

Journal of Social Sciences Research & Policy (JSSRP)**A Survey-Based Analysis of Digital Leadership and Employee Innovation Behaviour in Hybrid Work Environments****Asma Basit¹, Lubna Maroof², Sumera Iqbal³, Farah Waheed⁴**

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Abstract: *The rapid expansion of hybrid work environments has transformed organizational leadership practices and reshaped employee engagement in innovation-related activities. Focus of the study is empirical examination of digital leadership and employee innovation behaviour in hybrid workplace using a survey-based approach. The research focuses on how digitally competent leadership influences employees' ability to generate, promote, and implement innovative ideas while working across virtual and physical settings. Data from employees of hybrid organizational structures using a structured questionnaire was collected. The findings indicate that digital leadership plays a significant role in encouraging employee creativity, adaptability, and knowledge-sharing practices. Leaders who effectively utilize digital tools, maintain transparent communication and foster trust-based interactions contribute positively to employees' motivation to participate in innovative activities. The study further reveals that hybrid work environments create both opportunities and challenges for innovation, depending on the quality of digital coordination and organizational support mechanisms. Effective digital leadership was found to strengthen employee confidence, enhance collaborative problem-solving, and support continuous learning in distributed work settings. The research contributes to the growing body of literature on leadership and innovation management by highlighting the importance of leadership capabilities in digitally enabled workplaces. The study also provides practical insights for organizations seeking to improve employee innovation outcomes in evolving hybrid work models through strategic digital leadership practices.*

Introduction

The increasing integration of digital technologies into organizational operations has significantly transformed leadership practices and employee work behaviours across industries. The transition from conventional office-based systems to hybrid work environments has accelerated due to advancements in communication technologies, cloud computing, and digital collaboration platforms (Makhdum &

Mian, 2012). Hybrid work environments combine remote and physical workplace arrangements, allowing employees to perform their tasks through flexible work structures while maintaining organizational connectivity. This transformation has altered managerial responsibilities and highlighted the growing importance of digital leadership in sustaining organizational effectiveness and employee innovation behaviour (Contreras et al., 2020).

Digital leadership refers to the ability of leaders to use digital technologies strategically while guiding employees toward organizational goals in technology-driven work settings. It emphasizes adaptability, technological competence, communication efficiency, and collaborative decision-making within digitally connected environments (Zeike et al., 2019). In hybrid workplaces, leaders are expected to coordinate teams across virtual and physical spaces while maintaining employee motivation, trust, and engagement (Abbas & Faisal, et al., 2024). Effective digital leadership has become increasingly essential for organizations aiming to maintain productivity, innovation, and employee commitment in rapidly evolving work environments.

Employee innovation behaviour represents the intentional generation, promotion, and implementation of new ideas, processes, or solutions that improve organizational performance and competitiveness (Janssen, 2000). In hybrid work environments, innovation behaviour depends heavily on communication quality, knowledge sharing, organizational support, and leadership effectiveness. Employees working in flexible work arrangements often face challenges related to coordination, social interaction, and access to collaborative opportunities. Consequently, leadership approaches that encourage creativity, autonomy, and digital collaboration are essential for fostering innovative work behaviour.

The development of hybrid work systems has also changed organizational communication structures. Virtual meetings, digital platforms, and remote collaboration tools have become primary channels for interaction among employees and management. Although these technologies improve operational flexibility, they may also create communication gaps, social isolation, and reduced team cohesion if not managed effectively (Wang et al., 2021). Digital leaders therefore play a critical role in ensuring continuous communication, maintaining organizational culture, and encouraging employee participation in innovation-oriented activities.

Organizations increasingly recognize innovation as a strategic requirement for long-term sustainability and competitive advantage. Innovation-oriented organizations require employees who can adapt to technological changes, solve problems creatively, and contribute new ideas to organizational processes. Previous studies have shown that supportive leadership significantly influences employees' willingness to engage in innovative behaviour (Afsar et al., 2019). In hybrid work environments, digital leadership practices become even more relevant because employees rely extensively on digital interactions rather than traditional face-to-face supervision.

The growing dependence on hybrid work structures after the Covid-19 pandemic further intensified academic and managerial interest in digital leadership (Makhdom & Khanam, 2021). Many organizations adopted remote and hybrid systems as permanent operational strategies, making it necessary to understand how leadership influences employee outcomes in these settings (Kniffin et al., 2021). Researchers have examined various dimensions of digital leadership, including technological competence, digital communication, emotional intelligence, and virtual collaboration. However, impact of digital leadership on employee innovation behaviour in hybrid work environment remains an evolving area of research requiring further investigation.

Moreover, employees working in hybrid settings experience varying levels of autonomy, flexibility, and digital dependence. While flexible work arrangements can enhance creativity and job satisfaction, they

may also reduce direct interaction and collaborative engagement if organizational leadership is ineffective. Digital leaders are therefore expected to create supportive work climates that encourage experimentation, knowledge exchange, and continuous learning. Such leadership approaches contribute to employee confidence and improve innovation-related performance outcomes.

The present study focuses on analysing the impact of digital leadership on employee innovation behaviour in hybrid work environment through a survey-based approach. The study aims to contribute to contemporary organizational and leadership literature by examining how digital leadership practices shape innovative employee behaviour in flexible work systems. Understanding this relationship is essential for organizations seeking to strengthen innovation capabilities while adapting to digitally enabled workplace structures.

Significance of study

This study is significant because it contributes to the growing body of research on digital leadership and employee innovation behaviour in hybrid work environments. The rapid transformation of organizational structures through digitalization and flexible work systems has created new leadership challenges that require scholarly attention. By examining the relationship between digital leadership and employee innovation behaviour, this research provides valuable insights into leadership effectiveness in technology-driven workplaces.

The study is academically important because it extends existing leadership and innovation theories within the context of hybrid work arrangements. Previous research has largely focused on traditional leadership styles in conventional office environments, while limited attention has been given to leadership dynamics in digitally integrated hybrid workplaces. The findings of this research may therefore support future studies related to organizational behaviour, innovation management, and digital transformation.

From a practical perspective, the study offers guidance for managers and organizations seeking to improve employee innovation outcomes through effective digital leadership practices. Organizations operating in hybrid work systems require leaders who can maintain communication, collaboration, trust, and creativity among employees working across virtual and physical spaces. The study may assist organizations in developing leadership training programs and digital management strategies that support innovation and employee engagement.

Additionally, the research is socially relevant because hybrid work environments are becoming increasingly common across sectors worldwide. Understanding the factors that encourage employee innovation in flexible work systems can help organizations maintain productivity, employee well-being, and long-term competitiveness in evolving digital economies.

Problem Statement

The widespread adoption of hybrid work environments has transformed organizational communication, collaboration, and leadership practices. While hybrid work systems provide flexibility and operational efficiency, they also create challenges related to employee coordination, engagement, and innovation. Employees working across virtual and physical environments often experience communication barriers, reduced interpersonal interaction, and limited collaborative opportunities, which may negatively influence innovative work behaviour.

Digital leadership has emerged as an important factor in managing these challenges by enabling leaders to guide employees effectively through digital technologies and virtual communication systems. However, despite the increasing relevance of digital leadership, limited empirical research has examined its impact on employee innovation behaviour within hybrid work environment. Existing studies have

primarily focused on traditional leadership styles or remote work settings without specifically addressing the hybrid workplace context.

Furthermore, organizations continue to face difficulties in maintaining employee creativity, knowledge sharing, and innovative participation in digitally connected work systems. The absence of effective digital leadership practices may reduce employee motivation and limit innovation-related performance (Abbas & Faisal, et al., 2024). Therefore, there is a need to investigate how digital leadership influences employee innovation behaviour in hybrid work environments and identify the leadership practices that support innovation in flexible workplace structures. The study addresses the following research question;

- How does digital leadership, digital communication and collaboration influence employee innovation behaviour in hybrid work environments?

Existing literature has extensively examined leadership and innovation behaviour in traditional organizational settings; however, limited studies have focused specifically on digital leadership within hybrid work environments. Many previous studies concentrated on remote work arrangements during emergency situations such as the Covid-19 pandemic, while fewer studies have analysed long-term hybrid workplace structures (Makhdam & Khanam, 2021).

Additionally, prior research has often examined technological adoption and employee productivity separately from innovation behaviour. Limited empirical evidence exists regarding how digital leadership practices directly influence employees' ability to generate and implement innovative ideas in hybrid work settings. There is also insufficient research exploring the role of digital communication, trust, and collaboration in supporting innovation behaviour among employees working across virtual and physical environments. Furthermore, existing studies frequently focus on either leadership effectiveness or employee innovation independently rather than examining their interconnected relationship in hybrid organizational contexts. This study addresses these gaps by providing a survey-based analysis of digital leadership and employee innovation behaviour in hybrid work environments.

Literature Review

This section discusses the main variables of the study;

Digital Leadership

The concept of digital leadership has gained substantial attention in modern organizational research due to rapid technological advancement and workplace digitalization. Digital leadership refers to leadership practices that integrate technological competence, digital communication, and strategic adaptability to manage employees effectively within digitally enabled environments (Zeike et al., 2019). Organizations increasingly rely on digital systems and virtual communication tools to maintain operational continuity, especially in hybrid work environments where employees operate across both remote and physical settings. Consequently, leadership approaches have evolved from traditional supervisory methods toward more flexible, technology-oriented practices.

Digital leaders are expected to facilitate collaboration, encourage innovation, and maintain organizational engagement through digital platforms. According to Contreras et al. (2020), digital leadership requires leaders to possess strong communication capabilities, technological awareness, and emotional intelligence to manage distributed teams effectively. These leadership qualities are particularly important in hybrid work systems because employees often depend on virtual interactions for task coordination and problem-solving activities. Leaders who effectively utilize digital technologies can improve organizational communication and support collaborative work processes.

Innovation Behaviour in Hybrid Work Environment

Employee innovation behaviour is another important construct within organizational research. Innovation behaviour involves employees' ability to generate, promote, and implement new ideas that contribute to organizational improvement and competitive advantage (Janssen, 2000). Innovative employees actively engage in creative problem-solving, knowledge sharing, and experimentation to improve work practices and organizational performance. In contemporary organizations, employee innovation has become essential for adapting to technological change and maintaining long-term sustainability.

Several studies have demonstrated that leadership significantly influences innovation behaviour among employees. Transformational leadership, supportive leadership, and participative leadership styles have all been associated with increased employee creativity and innovative performance (Afsar et al., 2019). Leaders who encourage autonomy, provide constructive feedback, and support collaborative learning environments tend to strengthen employees' willingness to participate in innovation-oriented activities. In hybrid work environments, digital leadership extends these leadership functions through technology-enabled communication and virtual collaboration mechanisms.

Hybrid work environments combine remote work arrangements with traditional office-based operations, offering employees flexibility in performing their tasks. These work structures became increasingly common following the COVID-19 pandemic, which accelerated organizational dependence on digital communication technologies (Kniffin et al., 2021). Hybrid work systems provide several benefits, including improved work-life balance, operational flexibility, and reduced commuting time. However, they also create managerial challenges related to communication, collaboration, employee engagement, and innovation management.

The relationship between hybrid work and innovation behaviour has become an important area of academic investigation. Some researchers argue that flexible work environments support creativity by increasing employee autonomy and reducing workplace stress (Wang et al., 2021). Employees working in hybrid settings often have greater control over their schedules and work processes, which may improve concentration and creative thinking. Additionally, digital collaboration tools enable employees to share ideas across geographical boundaries, potentially enhancing organizational innovation capabilities.

Despite these advantages, hybrid work environments may also create barriers to innovation if communication and collaboration are not managed effectively. Reduced face-to-face interaction can limit spontaneous idea sharing, informal learning opportunities, and social engagement among employees. According to Weizenberger et al. (2020), remote and hybrid work arrangements may weaken team cohesion and reduce collaborative creativity when organizations fail to establish effective digital communication structures. Therefore, leadership practices become critically important in maintaining employee interaction and innovation performance within hybrid systems.

Role of Digital Communication and Collaboration

Digital communication plays a central role in supporting innovation behaviour in hybrid workplaces. Communication technologies such as video conferencing platforms, collaborative software, and cloud-based systems facilitate information exchange and teamwork among employees. Effective communication enhances transparency, trust, and coordination, all of which contribute to innovative work behaviour. Leaders who maintain regular communication with employees and encourage knowledge sharing can strengthen collaborative innovation processes within distributed teams.

Trust is another essential factor influencing innovation behaviour in hybrid work environments.

Employees working remotely or in hybrid systems often experience limited direct supervision, making trust-based leadership approaches increasingly important. Trust encourages employees to share ideas openly, participate in collaborative discussions, and engage in creative experimentation without fear of negative evaluation. Research by Newman et al. (2020) indicated that supportive leadership and organizational trust positively influence innovative work behaviour by creating psychologically safe work environments.

Knowledge sharing is also closely linked to employee innovation behaviour. Hybrid work environments rely heavily on digital platforms for storing and exchanging organizational knowledge. Employees who actively share information and collaborate across teams are more likely to contribute innovative ideas and solutions. Digital leaders facilitate this process by promoting collaborative cultures, encouraging continuous learning, and providing access to technological resources that support knowledge exchange. Employee engagement represents another important determinant of innovation behaviour in hybrid workplaces. Engaged employees are more motivated to contribute creative ideas and participate in organizational improvement initiatives. Leadership practices that recognize employee contributions, support professional development, and maintain transparent communication positively influence employee engagement levels. In digitally connected work environments, leaders must adopt inclusive communication strategies that ensure employees remain connected to organizational goals and team activities.

The technological competence of leaders significantly affects their ability to manage innovation in hybrid work environments. Leaders who possess digital skills can effectively coordinate virtual teams, resolve technological challenges, and implement collaborative digital systems. According to El Sawy et al. (2016), digital transformation requires leadership approaches that integrate technological understanding with organizational strategy and employee management. Digital leaders must therefore continuously adapt to evolving technologies while supporting employee innovation capabilities.

Organizational culture also influences the relationship between digital leadership and employee innovation behaviour. Innovation-oriented cultures encourage experimentation, collaboration, and learning, which support employee creativity and problem-solving activities. Hybrid work environments require organizational cultures that emphasize flexibility, trust, and open communication to maintain innovation performance across distributed teams. Leaders play a significant role in shaping these cultural values through communication practices, decision-making processes, and employee support mechanisms.

Several empirical studies have examined the effects of digital leadership on employee outcomes. Research findings suggest that digital leadership positively influences employee adaptability, job satisfaction, organizational commitment, and innovative behaviour (Zeike et al., 2019). Employees are more likely to engage in innovative activities when leaders provide technological support, encourage participation, and maintain effective communication structures. These leadership practices become increasingly important in hybrid work systems where employees operate in less centralized work environments.

However, despite growing research interest, literature on digital leadership and employee innovation behaviour in hybrid work environments remains limited. Many previous studies focused on remote work during crisis situations rather than examining stable hybrid workplace systems. Additionally, some studies have concentrated primarily on technological adoption and productivity without fully exploring innovation behaviour outcomes. There is therefore a need for further empirical investigation into how digital leadership practices influence employee innovation within hybrid organizational structures.

This study contributes to existing literature by examining digital leadership and employee innovation behaviour specifically within hybrid work environments. The research integrates concepts related to leadership, communication, collaboration, and innovation management to provide a comprehensive understanding of employee behaviour in digitally enabled workplaces. By adopting a survey-based analytical approach, the study seeks to provide empirical evidence regarding the influence of digital leadership on employee innovation outcomes in contemporary hybrid organizations.

Methodology

The study employed a survey-based research design to collect standardized responses from employees working in hybrid organizational settings. Survey research is widely used in organizational and behavioural studies because it enables researchers to gather information from a large number of participants efficiently while ensuring consistency in data collection procedures. The design also allowed the study to analyse perceptions related to digital leadership practices, communication effectiveness, collaboration, and employee innovation behaviour in hybrid work environments.

The target population of the study consisted of employees working in organizations that had adopted hybrid work systems. Hybrid work environments were defined as organizational arrangements in which employees performed their duties through a combination of remote and office-based work practices. The study included employees from various sectors, including information technology, education, banking, telecommunications, healthcare, and business services, because these sectors increasingly rely on digital communication technologies and flexible work structures (Makhdum, et al., 2023). Including employees from diverse industries improved the generalizability of the study findings and provided broader insight into digital leadership practices across organizational settings. Participants were selected based on their direct experience with hybrid work systems and digital communication technologies (Makhdum & Mian, 2012). Employees who had worked in hybrid settings for a minimum of six months were considered eligible for participation because they were expected to possess sufficient experience regarding digital leadership practices and workplace innovation processes.

The questionnaire was designed to collect quantitative data related to digital leadership, communication practices, collaboration, and employee innovation behaviour in hybrid work environments. The survey instrument consisted of close-ended questions measured on a five-point Likert scale ranging from strongly disagree to strongly agree. The questionnaire was divided into different sections according to the study variables. The first section included demographic information. Second section focused on digital leadership practices within hybrid work environments. This section measured employees' perceptions regarding leadership communication, technological support, virtual collaboration, adaptability, trust-building, and digital decision-making practices. The statements included in this section were adapted from previous organizational leadership studies to ensure consistency with established research constructs. Third section measured employee innovation behaviour.

Reliability and validity were important considerations in ensuring the quality and credibility of the research instrument. Validity refers to the extent to which the research instrument accurately measures the intended constructs. Content validity was ensured through careful development of questionnaire items based on relevant literature related to digital leadership, innovation behaviour, and hybrid work environments. The study also minimized common method bias by ensuring anonymity, reducing response pressure, and using clear and concise survey statements.

Data Analysis

This section present the data analysis;

Descriptive Analysis

The descriptive analysis was conducted to summarize the demographic characteristics of respondents and examine the overall distribution of responses regarding digital leadership and employee innovation behaviour in hybrid work environments. The study collected responses from 250 employees working in hybrid organizational environments across multiple sectors, including information technology, banking, education, healthcare, and telecommunications. The respondents represented different age groups, professional roles, and levels of work experience, ensuring diversity within the sample.

Table 1: Demographic Characteristics of Respondents

Variable	Category	Frequency	Percentage (%)
Gender	Male	138	55.2
	Female	112	44.8
	21–30 Years	92	36.8
	31–40 Years	101	40.4
	41–50 Years	43	17.2
	Above 50 Years	14	5.6
Education	Bachelor’s Degree	119	47.6
	Master’s Degree	108	43.2
	Doctorate	23	9.2
Experience	1–5 Years	95	38.0
	6–10 Years	87	34.8
	Above 10 Years	68	27.2

The demographic analysis indicates that male respondents represented 55.2% of the sample, while female respondents accounted for 44.8%. Most participants belonged to the age group of 31–40 years, indicating that the majority of respondents were mid-career professionals actively involved in hybrid work systems. The educational distribution demonstrates that most employees possessed bachelor’s or master’s degrees, reflecting a professionally qualified workforce familiar with digital technologies and organizational communication systems.

The descriptive analysis also examined employee responses regarding digital leadership practices and innovation behaviour. Mean scores and standard deviations were calculated to evaluate the consistency and central tendency of responses. A five-point Likert scale was used where higher mean values represented stronger agreement with the statements.

Table 2: Descriptive Statistics of Study Variables

Variable	Mean	Standard Deviation
Digital Leadership	4.12	0.63
Digital Communication	4.05	0.71
Collaboration in Hybrid Work	3.98	0.69
Employee Innovation Behaviour	4.18	0.58

The findings indicate that digital leadership received a mean score of 4.12, suggesting that employees generally perceived organizational leaders as effective in utilizing digital technologies and communication systems. The relatively low standard deviation reflects consistency in participant responses. Employees agreed that leaders-maintained communication, supported collaboration, and

encouraged adaptability within hybrid work settings. Digital communication also demonstrated a high mean value of 4.05, indicating that communication technologies and virtual interaction platforms were effectively supporting workplace coordination. Employees reported that digital communication tools improved accessibility and facilitated knowledge sharing among teams working remotely and physically. Collaboration in hybrid work environments received a mean score of 3.98, showing positive perceptions regarding teamwork and coordination across digital platforms. Although employees acknowledged collaborative support, the slightly lower mean compared to digital leadership suggests that some challenges related to virtual coordination and interpersonal interaction may still exist within hybrid systems. Employee innovation behaviour recorded the highest mean score of 4.18, demonstrating strong employee engagement in innovative activities such as idea generation, creative problem-solving, and implementation of new work methods. The findings suggest that employees operating in hybrid work environments actively contributed innovative ideas when supported by effective digital leadership practices.

Reliability Analysis

The study also examined the reliability of the measurement instrument using Cronbach’s alpha coefficients. Reliability analysis is important because it measures the internal consistency of questionnaire items and ensures that the instrument produces stable results (Hair et al., 2019).

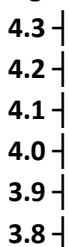
Table 3: Reliability Analysis

Variable	Cronbach Alpha
Digital Leadership	0.88
Digital Communication	0.84
Collaboration	0.81
Employee Innovation Behaviour	0.86

Cronbach alpha values exceeded the recommended threshold of 0.70, indicating strong internal consistency among the questionnaire items. The findings confirm that the measurement scales were reliable for evaluating digital leadership and employee innovation behaviour within hybrid work environments.

The descriptive findings align with previous organizational studies emphasizing the importance of leadership and communication in promoting employee innovation. Research by Contreras et al. (2020) highlighted that digital leadership contributes positively to employee engagement and organizational adaptability in virtual work settings. Similarly, Wang et al. (2021) reported that effective communication and collaboration mechanisms enhance employee performance and innovative behaviour within remote and hybrid environments.

Figure 1: Mean Scores of Study Variables



The graph illustrates the comparative mean scores of the study variables. Employee innovation behaviour demonstrated the highest mean value, followed closely by digital leadership. The graph indicates a generally positive organizational environment where leadership and communication

practices support innovation within hybrid work structures. The visual representation further highlights the close relationship between leadership effectiveness and employee innovative engagement. The graph suggests that employees working in hybrid environments respond positively to digitally competent leadership practices. Strong leadership communication and technological support appear to encourage greater participation in innovative activities. The findings also imply that hybrid work systems can facilitate innovation when organizations establish supportive digital structures and collaborative work cultures.

Inferential Analysis

Inferential analysis was conducted to examine the relationships among study variables and determine the extent to which digital leadership influences employee innovation behaviour in hybrid work environments. Inferential statistics are essential in quantitative research because they allow researchers to test hypotheses, identify significant relationships, and generalize findings from the sample to the broader population (Pallant, 2020). The study first employed Pearson correlation analysis to measure the strength and direction of relationships among digital leadership, digital communication, collaboration, and employee innovation behaviour.

Table 4: Correlation Analysis

Variables	Digital Leadership	Digital Communication	Collaboration	Employee Innovation Behaviour
Digital Leadership	1			
Digital Communication	.71	1		
Collaboration	.65	.69	1	
Employee Innovation Behaviour	.78	.73	.70	1

Note: $p < .01$

The correlation results indicate strong positive relationships among all study variables. Digital leadership demonstrated a strong positive correlation with employee innovation behaviour ($r = .78, p < .01$), suggesting that employees who perceived stronger digital leadership practices were more likely to engage in innovative work behaviour. This finding supports previous research indicating that leadership significantly influences employee creativity and innovation (Afsar et al., 2019). Digital communication also showed a strong positive relationship with employee innovation behaviour ($r = .73, p < .01$). This suggests that effective communication technologies and virtual interaction systems contribute positively to employee creativity, knowledge sharing, and problem-solving activities within hybrid work environments.

Similarly, collaboration demonstrated a positive relationship with employee innovation behaviour ($r = .70, p < .01$), indicating that teamwork and collaborative engagement support innovation-related outcomes in digitally connected workplaces. The study further conducted regression analysis to evaluate the predictive influence of digital leadership on employee innovation behaviour.

Table 5: Regression Analysis

Predictor Variable	Beta (β)	t-value	Significance (p)
Digital Leadership	0.62	11.48	.000
Digital	0.29	5.97	.001

Communication			
Collaboration	0.24	4.83	.002

Table 6: Model Summary

Model Summary	Value
R	0.81
R ²	0.66
Adjusted R ²	0.64

The regression results reveal that digital leadership significantly predicts employee innovation behaviour ($\beta = 0.62$, $p < .001$). The positive beta coefficient indicates that improvements in digital leadership practices contribute substantially to increased employee innovation within hybrid work settings. Leaders who effectively use digital technologies, maintain communication, and support collaborative work environments positively influence employees' willingness to generate and implement innovative ideas.

The model summary indicates an R² value of 0.66, meaning that approximately 66% of the variance in employee innovation behaviour can be explained by digital leadership, communication, and collaboration variables. This demonstrates strong explanatory power and confirms the importance of organizational leadership practices in shaping employee innovation outcomes.

Digital communication also significantly predicted employee innovation behaviour ($\beta = 0.29$, $p = .001$), indicating that communication effectiveness contributes to innovation performance in hybrid workplaces. Employees working in digitally connected systems rely heavily on communication technologies for teamwork, coordination, and knowledge sharing. Effective communication therefore supports innovation by improving interaction and reducing workplace isolation.

Collaboration demonstrated a positive and statistically significant influence on employee innovation behaviour ($\beta = 0.24$, $p = .002$). This finding suggests that collaborative work cultures encourage employees to exchange ideas, participate in creative discussions, and contribute to organizational improvement initiatives.

The inferential findings support organizational behaviour theories emphasizing the role of leadership and communication in promoting innovative work behaviour. Previous studies by Newman et al. (2020) and Zeike et al. (2019) similarly concluded that supportive leadership and digital competencies enhance employee creativity and innovation performance in modern work environments.

The findings also confirm that hybrid work systems can support innovation when organizations maintain effective leadership structures and digital collaboration mechanisms. Employees are more likely to participate in innovation-oriented activities when leaders provide technological support, encourage communication, and foster trust-based work environments. Overall, the inferential analysis demonstrates that digital leadership is a significant determinant of employee innovation behaviour in hybrid work environments. The results highlight the importance of communication, collaboration, and technological competence in maintaining employee creativity and organizational adaptability within digitally enabled workplaces.

Empirical Findings and Discussion

The findings of this study reveal that digital leadership plays a significant role in influencing employee innovation behaviour within hybrid work environments. The analysis demonstrated that employees

working under digitally competent leadership structures exhibited higher levels of creativity, knowledge sharing, problem-solving ability, and participation in innovation-related activities. The statistical findings confirmed a strong positive relationship between digital leadership and employee innovation behaviour, indicating that organizations with effective digital leaders are more likely to encourage innovative work practices among employees operating in flexible work systems.

The findings also indicated that digital communication significantly contributes to innovation behaviour within hybrid workplaces. Employees reported that communication technologies such as virtual meeting platforms, collaborative software, and cloud-based systems improved coordination and facilitated information sharing across teams. The results suggest that communication efficiency reduces barriers associated with remote interaction and enhances employees' ability to contribute innovative ideas. Respondents emphasized that continuous communication from leaders strengthened organizational trust and increased motivation to participate in collaborative innovation activities (Abbas & Faisal, et al., 2024). Collaboration within hybrid work environments was another important factor identified in the findings. Employees who experienced supportive collaboration and teamwork reported higher levels of innovative behaviour compared to those who experienced communication difficulties or limited interaction.

Analysis further confirmed the significant predictive role of digital leadership in explaining employee innovation behaviour. Digital leadership accounted for a substantial proportion of variance in innovation behaviour among employees working in hybrid environments. This indicates that leadership practices involving technological support, transparent communication, trust-building, and collaborative engagement directly influence employees' willingness to generate and implement innovative ideas. Furthermore, employees working in hybrid environments value leadership approaches that prioritize flexibility, autonomy, and inclusiveness. Leaders who encouraged independent decision-making and supported employee creativity positively influenced motivation and innovative performance. Employees perceived supportive digital leadership as essential for maintaining work engagement and organizational connection despite physical separation within hybrid work structures.

Employees indicated that trust-based communication from leaders increased confidence in participating in creative discussions and innovation-related activities. Trust encouraged employees to share ideas openly without fear of criticism or negative evaluation. The findings therefore suggest that digital leadership practices promoting psychological safety and organizational support are essential for sustaining innovation within hybrid workplaces. Hybrid work environments provide opportunities for innovation when supported by effective leadership and communication structures. Employees appreciated the flexibility and autonomy associated with hybrid work arrangements, which contributed positively to creativity and independent problem-solving.

Furthermore, employees with longer experience in hybrid work systems demonstrated stronger adaptation to digital collaboration practices and greater participation in innovation-oriented tasks. Experienced employees appeared more comfortable using communication technologies and engaging in virtual teamwork compared to employees with limited hybrid work exposure. This finding highlights the importance of digital familiarity and continuous organizational support in improving employee innovation performance (Faisal, et al., 2023).

The study demonstrates that hybrid work systems can enhance employee creativity and innovation when organizations establish effective digital leadership structures and collaborative workplace cultures. Findings of this study support existing organizational and leadership literature emphasizing the importance of digital leadership in contemporary work environments. The positive relationship

identified between digital leadership and employee innovation behaviour aligns with the arguments presented by Contreras et al. (2020), who stated that digital leadership enhances employee engagement and organizational adaptability in technology-driven workplaces.

The current study confirms that leaders who effectively utilize digital technologies and communication systems contribute significantly to employee creativity and innovation within hybrid organizational settings. The findings are also consistent with transformational leadership theory, which emphasizes the role of leaders in motivating employees, encouraging creativity, and supporting innovation-oriented behaviours. Employees working in hybrid environments require leadership approaches that maintain communication, provide technological support, and foster collaborative engagement despite physical separation. The present study demonstrates that digital leadership extends traditional leadership functions by integrating technology-enabled communication and virtual collaboration mechanisms into organizational processes.

The positive relationship between digital communication and employee innovation behaviour identified in this study is supported by previous research conducted by Wang et al. (2021). Their findings suggested that effective communication systems improve employee coordination, engagement, and work performance within remote and hybrid work environments. Similarly, the present study found that employees who experienced effective communication from leaders were more likely to engage in innovative activities and collaborative problem-solving. Communication technologies therefore serve as important tools for maintaining organizational interaction and knowledge exchange within digitally connected workplaces. The present study confirms that collaboration remains essential for innovation even when employees operate across virtual and physical workspaces.

Employees in hybrid work environments rely heavily on trust-based relationships because direct supervision and face-to-face interaction are often limited. The results indicate that supportive digital leadership increases employee confidence and psychological safety, thereby encouraging innovative participation. This finding aligns with Newman et al. (2020), who argued that supportive leadership and trust positively influence innovative work behaviour by creating environments where employees feel secure in expressing creative ideas.

Conclusion and Future Research Directions

The study emphasized flexibility and autonomy within hybrid work systems. Employees reported that flexible work arrangements improved their ability to think creatively and manage tasks independently. This is in support of self-determination theory, which suggests that autonomy enhances intrinsic motivation and creative engagement among employees. Hybrid work environments may therefore contribute positively to innovation when employees are provided with sufficient organizational support and leadership guidance. The study also contributes to digital transformation literature by demonstrating that technological competence is an essential leadership characteristic in modern organizations. Leaders operating in hybrid work environments must possess digital skills that enable effective communication, coordination, and decision-making.

The study established that digital communication plays an essential role in supporting innovation within hybrid work systems. Communication technologies facilitate knowledge sharing, teamwork, and organizational interaction among employees operating across virtual and physical environments. Effective communication practices from leaders strengthen employee engagement and encourage collaborative innovation processes. The research also demonstrated that collaboration positively contributes to employee innovation behaviour in hybrid workplaces. Supportive collaborative cultures enable employees to exchange ideas, participate in team-based problem-solving, and contribute to

organizational improvement initiatives. Organizations that encourage digital collaboration are therefore more likely to achieve innovation-related performance outcomes.

In conclusion, digital leadership represents a critical organizational capability in hybrid work environments. Leaders who effectively integrate communication technologies, support collaboration, and encourage employee creativity contribute significantly to innovation performance and organizational adaptability. As hybrid work systems continue to expand globally, organizations must prioritize digital leadership development and invest in collaborative technological infrastructures to sustain employee innovation and long-term organizational success.

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