JOURNAL OF THEORETICAL AND APPLIED MANAGEMENT
Jurnal Manajemen Teori dan Terapan

https://e-journal.unair.ac.id/jmtt
p-ISSN: 1979-3650 e-ISSN: 2548-2149

Original Research

Volume 18, No. 2, 2025 OPEN ACCESS

Empowering Innovation: The Role of Digital Leadership in Shaping Gen Z and Gen Y Performance with Creativity as a Moderator

***Harris Prasetya Rahmandika[1], Yusuf Akbar Santoso[2], Dilla Imani[2], Nuri Herachwati[3]**

[1]Entrepreneurship Department, BINUS Business School, Bina Nusantara University, Jakarta, Indonesia
[2]Human Resource Development Program, Postgraduate School, Universitas Airlangga, Surabaya, Indonesia
[3]Department of Management, Faculty of Economics and Business, Universitas Airlangga, Surabaya, Indonesia

Correspondence*:
Address: Bina Nusantara University, Jakarta, Indonesia 11480 | e-mail: harris.rahmandika@binus.ac.id

Abstract

Objective: This study develops a quantitative model that integrates digital leadership, innovative work behavior, and employee performance, while also examining the moderating effect of creativity from the perspective of Upper Echelons Theory.
Design/Methods/Approach: This study employs PLS-SEM to examine the relationships among variables, using data collected from full-time Gen Z and Gen Y employees across various industries.
Findings: The study shows that digital leadership positively and significantly influences innovative work behavior, which also exerts a positive and significant effect on employee performance. In addition, digital leadership directly enhances employee performance. The results further indicate that innovative work behavior partially mediates the effect of digital leadership on employee performance. Finally, the moderating analysis suggests that high levels of employee creativity weaken the relationship between digital leadership and employee performance.
Originality/Value: This study contributes to existing literature on the field of leadership in the perspective of Upper Echelons Theory, especially that focus on the field of digital leadership.
Practical/Policy implication: Theoretical aspects of the study advance our understanding of digital leadership and its mechanisms. For practice, the results provide actionable guidance for top management, particularly in organizations that employ Gen Z and Gen Y workers.

Keywords: Digital leadership, Innovative work behavior, Creativity

JEL Classification: M21, M210

DOI: https://doi.org/10.20473/jmtt.v18i2.73528
Received: May 29, 2025; Revised: July 3, 2025; August 4, 2025; Accepted: August 28, 2025; Available online: August 29, 2025

Published by Universitas Airlangga, Department of Management, Faculty of Economics and Business

1. Introduction

Organizations today operate in dynamic, volatile, uncertain, complex, and ambiguous (VUCA) environments, necessitating adaptive leadership to respond effectively to rapid change and digital transformation (Figueiredo & Rodrigues, 2024). Leaders who successfully implement digital technologies often exhibit digital leadership characteristics (Tigre et al, 2023; Petry, 2018). Digital leadership is a leadership style that combines leadership skills with digital competencies (Karakose, 2023). Technology enables people to increase their productivity and effectively multitask, thereby facilitating optimal time use (Gomez et al.,2018). Digital leadership not only supports technological adoption but also plays a vital role in fostering innovation within organizations (Oberer & Erkollar, 2018).

Previous research has empirically supported the effect of digital leadership in fostering innovation within companies. For example, Erhan (2022) found that digital leadership significantly influences innovative work behavior among employees, which in turn plays a significant role in generating employee performance (Al Wali *et al*., 2023). This finding highlights the importance of innovative work behavior in this era, as it involves generating useful ideas for the company and implementing those ideas (De Jong & Den Hartog, 2010).

In the generational context, there are limitations in previous research that examines digital leadership implementation for Gen Z and Gen Y. Although some studies examine these generations' general leadership preferences and styles, there is still limited research on how digital leadership applies to their particular requirements (Zuriati et al., 2024). Gen Z emerges as a critical focus for businesses seeking to remain competitive (Inscription, 2021; Su, 2023), while Gen Y plays a pivotal role in developing and adopting communication technologies (Deloitte, 2019). Three-quarters of Gen Z (74%) and millennials (77%) believe AI impacts the way they work in the next year, and more than half of respondents already use AI in their daily work, with 29% of Gen Z and 30% of millennials using it all or most of the time (Deloitte, 2019).

Recent studies explicitly state that Gen-Z expects remote work options and digital learning platforms from organizations (Robert Half, 2023; Ayoobzadeh et al., 2024). Organizations must understand what prospective employees expect from employers to attract the best talent (Yameen et al., 2021; Gandasari et al., 2024). In fact, a survey reveals that newcomers leave organizations within a few months, and even weeks, if the employer fails to meet their workplace-related expectations (Silletto, 2023). If a company falls behind in digital transformation, this negatively impacts employee performance, especially among Gen Z and Gen Y employees. These shortcomings limit output and prevent businesses from reaping the full rewards of digital transformation.

Prior studies explore digital leadership as a resource that helps employees manage technological advancements and evolving market needs, and most do so use JDR theory (Ye, 2025). However, the role of digital leadership, especially among Gen Z and Gen Y in developing countries, requires further investigation. Therefore, this study develops a quantitative model integrating digital leadership, innovative work behavior as a mediator, and employee performance, with creativity as a moderator, framed by Upper Echelons Theory. Upper Echelons Theory explains that leaders contribute significantly to influencing and implementing strategic decisions involving the entire organization (Hambrick & Mason, 1984). Upper Echelons Theory is appropriate for this research model because it highlights the position of digital leadership in significantly affecting innovative work behavior and employee performance as strategic outputs within organizations.

Using PLS-SEM, this study employs SmartPLS version 4 to examine the relationships among the proposed variables, using data collected from full-time Gen Z and Gen Y employees across various industries. The findings of this study aim to contribute to both theoretical and practical domains. Theoretically, this research expands the existing literature on digital leadership by examining it through the lens of Upper Echelons Theory. The theoretical development of digital leadership studies is further enhanced by the generational context, which focuses on Gen Z and Gen Y and offers additional insight into how digital leadership appears across various age cohorts. The novelty of this study lies in the integration of the mediating effect of innovative work behavior and the moderating effect of creativity, which remain underexplored in previous research.

2. Literature Review and Hypotheses Development

2.1 Theoretical Background

The definition of Upper Echelons Theory (UET) by Hambrick and Mason (1984) states that organizational outcomes, strategic choices, and performance are partially predicted by managerial background characteristics, i.e., the values of managers and the cognitive basis for these values. This theory suggests that executives' observable traits, such as age, gender, education, and career background, shape their decision-making processes and strategic preferences. According to UET, the values and cognitive frameworks that leaders bring to an organization are a function of their life experiences, which, in turn, affect the firm's strategic direction and performance outcomes (Hambrick, 2007). The theory emphasizes that a diverse board brings diverse perspectives, potentially fostering innovative solutions and adaptive strategies that improve firm performance (Hambrick and Mason, 1984). Additionally, UET suggests that boards with varied backgrounds in education and career fields are better equipped to foster innovation and address complex

market challenges, thereby creating value for stakeholders (García-Meca, 2016). The concept of UET remains relevant today, particularly in the era of massive technology use, where AI can significantly impact leaders' decision-making processes and the abilities they require (Jorzik et al., 2023).

Some studies examine CEOs from multiple dimensions, such as age, gender, and education (Frye and Pham, 2018; Krystyniak and Staneva, 2024; Aabo and Ronnow, 2024; Song and Chung, 2023). They generally find supportive evidence and confirm that CEO traits have far-reaching impacts on a variety of firm behavior and outcomes, such as stock price crash risk (Fang et al., 2024), boardroom backscratching (Evdokimov et al., 2022), risk-taking (Sun et al., 2023), R&D commitment (Agnihotri and Bhattacharya, 2025), and tax avoidance (Kabir and Rashid, 2024). Previous research by Wu (2024) explores the relationship between female political leadership and environmental sustainability, drawing on UET. The UET suggests that leaders' personal attributes and backgrounds, including their gender, shape their decision-making processes and priorities. In the context of family businesses, the UET helps explain how specific characteristics of family top management influence various strategic choices, objectives, overall decision-making, and business performance (Patel and Cooper, 2014; Minichilli et al., 2010). A study by Harymawan et al. (2025) examines the impact of senior executives' traits and experiences on organizational performance, with a particular focus on former military leaders. This study offers insights into how specific leadership philosophies enhance business sustainability initiatives.

The UET is relevant for examining the role of digital leadership, as demonstrated in previous research such as Erhan (2022), who also integrates these concepts. Grounded in UET, the research examines how leaders' experiences influence corporate strategy and digital innovation. This theory posits that experienced leaders play a significant role in driving digital transformation within firms. Based on the UET, it examines the impact of leader openness on enterprise digital transformation, which significantly promotes digital transformation within enterprises. A digital leader who drives digital transformation enhances their ability to lead the process effectively.

2.2 *Hypothesis Development*

2.2.1 Digital leadership and innovative work behavior

Digital leadership is a leadership style characterized by a leader's strategic focus on members (Tigre, 2023). Innovative work behavior encompasses a set of tasks that support employees in the development, promotion, and implementation of novel and creative ideas (Ullah, Mirza, & Jamil, 2021). Innovative work behavior also included the planned efforts of employees to offer new services or products by effectively creating, encouraging, and executing ideas (Kmieciak, 2021; Zreen, Farrukh, & Kanwal, 2021).

Digital leadership itself requires the ability of someone who can understand both practical knowledge and the use and transfer of knowledge from digital equipment (Benitez, 2022). When a leader practices digital leadership, they can optimize the use of digital technology in the work environment, enabling employees to produce innovative products or services with the support of digital tools. In the context of digital leadership, innovative work behaviour can be significantly facilitated by an environment that encourages experimentation with digital tools, rewards creative thinking, and supports the implementation of digital solutions that enhance productivity, customer experiences, and overall organizational performance.

Digital leaders are essential in encouraging and modeling such behavior, as they set the tone for the organization's adoption of technology and foster creativity (Wokurka et al., 2017). Gen Z is the children of the "digital age" (born 1997-2012). They are experts in operating various types of technology media (digital natives) and possess a unique multitasking character that distinguishes them from previous generations. Gen Z exhibits open-mindedness characteristics, being highly receptive to innovations and able to adapt to new products and services quickly. When Gen Z has leaders who practice digital leadership and their environment is also digital, this can foster innovative work behaviour among Gen Z. Based on the explanation above, this research proposed the following hypothesis:

H1: Digital leadership has a significant positive effect on innovative work behavior

2.2.2 Innovative work behavior and employee performance

Employee performance refers to the behaviors that employees exhibit, which contribute to achieving organizational goals (Colquitt et al., 2018). The practice of innovative work behavior, which involves creating new products or services within the work environment, enhances work outcomes in terms of both quality and quantity. Research shows that innovative work behavior aims to improve performance at the employee, group, and organizational levels (Janssen, 2000; Fiernaningsih, 2022). Indriani et al. (2024) emphasize that a suitable work setting is essential for significantly improving employee performance through innovative work behavior, characterized by the generation and implementation of new ideas. Employees who engage in innovative work behavior generate new ideas that enhance their performance, as they are capable of creating novel concepts and solutions. This capability is especially relevant for Gen Z's creativity and innovation traits. Thus, the higher the level of innovation, the higher the performance. Therefore, the following hypothesis is developed in this research:

H2: Innovative work behavior has a significant positive effect on employee performance

2.2.3 Digital leadership and employee performance

Finding the leadership style that best inspires performance is essential because organizations need strong leadership styles to stimulate employee performance (Iqbal et al., 2015). Leaders need to be able to inspire and encourage staff to go above and beyond in order to get satisfying results. Promoting an innovative culture, facilitating collaboration, providing access to digital resources, offering feedback, and monitoring performance, digital leadership plays a critical role in enhancing employee performance. Digital leaders can motivate staff, boost productivity, and foster a creative workplace by implementing digital technologies effectively (Turyadi et al., 2023). In the era of digitalization and change, digital leaders enhance employee performance and achieve long-term success by possessing essential qualities such as strategic thinking, adaptability, resilience, and openness to new ideas (Shin et al., 2023). Due to the technology-oriented nature of Gen Z and their open-mindedness, Gen Z is highly receptive to innovations and can quickly adapt (Widiharlina et al., 2023). The characteristics of Gen Z are supported by research from Öngel (2023), which found that digital leadership has a positive effect on employee performance. Digital leaders can prioritize the development of digital competencies, equipping employees with essential knowledge and skills in digital technology. It can be seen that the higher the digital leadership is applied in a company, the higher the employee performance that will be generated. Based on the explanation above, the following hypothesis can be proposed:

H3: Digital leadership has a significant positive effect on employee performance

2.2.4 Mediating role of innovative work behavior

Leadership support plays a pivotal role in motivating employees to perform at higher levels, directly influencing their performance (Putri & Meria, 2020). Effective leaders significantly influence organizational progress and enhance employee performance by earning trust, admiration, loyalty, and respect, motivating employees to exceed expectations (Rumengan et al., 2021). In this context, a digital leader is expected to possess qualities such as vision, empathy, agility, willingness to take risks, and openness to collaboration (Büyükbeşe *et al*., 2022). Platforms that provide information about new offerings have the potential to significantly increase Gen Z's awareness and knowledge, which can build innovative work behaviour. Individuals with higher levels of creative innovation are more likely to contribute original ideas and advance innovative work behaviors within organizations (Cetinkaya and Surucu, 2025). Digital leaders can inspire employees, increase productivity, and improve employee performance. Research has found that Innovative work behavior plays a mediating role between digital leadership and employee performance (Sagbas *et al*., 2023). Therefore, the following hypothesis is developed in this research:

H4: Innovative work behavior mediating the relationship between Digital leadership and employee performance

2.2.5 *Moderating role of creativity*

Creativity, which entails generating novel and valuable ideas, is widely acknowledged as a critical driver of employee performance, particularly in roles and industries where innovation plays a pivotal role in achieving a competitive advantage (Amabile, 1988; Shalley, 2004). Oldham and Cummings (1966) found that individual creativity significantly correlated with high levels of employee performance. Zhou and Shalley (2003) find that employees exhibiting elevated levels of creativity are more likely to exhibit superior performance. Digital leaders utilize up-to-date, real-world tools to unleash creativity and foster a passion for learning (Sheninger, 2014). These can enhance followers' willingness to face and overcome obstacles, and search for new resources to achieve work goals (Licata et al., 2003), thus promoting employee creativity and increasing employee performance (Lim and Gilson, 2013). Additionally, when employees become creative, they work more intelligently, as they devise novel ways to cope with daily work problems, which ultimately have a positive impact on their overall performance (Amabile, 2007). The existence of digital leadership will motivate employees to continue being creative and innovative, thereby improving employee performance. When an employee exhibits high creativity, meaning they are able to explore new ideas for organizational innovation, the organization or company can consider the employee a critical organizational resource in terms of high creative performance (Nasir, 2022). When employees are able to generate innovative ideas, the results of their work will be higher or better. This explanation is the basis for this study to build the following moderation hypothesis:

H5: Creativity will strengthen the effect of digital leadership on employee performance

Based on the explanations above, this research presents six main hypotheses. All of the hypotheses are shown in Figure 1 below.

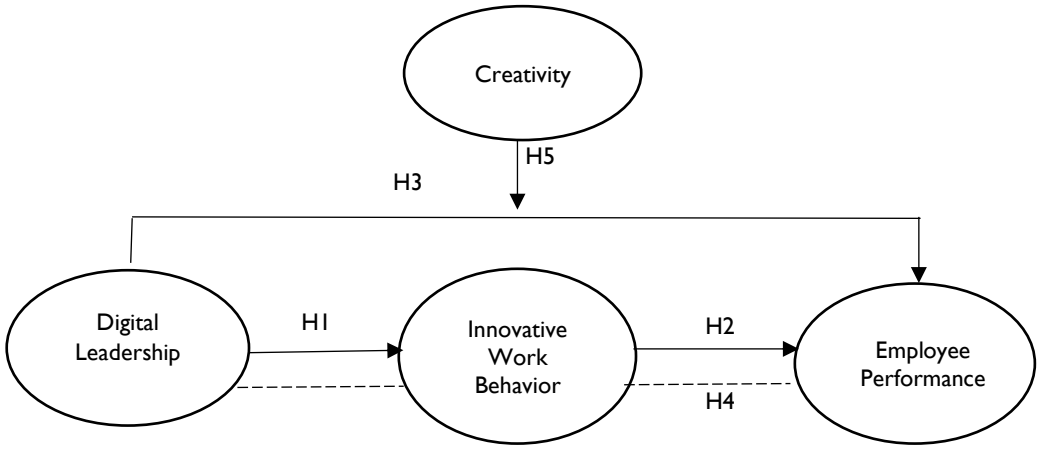

Figure 1. Conceptual Framework and Hypothesis

3. Method

3.1. Sampling

The population in this study consisted of Gen Z and Gen Y employees working across various industries in Indonesia. The sampling technique employed in this study was non-probability sampling, specifically purposive sampling. The criteria used to determine respondents were that they were workers within the age range of Gen Y or Gen Z, as this generation is closely associated with technology and digitalization, making them suitable respondents in the context of this research. In addition, respondents were required to be permanent employees, as a basis to ensure that they had understood and comprehended the environmental conditions in their workplace, including the character of their leaders, their duties and responsibilities, and had received orientation training from the company. The number of population members who were selected as research samples totaled 241 respondents. This sample size was considered adequate, as it met the minimum requirement suggested by Hair et al. (2019). According to their guideline, the minimum sample size should have been determined by multiplying the total number of indicators by five. Given that this study included 30 indicators, the minimum required sample size was 150 respondents.

3.2. Data Collection

This research collected data through a systematic procedure that aimed to obtain reliable and valid data analysis. Primary data were collected through distributing the questionnaires online utilizing various social media channels. To enhance response rates and participant engagement, the researcher also adopted an active approach by initiating conversations related to the research topic. This strategy helped create a more open and comfortable environment, encouraging more respondents to complete the questionnaire. The questionnaire also ensured that only members of Gen Z and Gen Y were able to participate in the research by including specific questions regarding the respondents' generation and age.

3.3. Measures

All variables were measured using a five-point Likert scale, ranging from 1 (Strongly Disagree) to 5 (Strongly Agree). The measurement of digital leadership in this research was adapted from Zhu (2022), which consisted of six items. Ten measurement items from De Jong & Den Hartog (2010) were used to assess innovative work behavior, which comprised four dimensions: idea generation, idea exploration, idea championing, and idea implementation. To measure employee performance, this study adapted ten items from de Azevedo Andrade (2020), which were categorized into two dimensions: task performance and contextual performance. Finally, employee creativity in this research was measured with four items adapted from Baer & Oldham (2006).

Table 1. Item Variable

Variable	Definition	Item
Digital Leadership	Digital leadership refers to the extent to which employees perceive their leaders as possessing in-depth digital knowledge and the ability to effectively influence their millennial and Gen Z employees through the use of digital technology in the workplace.	DL1: My leader considers the use of digital tools enjoyable. DL2: My leader is a digital expert. DL3: My leader is always up-to-date regarding digital knowledge. DL4: My leader proactively drives the progress of digital transformation in our unit. DL5: My leader can make others enthusiastic about digital transformation. DL6: My leader has a clear idea of the structures and processes required for digital transformation.
Innovative Work Behavior	Innovative work behavior is the self-reported actions of millennial and Gen Z employees that demonstrate an effort to innovate products, work processes, and procedures within the company where they work.	IWB1: I frequently seek new working methods, techniques, or instruments. IWB2: I often generate original solutions to problems. IWB3: I often discover new approaches to performing tasks. IWB4: I often pay attention to issues that are not part of daily work routines. IWB5: I frequently question how things can be improved. IWB6: I successfully generate enthusiasm among key organizational members for innovative ideas. IWB7: I make efforts to convince others to support innovative ideas. IWB8: I systematically introduce innovative ideas into work practices. IWB9: I frequently contribute to the implementation of new ideas. IWB10: I put significant effort into developing new things.
Employee Performance	Employee performance is the overall output of millennial and Gen Z employees in their company, as self-reported through the results they achieve and the behaviors they demonstrate while performing their work.	EP1: I strive to perform difficult tasks to the best of my ability. EP2: I make efforts to complete tasks according to the company's expectations. EP3: I prioritize my work based on deadlines and priorities.

Variable	Definition	Item
		EP4: I strive to complete work in accordance with the tasks and routines assigned by the company.
		EP5: I make use of available opportunities to improve work outcomes.
		EP6: I strive to enhance technical knowledge to perform tasks.
		EP7: I take the initiative to improve work results.
		EP8: I make efforts to find new solutions for emerging problems.
		EP9: I work hard to complete tasks assigned to me.
		EP10: I carefully consider the outcomes of every task I undertake.
Employee Creativity	Employee creativity is the self-reported work behavior and output of millennial and Gen Z employees that reflect their efforts to generate creative ideas, propose new approaches, solve problems in novel ways, and contribute value-creating suggestions to their company.	EC1: I propose various creative ideas that may improve working conditions in the company.
		EC2: I often present creative solutions to workplace problems.
		EC3: I suggest various new ways of performing tasks.
		EC4: I perceive myself as a source of creative ideas.

4. Result and Discussion

4.1. Respondents' Characteristics

The total sample analyzed in this study consisted of 241 respondents. The majority of the respondents were female (63.9%). In terms of generation composition, the sample was nearly equally proportioned between Gen Y (51.5%) and Gen Z (48.5%). The service industry was the most represented, accounting for 31.1% of the total respondents. The following table described the detailed respondent characteristics.

Table 2. Respondents' Characteristics

Respondent Characteristic	Description	Frequency	Percentage (%)
Gender	Male	87	36.1
	Female	154	63.9
Generation	Gen Y (26-42 years)	124	51.5
	Gen Z (17-25 years)	117	48.5
Industry	Aviation	1	0.4
	Logistics	15	6.2
	Electronics	5	2.1
	Pharmacy	11	4.6
	Entertainment	8	3.3
	Service	75	31.1

Respondent Characteristic	Description	Frequency	Percentage (%)
	Computer	17	7.1
	Construction	10	4.1
	Food & Beverages	14	5.8
	Manufacturer	11	4.6
	News Media	14	5.8
	Education	29	12.0
	Mining	7	2.9
	Farming	7	2.9
	Telecommunication	7	2.9
	Transportation	10	4.1

4.2. Structural Equation Modeling (SEM) Model Analysis and Testing

4.2.1. Measurement (Outer) Model Testing

The outer model defined how each indicator related to its latent variable (Ghozali and Latan, 2012). In this study, the outer model was obtained based on the convergent validity and composite reliability values. Convergent validity was used to assess whether the indicators employed accurately measured the construct or dimension. The convergent validity testing procedure involved correlating the item score (component score) with the construct score, which then yielded the loading factor value. A loading factor value of more than 0.7 was considered acceptable (Hair et al., 2019). In Table 3, the outer loading column displayed the outer loading values, and it was observed that all variable indicators had a factor loading value of more than 0.7. This indicated that these indicators were capable of explaining or measuring the respective variables, making them valid and suitable for further analysis. The correlation between the indicators was evident from the average variance extracted (AVE) values. The AVE value already met the recommended threshold of 0.5 or above (Chin, 1998).

Table 3. Validity Test Results

Variable	Indicator	Loading Factor	Result
Digital Leadership	DL1	0.713	Valid
	DL2	0.759	Valid
	DL3	0.832	Valid
	DL4	0.844	Valid
	DL5	0.812	Valid
	DL6	0.854	Valid
Innovative Work Behavior	IWB1	0.786	Valid
	IWB2	0.838	Valid
	IWB3	0.840	Valid
	IWB4	0.814	Valid
	IWB5	0.876	Valid
	IWB6	0.909	Valid
	IWB7	0.909	Valid
	IWB8	0.864	Valid
	IWB9	0.870	Valid
	IWB10	0.837	Valid
Employee Performance	EP1	0.745	Valid

Variable	Indicator	Loading Factor	Result
	EP2	0.803	Valid
	EP3	0.772	Valid
	EP4	0.737	Valid
	EP5	0.773	Valid
	EP6	0.785	Valid
	EP7	0.732	Valid
	EP8	0.771	Valid
	EP9	0.789	Valid
	EP10	0.705	Valid
Employee Creativity	EC1	0.825	Valid
	EC2	0.841	Valid
	EC3	0.815	Valid
	EC4	0.790	Valid

Construct Reliability. Reliability referred to the extent to which measurements provided consistent results after being carried out several times. To measure the level of reliability of the research variables, composite reliability was used with a minimum threshold of 0.7 (Hair et al., 2013). The following were the results of the composite reliability values. Based on Table 4, the average variance extracted (AVE) value for each variable was above 0.5. This value indicated that each variable still had good discriminant validity. Furthermore, each variable exhibited a composite reliability value above 0.7, indicating that all variables were reliable.

Table 4. AVE Value & Composite Reliability Test

Variable	AVE	Composite Reliability
Digital Leadership	0.647	0.900
Innovative Work Behavior	0.795	0.926
Employee Performance	0.904	0.906
Employee Creativity	0.669	0.848

4.3. Structural (Inner) Model Testing

R-Square Model. In assessing the model using PLS-SEM, the analysis began by examining the R-squared values for each endogenous latent variable. The R-squared value was used to predict the model's accuracy and to assess the influence of certain exogenous latent variables on endogenous latent variables that had a substantive effect. Table 5 showed the results of the R-Square estimation using SmartPLS. The R-squared value ranged from 0 to 1; the higher the R-squared value, the more accurate the model's prediction. Based on the R-squared values shown in Table 5, digital leadership explained 40.5% of the variance in the employee performance variable and 10.6% of the variance in the innovative work behavior variable.

Table 5. R square

Variable	R-Square
Employee Performance	0.405
Innovative Work Behavior	0.106

F-Square Model. The F-Square value was used to determine how much the coefficient of determination changed when the independent variable was removed from the model, thereby revealing the contribution of the independent variable to the dependent variable, as indicated by the F-Square value. Effect size values were classified as small (greater than 0.02), moderate (greater than 0.15), and large (greater than 0.35) (Cohen, 1988, in Hair, 2019). Table 6 presented the F-Square values for the variables examined in this study. The relationship between Digital Leadership and Employee Performance yielded an F-Square value of 0.074, suggesting that digital leadership had a small effect size in explaining variations in employee performance. Similarly, the path from Innovative Work Behavior to Employee Performance also showed a small contribution, with an F-Square value of 0.069. In contrast, the influence of Digital Leadership on

Innovative Work Behavior demonstrated a moderate effect, reflected in an F-Square value of 0.311. Thus, these results indicated that while digital leadership and innovative work behavior made only small contributions to employee performance, digital leadership played a more substantial role in shaping innovative work behavior.

Table 6. F-square

Hypothesis	*F*-Square
H1: Digital Leadership → Innovative Work Behavior	0.311
H2: Digital Leadership → Employee Performance	0.074
H3: Innovative Work Behavior → Employee Performance	0.069

Q-Square Model

Cross-validated redundancy, also known as Q-Square testing, was employed to assess the predictive relevance of a particular variable (Hair et al., 2017). Predictive relevance referred to independent variables that had a Q-Square value greater than 0. To determine the Q-Square value, the PLS-Predict procedure was performed. Table 7 presented the Q-Square values, which suggested that both Employee Performance and Innovative Work Behavior had predictive relevance for Digital Leadership.

Table 7. Q square Test

Variable	Q-Square
Employee Performance	0.311
Innovative Work Behavior	0.074

Goodness of Fit

The overall model quality of this study was evaluated by determining the value of the Goodness of Fit (GoF) index, as suggested by Tenenhaus et al. (2005). The average communality was calculated by averaging the AVE values across all constructs, yielding a value of 0.7538. The average R^2 value for the endogenous constructs in this model was 0.2555. By applying the Tenenhaus et al. (2005) GoF formula, the result was 0.439. This result indicated a substantial model fit, exceeding the recommended threshold of 0.36 (Memon & Rahman, 2011), which was considered the minimum value for a model to demonstrate strong explanatory and predictive power.

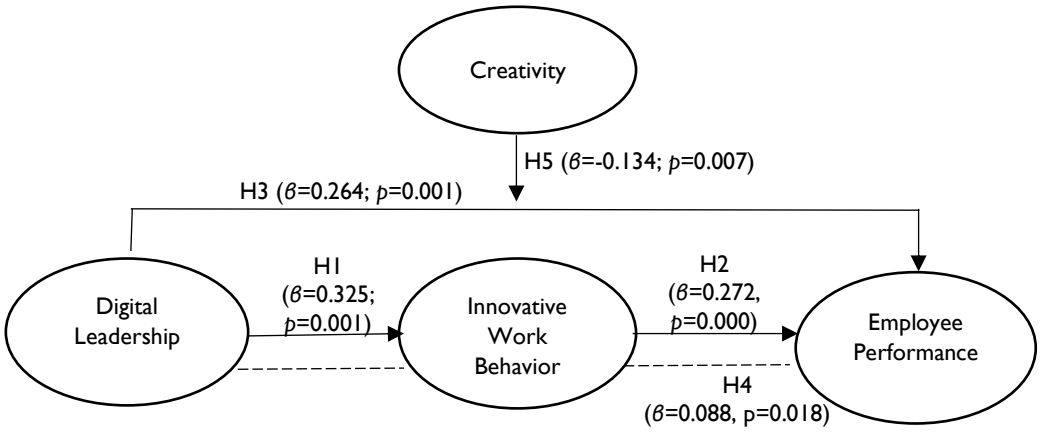

Figure 2. Hypothesis Test Results

Direct & Indirect Hypothesis Test.

Figure 2 presented the results of hypothesis testing for both direct and moderating effects. Hypothesis 1 stated that digital leadership positively influenced innovative work behavior, supported by a p-value of 0.001 (< 0.05). The beta coefficient value of 0.325 indicated a moderate positive relationship between digital leadership and innovative behavior. Hypothesis 2, which proposed that innovative work behavior positively affected employee performance, was supported with a *p*-value of 0.000, where the beta coefficient value of 0.272 showed a meaningful positive relationship. Hypothesis 3 confirmed that digital leadership has a direct and positive impact on employee performance, supported by a p-value of 0.000; the beta coefficient value of 0.264 reflects a strong direct influence. Hypothesis 4 tested the indirect effect of

digital leadership on employee performance through innovative work behavior, supported by a *p*-value of 0.018, with a beta coefficient value of 0.088 indicating a small but statistically significant indirect effect. Finally, the results of the moderation test on Hypothesis 5 showed that the hypothesis was rejected, as employee creativity had a weakening effect on the relationship between digital leadership and employee performance when it was high. Statistically, this was demonstrated by a *p*-value of 0.007 and a beta coefficient value of -0.134.

4.5 *Discussion*

The results of the significance test showed that innovative work behavior was positively and significantly impacted by digital leadership. This result is consistent with earlier research by Erhan (2022), which found that managers in Turkish textile companies exhibited more innovative work practices when led by digital leaders, including aspects such as idea generation, exploration, championing, and implementation. The current study, which involved full-time Gen Z and Gen Y employees from various industries, validated the broader applicability of digital leadership's influence, despite Erhan's study focusing on a particular industry and demographic. These consistent results provide further empirical evidence that digital leadership is essential for encouraging creative work practices in diverse industrial and generational contexts.

Innovative work behavior was also found to have positive and significant effects on employee performance. This finding is aligned with previous research conducted by Janssen (2000) and Fiernaningsih (2022). The innovative work behavior exhibited by Gen Z and Gen Y employees contributed to improved workplace performance. As an extra-role behavior, innovative work behavior involves the promotion and implementation of new ideas (Perry-Smith, 2017). This study confirmed that such behavior enhances both task performance and contextual performance. These results highlight the critical role of employees' innovative behavior in the digital era in developing more effective and efficient ways of working.

This study also demonstrated that digital leadership has a positive impact on employee performance. In the face of digitalization, companies recognize the importance of leaders, consistent with UET, which posits that leaders are a powerful source of influence on employees. Therefore, digitalization initiatives are included in companies' strategic plans, which are strongly affected by managers' ability to educate their subordinates so that organizational goals can be achieved. Thus, this study confirmed that the application of digital leadership can improve employee performance in the digital era. The results are also consistent with other studies, such as those by Ongel et al. (2023), which found that digital leadership has a positive and significant influence on employee performance.

The significance test results also showed a partial mediation effect of digital leadership on employee performance through innovative work behavior. This finding is consistent with previous research, which found that innovative work behavior partially mediates the relationship between digital leadership and performance (Sagbas et al., 2023). This means that in affecting employee performance, digital leadership partly operates through innovative work behavior. However, the relationship was only partially mediated, suggesting that while innovative work behavior is a valuable factor in enhancing employee performance, other elements also contribute. These may include external factors, such as the work environment and organizational culture, in addition to internal behavioral aspects. Thus, this finding supports the hypothesis regarding the mediating role of innovative work behavior.

A unique finding of this research revealed the significant moderating effect of employee creativity on the relationship between digital leadership and employee performance. Interestingly, this moderating effect weakened the relationship, suggesting that when employee creativity was high, the influence of digital leadership on employee performance was reduced. One possible explanation for this phenomenon is that Gen Y and Gen Z, the respondents in this study, share characteristics of confidence and strong familiarity with digital technologies (Fadhilah & Aruan, 2023; Ameen & Anand, 2020). This high level of confidence may influence how they work and value their creativity in the workplace. This finding aligns with previous research, which shows that highly creative employees tend to act more independently, relying on their own internal standards (Carmeli & Schaubroeck, 2007). Such a mindset may hinder the impact of digital leadership on employee performance. When employees already possess high creativity, they may rely more on their own capacities; therefore, in contexts where creativity is high, digital leadership may have a limited impact because creative individuals tend to prefer autonomy over direction. From a theoretical standpoint, other studies also support this explanation: when Gen Y and Gen Z employees have high creativity, it can increase their self-confidence to the extent that they may become less reliant on leaders' ability to provide direction. Ultimately, this indifference could lead to a reduction in the quality of employee performance (Bălan & Vreja, 2018).

This moderating effect finding is also related to the demographic characteristics of this study, in which the majority of respondents were Gen Y and Gen Z employees working in the service industry. The service industry demands a high level of creativity (Sigala & Kyriakidou, 2015). Moreover, the service sector tends to innovate more gradually, prioritizing customers and applying innovations directly in customer interactions (Link & Siegel, 2007). Consequently, the implementation of innovative and creative ideas in this sector is often subject to minimal formal control due to the absence of standardized procedures (Vang & Zellner, 2005). This finding suggests an important managerial implication: when implementing work practices for Gen Y and Gen Z employees, organizations should create balanced environments that support autonomy and provide space for self-initiated innovation, while maintaining appropriate guidance and controls to ensure alignment with company goals.

5. Conclusion

Based on the results of data testing, analysis, and discussion regarding the performance of the millennial and Gen Z generations, which is influenced by digital leadership, innovative work behavior, and employee creativity. The results show that innovative work behavior is positively and significantly impacted by digital leadership. This study also demonstrates that digital leadership has a positive impact on employee performance, and a significant moderating effect of employee creativity on the relationship between digital leadership and employee performance. This moderating effect is weakening the relationship, suggesting that when high levels of employee creativity exist, the impact of digital leadership on employee performance is reduced.

5.1 Theoretical Implications

This study makes a meaningful contribution to the theoretical development of digital leadership by reinforcing the relevance of the UET in contemporary organizational contexts, particularly in the digital era. By integrating the constructs of digital leadership, innovative work behavior, and employee performance, this research extends the application of UET beyond traditional strategic decision-making toward digitally driven work environments. The finding that digital leadership significantly influences both innovative behavior and performance supports the proposition that leaders' digital competence forms a critical part of strategic organizational outcomes.

Moreover, the study enriches the literature by examining the moderating role of creativity and the mediating role of innovative work behavior, which have been relatively underexplored in previous research. The weakening effect of employee creativity on the digital leadership–performance relationship provides a nuanced view, suggesting that the effectiveness of leadership may vary depending on employee-level attributes, such as autonomy orientation and innovation self-efficacy. This insight advances the theoretical dialogue by introducing boundary conditions under which digital leadership operates more or less effectively, especially in generationally diverse workforces.

Additionally, by focusing on Gen Z and Gen Y cohorts, this study fills a critical gap in leadership research that often overlooks the generational dynamics of these cohorts. It suggests that generational characteristics—such as digital nativeness and creative independence—are important contingencies in leadership outcomes, thus opening new avenues for generational studies within organizational behavior and human resource development.

5.2 Practical Implications

Based on the hypothesis testing and the corresponding indicators of each variable, this section presents strategic implications that can serve as a practical guide for managers and organizational leaders, particularly in managing young employees (Gen Y and Gen Z) in the digital era.

We find that digital leadership has been shown to significantly enhance employees' innovative work behavior. Practical strategies, aligned with key indicators to strengthen digital literacy, require managers to provide regular training on emerging technologies and digital tools. This allows leaders to serve as role models and encourages employees to explore and generate ideas (idea exploration & generation). By articulating a clear vision and digital strategy, leaders can guide innovation efforts so that employees' ideas align with organizational goals. Leaders should promote innovation by encouraging employees through recognition systems that reward those who take the initiative to propose and support innovative ideas. Leaders should utilize effective digital communication platforms, such as Slack, Microsoft Teams, or Trello, to facilitate collaborative idea championing and support seamless transitions to idea implementation.

We find evidence that digital leadership also contributes directly to improving employee performance. Strategic actions based on performance indicators can enhance the quantity of work and timeliness. To increase efficiency, managers can implement automation tools, digital workflow dashboards, and time-tracking systems. To enhance the quality of work, digital leadership should encourage the standardization and integration of digital systems to ensure consistent and high-quality outcomes. To foster cooperation, digital workspaces and project-based platforms can be leveraged to promote collaboration and transparency. Independence from supervision can be enhanced by providing digital self-monitoring systems and performance dashboards, which empower employees to manage their tasks autonomously.

Our findings show that innovative work behavior has a direct positive effect on employee performance. Practical strategies based on IWB indicators, such as Idea generation and idea exploration, should be encouraged through structured brainstorming sessions or internal innovation hubs that allow employees to address real organizational challenges. Idea championing can be fostered by creating mentoring programs or idea validation discussions with supervisors to help employees advocate for their ideas. To ensure the successful implementation of ideas, managers

must allocate resources, time, and formal support to enable the execution of employee-generated innovations that can enhance performance outcomes.

Innovative work behavior is identified as a mediator between digital leadership and employee performance, suggesting that it plays a key mediating role in the relationship between digital leadership and employee performance. Recommended practical strategies are that digital leaders should be positioned not just as technology users, but as facilitators of innovation, by guiding employees through the entire innovation process from idea exploration to implementation. Organizations should develop internal digital platforms to capture, evaluate, and implement employee ideas, integrating feedback mechanisms and progress tracking. Organization should train their managers to recognize the stages of innovation exploration, generation, championing, and implementation, and support employees accordingly at each stage.

We demonstrate creativity as a negative moderator between digital leadership and employee performance, suggesting that high employee creativity may weaken the positive influence of digital leadership on performance if not properly managed. Managerial strategies linked to creativity indicators, such as employees with high originality and fluency (the ability to generate many original ideas), may resist direction if unchecked. Managers should establish clear boundaries by utilizing frameworks such as OKRs (Objectives and Key Results) to guide creative outputs. Problem sensitivity and flexibility (the ability to recognize issues and adapt) must be supported with structured coaching to ensure that creative efforts remain focused and aligned with business objectives. Managers should implement filtering and validation systems for ideas to ensure that creativity is channelled toward value-added contributions rather than diverging from strategic priorities.

5.3 Limitations and Future Research

Despite its significant contributions, this study is not without limitations. First, the research relies on self-reported questionnaire data, which may be susceptible to common method bias and subject to respondents' subjective interpretations. While the instrument design aimed to mitigate this risk, the potential for response bias, particularly in interpreting Likert scale items, remains a methodological concern.

Second, the study focused exclusively on Gen Z and Gen Y employees, which may limit the generalizability of the findings to other generational cohorts (such as Gen X or baby boomers) or to different cultural and organizational settings. The unique socio-cultural dynamics of the workforce may have influenced the responses, especially regarding autonomy, creativity, and digital literacy.

Third, although the model includes important constructs such as digital leadership, innovative work behavior, and creativity, other influential organizational variables, including organizational culture, leadership style diversity, psychological safety, and digital infrastructure readiness, were not considered. These factors may also play a critical role in shaping the relationship between leadership and employee outcomes.

Future research can address these limitations in several ways. First, mixed-method approaches, including in-depth interviews or focus groups, can complement survey data and provide richer insights into how digital leadership is experienced across different contexts. Second, longitudinal studies are recommended to assess the dynamic changes in leadership influence and employee behavior over time. Third, expanding the scope to include other generations and cross-country comparisons would enhance the external validity and cultural sensitivity of the findings. Lastly, future studies may explore team-level or organizational-level outcomes, integrating multilevel analysis to understand better systemic impact of digital leadership across layers of the enterprise.

Acknowledgment

We would like to thank the Faculty of Economics and Business, Universitas Airlangga, for their technical support and all the contributors who helped in this study.

Author Contribution

Author 1: conceptualization, formal analysis, investigation, review and editing, supervision
Author 2: writing original draft, data curation, formal analysis, methodology
Author 3: writing original draft, data curation, formal analysis
Author 3: review and editing, supervision

Financial Disclosure

This research received no specific grant from any funding agency in the public, commercial, or not-for-profit sectors.

Conflict of Interest

The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

References

Aabo, T., & Rønnow, S. K. (2024). Female CEOs with a squeeze of narcissism: A perfect cocktail for corporate performance? *Finance Research Letters, 64*, 105469. https://doi.org/10.1016/j.frl.2024.105469

Agnihotri, A., & Bhattacharya, S. (2025). Generalist versus specialist CEO and R&D commitment: evidence from an emerging market. *Journal of Management & Organization, 31*(4), 1837–1853. https://doi.org/10.1017/jmo.2021.7

Al Wali, J., Muthuveloo, R., Teoh, A. P., & Al Wali, W. (2023). Disentangling the relationship between employees' dynamic capabilities, innovative work behavior and job performance in public hospitals. *International Journal of Innovation Science, 15*(2), 368–384. https://doi.org/10.1108/IJIS-01-2022-0012

Amabile, T. M. (1988). A model of creativity and innovation in organizations. *Research in Organizational Behavior, 10*(1), 123–167.

Amabile, T. M., & Kramer, S. J. (2007). Inner work life. *Harvard Business Review, 85*(5), 72–83.

Ayoobzadeh, M., Schweitzer, L., Lyons, S., & Ng, E. (2024). A tale of two generations: A time-lag study of career expectations. *Personnel Review, 53*(7), 1649–1665. https://doi.org/10.1108/PR-02-2022-0101

Baer, M., & Oldham, G. R. (2006). The curvilinear relation between experienced creative time pressure and creativity: Moderating effects of openness to experience and support for creativity. *Journal of Applied Psychology, 91*(4), 963–970. https://doi.org/10.1037/0021-9010.91.4.963

Bălan, S., & Vreja, L. O. (2018, November). Gen Z: Challenges for management and leadership. In *Proceedings of the 12th International Management Conference: Management Perspectives in the Digital Era (pp. 1–2)*. Bucharest, Romania.

Benitez, J., Arenas, A., Castillo, A., & Esteves, J. (2022). Impact of digital leadership capability on innovation performance: The role of platform digitization capability. *Information & Management, 59*(2), 103590. https://doi.org/10.1016/j.im.2022.103590

Büyükbeşe, T., Dikbaş, T., Klein, M., & Ünlü, S. B. (2022). A study on digital leadership scale (DLS) development. *Kahramanmaraş Sütçü İmam Üniversitesi Sosyal Bilimler Dergisi, 19*(2), 740–760. https://doi.org/10.33437/ksusbd.1135540

Chin, W. W., Gopal, A., & Salisbury, W. D. (1997). Advancing the theory of adaptive structuration: The development of a scale to measure faithfulness of appropriation. *Information Systems Research, 8*(4), 342–367. https://doi.org/10.1287/isre.8.4.342

Colquitt, J. A., Lepine, J. A., & Wesson, M. J. (2018). *Organizational behavior: Improving performance and commitment in the workplace (6th ed.)*. McGraw Hill Education.

Databoks. (2021, May 24). Proporsi populasi Generasi Z dan Milenial terbesar di Indonesia. https://databoks.katadata.co.id/datapublish/2021/05/24/proporsi-populasi-generasi-z-dan-milenial-terbesar-di-indonesia

De Jong, J. P., & Den Hartog, D. N. (2008). Innovative work behavior: Measurement and validation. *EIM Business and Policy Research, 8*(1), 1–27.

De Jong, J., & Den Hartog, D. (2010). Measuring innovative work behaviour. *Creativity and Innovation Management, 19*(1), 23–36. https://doi.org/10.1111/j.1467-8691.2010.00547.x

Deloitte. (2019). Millennials in Industry 4.0: A gift or a threat to Indonesian human resources? https://www2.deloitte.com/content/dam/Deloitte/id/Documents/about-deloitte/id-about-dip-edition-1-chapter-2-en-sep2019.pdf

Erhan, T., Uzunbacak, H. H., & Aydin, E. (2022). From conventional to digital leadership: Exploring digitalization of leadership and innovative work behavior. *Management Research Review, 45*(11), 1524–1543. https://doi.org/10.1108/MRR-05-2021-0338

Evdokimov, E., Hanlon, D., & Lim, E. K. (2022). Do generalist CEOs magnify boardroom backscratching? *Journal of Business Ethics,* 1–27. https://doi.org/10.1007/s10551-021-04895-0

Fadhilah, I., & Aruan, D. T. H. (2023). Understanding consumer adoption and actual usage of digital payment instruments: Comparison between Gen Y and Gen Z. *International Journal of Electronic Marketing and Retailing, 14*(1), 39–60. https://doi.org/10.1504/IJEMR.2023.127272

Fiernaningsih, N., Herijanto, P., & Trivena, S. M. (2022). How to improve employee performance based on transglobal leadership? *Problems and Perspectives in Management, 20*(3), 400–410. https://doi.org/10.21511/ppm.20(3).2022.32

Figueiredo, P., & Rodrigues, R. (2024). Digital leadership and virtual performance. In *New research on leadership styles and performance* (pp. 187–202). Nova Science Publishers, Inc.

Frye, M. B., & Pham, D. T. (2018). CEO gender and corporate board structures. *Quarterly Review of Economics and Finance, 69,* 110–124. https://doi.org/10.1016/j.qref.2017.12.002

Fulcrum. (2022, March 3). *The state of Indonesia's digital economy in 2022.* https://fulcrum.sg/the-state-of-indonesias-digital-economy-in-2022

Gandasari, D., Tjahjana, D., Dwidienawati, D., & Ichsan, M. (2024). How to attract talents? The role of CSR, employer brand, benefits and career development. *Cogent Business & Management, 11*(1), 2323774. https://doi.org/10.1080/23311975.2024.2323774

García-Meca, E. (2016). The impact of corporate governance on firm performance: Evidence from Spain. *Corporate Governance: The International Journal of Business in Society, 16*(4), 615–627.

Hair, J. F., Risher, J. J., Sarstedt, M., & Ringle, C. M. (2019). When to use and how to report the results of PLS-SEM. *European Business Review, 31*(1), 2–24. https://doi.org/10.1108/EBR-11-2018-0203

Hambrick, D. C. (2007). Upper echelons theory: An update. *Academy of Management Review, 32*(2), 334–343. https://doi.org/10.5465/amr.2007.24345254

Hambrick, D. C., & Mason, P. A. (1984). Upper echelons: The organization as a reflection of its top managers. *Academy of Management Review, 9*(2), 193–206. https://doi.org/10.5465/amr.1984.4277628

Harymawan, I., Nasih, M., Putra, F. K. G., Taylor, G., & Amran, A. (2025). Military experience and sustainable development goal disclosure. *Research in International Business and Finance,* 103022. https://doi.org/10.1016/j.ribaf.2025.103022

Indriani, Y., Wahyuningsih, S. H., & Qamari, I. N. (2024). The role of innovative work behavior as an intervening variable in the relationship between transformational leadership and information sharing on employee performance. *Asian Journal of Economics, Business and Accounting, 24*(5), 269–282. https://doi.org/10.9734/ajeba/2024/v24i51309

Iqbal, N., Anwar, S., & Haider, N. (2015). Effect of leadership style on employee performance. *Arabian Journal of Business and Management Review, 5*(146), 1–6. https://doi.org/10.4172/2223-5833.1000146

Jameson, J., Rumyantseva, N., Cai, M., Markowski, M., Essex, R., & McNay, I. (2022). A systematic review, textual narrative synthesis and framework for digital leadership research maturity in higher education. *Computers and Education Open, 3,* 100115. https://doi.org/10.1016/j.caeo.2022.100115

Janssen, O. (2000). Job demands, perceptions of effort–reward fairness and innovative work behaviour. *Journal of Occupational and Organizational Psychology, 73*(3), 287–302. https://doi.org/10.1348/096317900167038

Jong, J. P. J. (2007). *Individual innovation: The connection between leadership and employees' innovative work behavior.* Amsterdam, The Netherlands: EIM.

Kabir, M., & Rashid, H. (2024). Do generalist CEOs engage in more tax avoidance than specialist CEOs? *Accounting and Business Research, 54*(5), 525–551. https://doi.org/10.1080/00014788.2023.2183486

Karakose, T., & Tülübaş, T. (2023). Digital leadership and sustainable school improvement—A conceptual analysis and implications for future research. *Educational Process: International Journal, 12*(1), 7–18. https://doi.org/10.22521/edupij.2023.121.1

Klein, M. (2020). Leadership characteristics in the era of digital transformation. *Business and Management Studies: An International Journal, 8*(2), 883–902. https://doi.org/10.15295/bmij.v8i1.1441

Kmieciak, R. (2021). Trust, knowledge sharing, and innovative work behavior: Empirical evidence from Poland. *European Journal of Innovation Management, 24*(5), 1832–1859. https://doi.org/10.1108/EJIM-04-2020-0134

Krystyniak, K., & Staneva, V. (2024). Executive gender and capital structure: New evidence from rebalancing events. *Finance Research Letters, 65,* 105520. https://doi.org/10.1016/j.frl.2024.105520

Licata, J. W., Mowen, J. C., Harris, E. G., & Brown, T. J. (2003). On the trait antecedents and outcomes of service worker job resourcefulness: A hierarchical model approach. *Journal of the Academy of Marketing Science, 31*(3), 256–271. https://doi.org/10.1177/0092070303031003004

Lim, H. S., & Gilson, L. L. (2013). The curvilinear effect of creativity on performance: A moderating effect of team creativity. *Academy of Management Proceedings, 2013*(1), 13245. https://doi.org/10.5465/ambpp.2013.13245abstract

Link, A. N., & Siegel, D. S. (2007). *Innovation, entrepreneurship, and technological change.* Oxford University Press.

Madjar, N., Oldham, G. R., & Pratt, M. G. (2002). There's no place like home? The contributions of work and nonwork creativity support to employees' creative performance. *Academy of Management Journal, 45*(4), 757–767. https://doi.org/10.2307/3069309

Memon, A. H., & Rahman, I. A. (2013). Analysis of cost overrun factors for small scale construction projects in Malaysia using PLS-SEM method. *Modern Applied Science, 7*(8), 78–88. https://doi.org/10.5539/mas.v7n8p78

Minichilli, A., Corbetta, G., & MacMillan, I. C. (2010). Top management teams in family-controlled companies: 'Familiness', 'faultlines', and their impact on financial performance. *Journal of Management Studies, 47*(2), 205–222. https://doi.org/10.1111/j.1467-6486.2009.00888.x

Nielsen, S. (2010). Top management team diversity: A review of theories and methodologies. *International Journal of Management Reviews, 12*(3), 301–316. https://doi.org/10.1111/j.1468-2370.2009.00263.x

Oberer, B., & Erkollar, A. (2018). Leadership 4.0: Digital leaders in the age of Industry 4.0. *International Journal of Organizational Leadership, 7*(4), 404–412. https://doi.org/10.33844/ijol.2018.60332

Oldham, G. R., & Cummings, A. (1996). Employee creativity: Personal and contextual factors at work. *Academy of Management Journal, 39*(3), 607–634. https://doi.org/10.2307/256657

Öngel, V., Günsel, A., Gençer Çelik, G., Altındağ, E., & Tatlı, H. S. (2023). Digital leadership's influence on individual creativity and employee performance: A view through the generational lens. *Behavioral Sciences, 14*(1), 3. https://doi.org/10.3390/bs14010003

Patel, P. C., & Cooper, D. (2014). Structural power equality between family and non-family TMT members and the performance of family firms. *Academy of Management Journal, 57*(6), 1624–1649. http://dx.doi.org/10.5465/amj.2012.0681

Perry-Smith, J. E., & Mannucci, P. V. (2017). From creativity to innovation: The social network drivers of the four phases of the idea journey. *Academy of Management Review, 42*(1), 53–79. https://doi.org/10.5465/amr.2014.0462

Putri, N., & Meria, L. (2022). The effect of transformational leadership on employee performance through job satisfaction and organizational commitment. *IAIC Transactions on Sustainable Digital Innovation (ITSDI), 4*(1), 8–21. https://doi.org/10.34306/itsdi.v4i1.565

Robert Half. (2023). *Examining the multigenerational workforce.* https://content.roberthalfonline.com/US/files/multigenworkforce-ebook-0623-us-en.pdf

Rumengan, J., Satriawan, B., Yanti, S., Fahizah, A., & Dewi, N. P. (2021). The influence of transformational leadership, personal value and organizational commitment to the performance of millennial employees in digital era in companies' internet services provider (ISP) in Batam with motivation as an intervening variable. *IAIC International Conference Series, 3*(1), 113–122. https://doi.org/10.34306/conferenceseries.v3i2.470

Shalley, C. E., Zhou, J., & Oldham, G. R. (2004). The effects of personal and contextual characteristics on creativity: Where should we go from here? *Journal of Management, 30*(6), 933–958. https://doi.org/10.1016/j.jm.2004.06.007

Sheninger, E. (2014). *Pillars of digital leadership.* International Center for Leadership in Education.

Shin, J., Mollah, M. A., & Choi, J. (2023). Sustainability and organizational performance in South Korea: The effect of digital leadership on digital culture and employees' digital capabilities. *Sustainability, 15*(3), 2027. https://doi.org/10.3390/su15032027

Sigala, M., & Kyriakidou, O. (2015). Creativity and innovation in the service sector. *The Service Industries Journal, 35*(6), 297–302. https://doi.org/10.1080/02642069.2015.1010159

Silletto, C. (2023, July 12). Why do employees leave when they do? A timeline of employee turnover. *LinkedIn.* https://www.linkedin.com/pulse/why-do-employees-leave-when-timeline-employee-cara-silletto-mba-csp

Song, J. M., & Chung, C. Y. (2023). Female CEOs and investment efficiency in the Vietnamese market. *Finance Research Letters, 58,* 104362. https://doi.org/10.1016/j.frl.2023.104362

Su, Y.-Y., Paradis, K., & Kuo, Y.-K. (2023). Indonesian Gen Z embrace digital payments for convenience and discounts. In *Proceedings of the International Conference on Business and Technology (ICBT 2023)* (pp. 671–683). Atlantis Press. https://doi.org/10.2991/978-2-38476-052-7_73

Sun, Z., Anderson, H., & Chi, J. (2023). Managerial foreign experience and corporate risk-taking: Evidence from China. *International Review of Financial Analysis, 86,* 102525. https://doi.org/10.1016/j.irfa.2023.102525

Tenenhaus, M., Vinzi, V. E., Chatelin, Y. M., & Lauro, C. (2005). PLS path modeling. *Computational Statistics & Data Analysis, 48*(1), 159–205. https://doi.org/10.1016/j.csda.2004.03.005

Tigre, F. B., Curado, C., & Henriques, P. L. (2023). Digital leadership: A bibliometric analysis. *Journal of Leadership & Organizational Studies, 30*(1), 40–70. https://doi.org/10.1177/15480518221123 13

Ting, I. W. K., Azizan, N. A. B., & Kweh, Q. L. (2015). Upper echelon theory revisited: The relationship between CEO personal characteristics and financial leverage decision. *Procedia – Social and Behavioral Sciences, 195,* 686–694. https://doi.org/10.1016/j.sbspro.2015.06.341

Turyadi, I., Zulkifli, Z., Tawil, M. R., Ali, H., & Sadikin, A. (2023). The role of digital leadership in organizations to improve employee performance and business success. *Jurnal Ekonomi, 12*(3), 1671–1677.

Ullah, I., Mirza, B., & Jamil, A. (2021). The influence of ethical leadership on innovative performance: Modeling the mediating role of intellectual capital. *Journal of Management Development, 40*(4), 273–292. https://doi.org/10.1108/JMD-08-2020-0277

Vang, J., & Zellner, C. (2005). Introduction: Innovation in services. *Industry & Innovation, 12*(2), 147–152. https://doi.org/10.1080/13662710500087875

Wokurka, G., Banschbach, Y., Houlder, D., & Jolly, R. (2017). Digital culture: Why strategy and culture should eat breakfast together. In G. Oswald & M. Kleinemeier (Eds.), *Shaping the digital enterprise* (pp. 85–98). Springer. https://doi.org/10.1007/978-3-319-40967-2_5

Wu, A. (2024). Do female political leaders make the environment greener? Evidence from the United States. *Kybernetes, 54*(8), 4382–4402. https://doi.org/10.1108/K-09-2023-1932

Yameen, M., Bharadwaj, S., & Ahmad, I. (2021). University brand as an employer: demystifying employee attraction and retention. *Vilakshan-XIMB Journal of Management*, *18*(1), 26–41. https://doi.org/10.1108/XJM-08-2020-0061

Ye, Q. (2025). Digital leadership enhances organizational resilience by fostering job crafting: The moderating role of organizational culture. *Scientific Reports, 15*(1), 24640. https://doi.org/10.1038/s41598-025-09144-2

Zeike, S., Bradbury, K., Lindert, L., & Pfaff, H. (2019). Digital leadership skills and associations with psychological well-being. *International Journal of Environmental Research and Public Health, 16*(14), 2628. https://doi.org/10.3390/ijerph16142628

Zhou, J., & Shalley, C. E. (2003). Research on employee creativity: A critical review and directions for future research. *Research in Personnel and Human Resources Management, 22,* 165–217. https://doi.org/10.1016/S0742-7301(03)22004-1

Zhu, J., Zhang, B., Xie, M., & Cao, Q. (2022). Digital leadership and employee creativity: The role of employee job crafting and person–organization fit. *Frontiers in Psychology, 13,* 827057. https://doi.org/10.3389/fpsyg.2022.827057

Zreen, A., Farrukh, M., & Kanwal, N. (2021). Do HR practices facilitate innovative work behavior? Empirical evidence from higher education institutes. *Human Systems Management, 40*(5), 701–710. https://doi.org/10.3233/HSM-201001

Zuriati, H., Wahyuningsih, S., & Asri, R. W. P. (2024). The conceptual structure and thematic evolution of the digital leadership knowledge base. *Multidisciplinary Reviews, 7*(4), e2024073. https://doi.org/10.31893/multirev.2024073