capability did not subsequently exert a significant effect on Employee Creativity.

This result suggests that Digital Leadership can successfully strengthen employees' perceptions of digital capability development without necessarily translating those capabilities into creative behavior. Employees may possess or develop relevant digital competencies, but their ability to use these competencies creatively may depend on other conditions, such as task autonomy, opportunities for experimentation, managerial acceptance of new ideas, and knowledge-sharing practices.

The non-significant mediation effect also demonstrates the importance of distinguishing between competence development and creative application. Digital capability enables employees to participate effectively in digitally enabled work activities, but Employee Creativity requires employees to transform those competencies into novel and useful ideas. Thus, competence represents a potentially valuable individual resource, but it did not function as a significant pathway between Digital Leadership and Employee Creativity in this study.

This finding differs from the theoretical expectation derived from research emphasizing the importance of employee competencies in digital transformation (Blanka et al., 2022; Shin et al., 2023). However, those studies primarily demonstrate that leadership supports digital capability development, which is also confirmed in the present study. The current findings add that stronger perceived Employee Digital Capability does not automatically guarantee

higher creativity. Consequently, startup companies should not rely solely on digital training or capability development but should also establish work conditions that enable employees to apply their competencies in collaborative and creative ways.

5. Practical Implications

The findings provide several practical implications for Indonesian startup companies undergoing digital transformation. First, leaders should recognize that Digital Leadership extends beyond the adoption of new technologies. Leaders need to communicate a clear digital vision, demonstrate openness to technological change, encourage collaboration, and provide employees with opportunities to experiment with digital solutions. However, because the additional direct relationship between Digital Leadership and Employee Creativity was not significant, leadership practices should be translated into workplace conditions that employees genuinely perceive as supportive of creativity.

Second, startup leaders should prioritize the development of a perceived Digital Culture characterized by openness, collaboration, employee participation, knowledge sharing, and constructive responses to failure. This may involve involving employees in decision-making, reducing unnecessary hierarchical barriers, facilitating cross-functional collaboration, encouraging constructive discussions of unsuccessful initiatives, and providing employees with opportunities to contribute digital ideas. Because perceived Digital Culture was the only significant mediator, leaders should not merely establish formal digital values but should ensure that these values are consistently experienced by employees in their daily work.

Third, startup companies may continue investing in employees' digital capability development through training, mentoring, access to digital resources, and practical opportunities to use digital technologies. However, Employee Digital Capability did not directly influence Employee Creativity or mediate the relationship between Digital Leadership and Employee Creativity. Therefore, companies should not assume that digital training alone will automatically produce creative behavior. Capability-development initiatives should be accompanied by autonomy, opportunities for experimentation, knowledge-sharing practices, and managerial support that enable employees to apply their digital competencies creatively. Finally, although Digital Leadership significantly strengthened Employees' Innovation Self-Efficacy, this psychological mechanism did not significantly influence Employee Creativity or mediate the proposed relationship. Consequently, startup companies should not rely solely on strengthening employees' confidence in their innovative abilities. Employees should also be provided with opportunities to propose and implement ideas, constructive feedback, collaborative support, and an environment in which they feel comfortable experimenting with new approaches.

6. Conclusion

This study examined the relationship between Digital Leadership and Employee Creativity through the mediating roles of perceived Digital Culture, Employee Digital Capability, and Employees' Innovation Self-Efficacy among employees of Indonesian startup companies. The findings demonstrate that Digital Leadership is positively and significantly associated with perceived Digital Culture, Employee Digital Capability, and Employees' Innovation Self-Efficacy. However, only perceived Digital Culture has a significant positive relationship with Employee Creativity. Employee Digital Capability and Employees' Innovation Self-Efficacy

do not significantly influence Employee Creativity when the predictors are considered simultaneously.

The specific indirect effect analysis further demonstrates that perceived Digital Culture is the only significant mediator between Digital Leadership and Employee Creativity. In contrast, Employee Digital Capability and Employees' Innovation Self-Efficacy do not exhibit significant mediating effects. Furthermore, the additional direct relationship between Digital Leadership and Employee Creativity is not statistically significant. This pattern indicates an indirect-only mediation pathway through perceived Digital Culture. Therefore, employees' perceptions of an open, collaborative, adaptive, and experimentation-oriented digital work environment constitute the primary mechanism connecting Digital Leadership with Employee Creativity.

Theoretically, this study integrates Social Cognitive Theory and the microfoundations perspective of Dynamic Capability Theory at the individual employee level. Perceived Digital Culture represents an individually perceived environmental mechanism, Employee Digital Capability represents an individual competence-based mechanism, Employees' Innovation Self-Efficacy represents an individual psychological mechanism, and Employee Creativity represents an individual behavioral outcome. Accordingly, the study does not conceptualize Digital Culture or digital capability as aggregated organizational-level constructs. Instead, it demonstrates how leadership practices are associated with employees' perceptions, competencies, psychological beliefs, and creative behavior within the Indonesian startup context.

7. Limitations and Future Research

This study has several limitations that should be acknowledged. First, the respondents were employees of Indonesian startup companies and were predominantly located in Java and Sumatra. Therefore, the findings should be interpreted within this specific context and may not be directly generalizable to employees working in other industries, geographical regions, or national settings.

Second, the study employed a cross-sectional design and relied on self-reported data collected at a single point in time. Although anonymity, confidentiality, and clear questionnaire instructions were used to reduce potential response bias, the design does not permit definitive causal conclusions and cannot completely eliminate the possibility of common method bias.

Third, the findings involving Employees' Innovation Self-Efficacy should be interpreted cautiously because this construct exhibited relatively weaker reliability and indicator loadings than the other constructs. Employee Digital Capability was also measured through employees' perceptions of how digital competencies are developed, supported, and applied in their work context rather than through an objective assessment of technical proficiency. These measurement characteristics should be considered when interpreting the non-significant effects of the two constructs.

Future research may employ longitudinal or time-lagged designs and collect data from multiple sources, such as employees, supervisors, and organizational records, to provide stronger evidence regarding causal relationships and reduce potential common method bias. Future studies may also refine the measurement of Employees' Innovation Self-Efficacy and distinguish employees' perceived Digital Capability from objectively assessed digital proficiency. Additional environmental and individual mechanisms, including knowledge sharing, task autonomy, psychological safety, organizational learning, innovation climate,

psychological empowerment, and digital readiness, may also be examined. Finally, replicating the model across different industries, geographical regions, and national contexts would help evaluate the generalizability of the findings.

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