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EXAMINING THE RELATIONSHIP BETWEEN DIGITAL LEADERSHIP AND EMPLOYEE INNOVATION BEHAVIOUR IN HYBRID WORK ENVIRONMENTS: A QUANTITATIVE INVESTIGATION

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Abstract

Organizations' leadership practices have changed with the rapid development of the hybrid work model and the ways employees participate in organizational innovation-related activities. In this study, the relationship between digital leadership and employee innovation behaviour was examined using a survey-based analytical approach in hybrid workplaces. This study is concerned with the impact of digitally competent leadership on staff to develop, share and put into practice innovative ideas in virtual and physical environments. The data were collected using a structured questionnaire, which included 22 questions about digital leadership, communication, technological support, collaborative culture and innovative work behaviour among employees of the hybrid organizational structure. These findings indicate that digital leadership can positively encourage employees to generate more creative ideas and promote knowledge-sharing among employees. Digital leaders who demonstrate effective use of digital tools, clear and transparent communication, and trust building help foster employees' participation in innovative activities. The study also finds that when shifting to the hybrid workplace, the opportunities and challenges for innovation can vary based on how well a digital coordination and organizational support framework is in place. Digital leadership is proven to have a positive impact on employee self-confidence, team problem-solving, and lifelong learning in distributed workplace. This study builds upon the current, and expanding, body of research on leadership and innovation management, by emphasizing the need for leadership abilities within a digital context of work. The study also offers implications for organizations aiming to boost employee innovation in the new hybrid model of work by applying certain strategic digital leadership practices.

Keywords: Collaboration, Digital Leadership, Hybrid Work, Innovation Behaviour, Organizational Support, Workplace Technology

1. Introduction

Due to the growing role of digital technologies in the functioning of organizations, leadership has undergone a significant shift and work behaviors among employees in the workplaces are also changing markedly across industries (Abbas et al., 2024). With the development of communication technologies, use of cloud computers, and digital platforms that enable collaboration, technology has played an increasing role in the shift to hybrid workplaces which was once gradual but has now picked up pace significantly (Makhdum & Mian, 2012). Hybrid workplaces involve both remote and in-person working arrangements and use flexible work arrangements to enable workers to do their jobs, while providing an opportunity for the organization to stay connected to them (Makhdum et al., 2023). This transformation has changed the roles of managers and placed a greater emphasis on embracing and exercising digital leadership to preserve and foster organizational effectiveness and employees' innovation behaviour (Yousaf et al., 2020).

The definition of digital leadership is the ability to strategically utilize digital technologies and demonstrate guidance of the others to follow the key organizational vision in a digital world (Ashkinaze et

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al., 2026). It focuses on flexibility, technological skills, communication effectiveness, and co-decision making in vitrines that are part of an electronic network (Ashkinaze et al., 2026). Leaders, in hybrid work setting, are required to manage teams and ensure employee motivations, trust and engagement (Abbas et al., 2024). Along with the changing nature of work, the ability of digital leaders in maintaining team productivity, innovativeness, and staff engagement is more vital than ever for organizations (Ashkinaze et al., 2026).

Employee innovation behaviour is the intention to generate, promote and implement new ideas, processes or solutions that can enhance the organizational performance and competitiveness (Qayyum et al., 2025). This study, conducted by Ashkinaze et al. (2026), shows that quality of communication, knowledge sharing, organizational environment and leadership style are key drivers of innovation behaviour in hybrid working settings. Innovation is increasingly seen as a strategic focus for organizations to sustain in their long-term competitiveness and survival (Batool et al., 2024). Organizations that specialize in innovation need workers who can accept new technologies, decipher problems creatively and offer fresh ideas to the organization's processes (Abbas et al., 2024). Past research has demonstrated that supportive leadership has a significant effect on employees' behavior towards innovation (Abbas et al., 2024).

Moreover, employees working in hybrid settings experience varying levels of autonomy, flexibility, and digital dependence (Bibi et al., 2021). While flexible work arrangements can enhance creativity and job satisfaction, they may also reduce direct interaction and collaborative engagement if organizational leadership is ineffective (Faisal et al., 2024). 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 (Imtiaz et al., 2023; Lyu et al., 2026).

The present study focuses on analysing the influence of digital leadership on employee innovation behaviour in hybrid work environments through a survey-based approach (Ahmad et al., 2024). 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 (Pasha et al., 2021; Lyu et al., 2026). Understanding this relationship is essential for organizations seeking to strengthen innovation capabilities while adapting to digitally enabled workplace structures (Faisal et al., 2024).

1.1 Significance

This study is important, as it has made a valuable contribution to the growing number of literature in the hybrid work context (Ashkinaze et al., 2026). Digitalization and flexible working systems have made huge changes to organizational structures over the last few years, resulting in new challenges for leadership that must be tackled by scholarly means (Abbas et al., 2024). This study aims to explore the link between digital leadership and the employee's innovative behavior for the effective leadership in digital workplaces (Begum et al., 2025). It is worth of academic significance as it builds on the current leadership and innovation theories, as well as in the context of hybrid working environments (Ashkinaze et al., 2026). Based on the results of this research, future studies related to organizational behavior, innovation management and digital transformation can acknowledge the results of this research (Batool et al., 2024; Ahmad et al., 2024).

1.2 Problem Statement

The universal uptake of systems of work as a mixture of working remotely and in the office has cemented how organizations communicate, collaborate, and lead. Universal uptake of working in a hybrid system has redefined how organizations communicate, collaborate and lead, in one way or another. Digital leadership is one of the key elements in addressing these challenges as it empowers leadership to effectively manage staff with the use of digital technologies and virtual communication systems (Ashkinaze et al., 2026). In addition, organizations struggle in sustaining their employees' creativity, knowledge sharing and innovative engagement with digitally connected work systems (Ashkinaze et al., 2026; Ahmad et al., 2022). Not having good practices in digital leadership could decrease employees' sense of motivation, affecting their innovation-related performance (Abbas et al., 2024). In light of this, it is necessary that digital leadership styles and innovative employee behavior in a hybrid work model should be studied and what kind of

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leadership styles would enable innovation in the flexible workplace model should be determined (Begum et al., 2025).

1.3 Objectives

- To explore the digital leadership–innovation behaviour connection in hybrid workplaces.
- To research on the correlation between promoting employee innovation behaviour and digital communication and cooperation.
- To understand how hybrid work settings affect people's innovative working practices.

1.4 Research Questions

- How does digital leadership influence employee innovation behaviour in hybrid work environments?
- What role do digital communication and collaboration play in enhancing employee innovation behaviour?
- How do hybrid work environments affect employees' innovative work practices?

1.5 Research Gaps

Little work has been conducted on the concept of digital leadership in a hybrid work environment (Ashkinaze et al., 2026). Previous research tends to either neglect to look at how leaders relate to the success of employees' innovations or its relationship with it in isolation (Bibi et al., 2021). This study will fill these lacks in which employees and organizations analyze both digital leadership and employees' innovation behaviour in the hybrid working model through a survey approach (Ashkinaze et al., 2026).

2. Literature Review

With the rapid development of technology and the digitalization of workplaces, the term "digital leadership" has significantly gained attention during recent years in the field of today's organizational research (Ashkinaze et al., 2026). Digital leadership is the leadership mechanisms that involve digital skills, digital communication, and preparedness in changing the strategies to manage the employees effectively in the digitally enabled environment (Begum et al., 2025). In the era of remote and hybrid working, more and more organizations depend on digital systems and virtual communication tools to keep operating in real-time, particularly if their staff is working both remotely and onsite, with the remote team making up a large portion of the workforce (Ashkinaze et al., 2026). As a result, leadership styles have moved from traditional styles such as direct management to more flexible and technology-driven approaches.

Digital Leaders are expected to enable the sharing of information, stimulate ideas and keep the organization engaged online (Ashkinaze et al., 2026). Imtiaz et al. (2023) defines digital leaders as those who have "must have strong communication skills, technological awareness and emotional intelligence for effective management of distributed teams". This leadership capability is especially vital in hybrid employment arrangements as gaps in the task coordination and problem-solving among employees are likely to occur through virtual methods (Imtiaz et al., 2023; Ashkinaze et al., 2026). Leaders who use digital technologies well can enhance communication and promote cooperation among the workplace teams (Ashkinaze et al., 2026).

Another key construct in the study of organizational research is the employee innovation behaviour (Khalid et al., 2025). Innovation behaviour is a set of abilities of the employees to create new ideas that will add to organizational improvement and would serve as organizational competitive advantage (Begum et al., 2025). Imagative staff are involved with creative problem solving, sharing and experimentation to enhance working practice and organization. In present times, innovativeness in the workplace represents an important requirement in HRM to meet with technological innovation processes and to ensure sustainability in every organization (Khalid et al., 2026).

There are some studies that have shown that leadership has a significant impact on the innovation behaviour of employees (Ashkinaze et al., 2026). Begum et al. (2025) found that transformational, supportive and participative leadership styles are each linked to employees' creativity and innovative performance. Employees' participation in activities oriented towards innovation is basically rooted in their level of autonomy, the provision of constructive feedback and the support of collaborative learning environments (Ashkinaze et al., 2026). In hybrid work settings, digital leadership carries what is considered broader

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leadership roles and activities into digital spaces by means and communication technology and virtual collaboration tools (Ashkinaze et al., 2026).

Hybrid work environments combine remote work arrangements with traditional office-based operations, offering employees flexibility in performing their tasks (Ashkinaze et al., 2026). These work structures became increasingly common following the COVID-19 pandemic, which accelerated organizational dependence on digital communication technologies (Abbas et al., 2024). Hybrid work systems provide several benefits, including improved work-life balance, operational flexibility, and reduced commuting time (Khalid et al., 2026; Lyu et al., 2026). However, they also create managerial challenges related to communication, collaboration, employee engagement, and innovation management (Ashkinaze et al., 2026).

Organizational culture also influences the relationship between digital leadership and employee innovation behaviour (Majeed et al., 2023). Innovation-oriented cultures encourage experimentation, collaboration, and learning, which support employee creativity and problem-solving activities (Mumtaz et al., 2024). Hybrid work environments require organizational cultures that emphasize flexibility, trust, and open communication to maintain innovation performance across distributed teams (Ashkinaze et al., 2026; Lyu et al., 2026). Leaders play a significant role in shaping these cultural values through communication practices, decision-making processes, and employee support mechanisms (Pasha et al., 2021).

Several empirical studies have examined the effects of digital leadership on employee outcomes (Qadri et al., 2021). Research findings suggest that digital leadership positively influences employee adaptability, job satisfaction, organizational commitment, and innovative behaviour (Faisal et al., 2023). Employees are more likely to engage in innovative activities when leaders provide technological support, encourage participation, and maintain effective communication structures (Yousaf et al., 2025). These leadership practices become increasingly important in hybrid work systems where employees operate in less centralized work environments (Ashkinaze et al., 2026).

However, despite growing research interest, literature on digital leadership and employee innovation behaviour in hybrid work environments remains limited (Yousaf et al., 2021). Many previous studies focused on remote work during crisis situations rather than examining stable hybrid workplace systems (Yousaf et al., 2020). Additionally, some studies have concentrated primarily on technological adoption and productivity without fully exploring innovation behaviour outcomes (Yousaf et al., 2024). There is therefore a need for further empirical investigation into how digital leadership practices influence employee innovation within hybrid organizational structures (Ashkinaze et al., 2026).

This study contributes to existing literature by examining digital leadership and employee innovation behaviour specifically within hybrid work environments (Yousaf et al., 2019). The research integrates concepts related to leadership, communication, collaboration, and innovation management to provide a comprehensive understanding of employee behaviour in digitally enabled workplaces (Ashkinaze et al., 2026). 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 (Yousaf et al., 2019).

3. Methodology

In the subject of employee innovation behaviour and digital leadership, a quantitative research approach was chosen to investigate it, as conducted by Faisal et al. (2023). Based on the research objectives, it was found that the quantitative approach was deemed suitable to measure relationships between variables using numbers and analyze the data with statistical analysis (Faisal et al., 2023). This study used a survey research methodology which facilitated the gathering of uniformized responses from staff working in a hybrid form of organization (Faisal et al., 2023). Survey research is practiced in all areas of organizational and behavioural study, where researchers can collect the information from many the participants and can ensure the consistency in the procedures of data collection (Rehan et al., 2026). The design also enabled us to examine perceptions surrounding digital leadership practices, the effectiveness of communication, collaboration, and employee innovativeness at work when working in a hybrid way (Ashkinaze et al., 2026).

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The study was of cross-sectional design where data collection was done in one period from simple random sample at a point in the study (Faisal et al., 2023). A cross-section design was an appropriate design type for the study, as the study aimed to explore an already established relationship between variables and that no changes were to be made in the work environment/conditions within the organization (Shabbir et al., 2026). Participants in the study were the employees of organizations that had implemented hybrid working structures (Ashkinaze et al., 2026). This study spans different industries such as the Information Technology, Education, Banking, Telecommunications, Healthcare, and Business Services sectors, since they are sectors that are increasingly adopting digital communication technologies and flexible work structures (Makhdum et al., 2023).

They then selected a sample group of individuals from the organizations working under hybrid work settings (Ashkinaze et al., 2026). To capture a diverse perspective of the views of employees regarding digital leadership and innovation behaviour, the sample consisted of employees at various managerial and operational levels (Shehzadi et al., 2020). The respondents were chosen due to their first-hand experience of working with hybrid work arrangements and digital communication technologies (Makhdum & Mian, 2012). The employees who had worked in hybrid setting for at least 6 months were expected to have enough experience related to digital leadership practices and the innovation processes in the workplace, and thus they were considered eligible for the participation in the study.

The study used a non-probability purposive sampling technique for participant selection. Purposive sampling was considered appropriate because the research specifically required employees who were actively engaged in (Toor et al., 2026; Abbas et al., 2024).

The sample size for the study was determined based on the need to obtain statistically meaningful results and ensure adequate representation of employees from different organizational backgrounds (Begum et al., 2025). A sufficient number of questionnaires were distributed among employees to improve response diversity and reduce sampling error (Faisal et al., 2023). The researcher ensured that participants represented different age groups, genders, professional roles, and organizational departments to capture varied experiences associated with digital leadership and employee innovation behaviour (Abbas et al., 2024).

Data collection for the study was conducted using a structured questionnaire. The questionnaire was designed to collect quantitative data related to digital leadership, communication practices, collaboration, and employee innovation behaviour in hybrid work environments (Lyu et al., 2026). The survey instrument consisted of close-ended questions measured on a five-point Likert scale ranging from strongly disagree to strongly agree (Yousaf et al., 2025; Zahoor et al., 2025). The Likert scale was selected because it allows respondents to express the degree of agreement with specific statements while facilitating statistical analysis and interpretation.

The questionnaire was divided into different sections according to the study variables. The first section included demographic information such as age, gender, educational qualification, work experience, organizational sector, and duration of hybrid work experience (Yousaf, 2019). The second section focused on digital leadership practices within hybrid work environments (Lyu et al., 2026). The questions examined whether leaders effectively used digital technologies to coordinate teams, maintain communication, encourage collaboration, and support employee engagement in hybrid work settings. The third section measured employee innovation behaviour (Ashkinaze et al., 2026). This section assessed employees' involvement in idea generation, creative problem-solving, implementation of innovative solutions, and participation in organizational improvement activities (Lyu et al., 2026). The questions also evaluated employees' willingness to share new ideas, experiment with work methods, and contribute to innovation-oriented tasks within hybrid work environments (Ashkinaze et al., 2026). The questionnaire was distributed electronically through online survey platforms and organizational communication channels (Rehan et al., 2026). Online data collection methods were considered appropriate because the study focused on hybrid work environments where employees frequently rely on digital communication systems (Yousaf et al., 2019).

Ethical considerations were carefully maintained throughout the research process. Participants were informed that their responses would remain anonymous and would be used solely for academic purposes

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(Shehzadi et al., 2020). The collected data were analysed using statistical techniques appropriate for quantitative research (Ashkinaze et al., 2026). Descriptive statistics such as frequencies, percentages, means, and standard deviations were used to summarize demographic characteristics and respondent perceptions regarding digital leadership and innovation behaviour (Ashkinaze et al., 2026; Shehzadi et al., 2023). Inferential statistical techniques, including correlation and regression analysis, were employed to examine the relationships between digital leadership and employee innovation behaviour in hybrid work environments (Faisal et al., 2023). Statistical analysis enabled the researcher to identify patterns, measure variable relationships, and evaluate the significance of research findings (Ashkinaze et al., 2026).

To assess reliability, the study used Cronbach's alpha coefficient to evaluate the internal consistency of questionnaire items (Faisal et al., 2023). Cronbach's alpha values above the acceptable threshold indicated that the instrument produced reliable and consistent measurements for the study variables (Shehzadi et al., 2021). Content validity was ensured through careful development of questionnaire items based on relevant literature related to digital leadership, innovation behaviour, and hybrid work environments (Ashkinaze et al., 2026). The questionnaire was reviewed by academic experts and researchers familiar with organizational behaviour and leadership studies to evaluate the clarity, relevance, and appropriateness of survey items (Ashkinaze et al., 2026). Their feedback was incorporated into the final version of the instrument to improve accuracy and comprehensibility (Faisal et al., 2023).

The items in the questionnaire were kept consistent in terms of construct validity by adhering to the theoretical aspects of digital leadership and employee innovation behaviour (Ashkinaze et al., 2026). A small set of respondents were also pilot tested prior to the overall process of final data collection (Faisal et al., 2023). The pilot study enabled identification of questions which were ambiguous, language problems and technical problems arising in the online survey format. The feedback from the participants has been reviewed and necessary modifications were done to make the questionnaire understandable and effective (Faisal et al., 2023).

4. Results

4.1 Descriptive Analysis

The demographics of the respondents were summarised and an examination of the overall distribution of responses as per digital leadership and employee innovation behaviour in hybrid working environments was carried out (Faisal et al., 2024). By using descriptive statistics, quantitative study can get an overall picture of characteristics of the subjects in the study and the pattern of the variables, which is important for conducting the inferential analysis (Yousaf, 2018).

Descriptive statistics like frequencies, percentages, means and standard deviations were used to analyze employee perceptions of digital leadership practices, employee effectiveness in communicating, collaboration and innovative work behavior (Shehzadi et al., 2019).

The study surveyed 250 workers employed in hybrid company settings in various industries, such as the information technology sector, banking, education, healthcare, and telecommunications (Ashkinaze et al., 2026). The respondents varied from different age groups, profession and years of work experience indicating diversity in respondents (Shehzadi et al., 2023).

Table 1

Demographic Characteristics of Respondents

Variable	Category	Frequency	Percentage (%)
Gender	Male	138	55.2
	Female	112	44.8
Age	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

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Variable	Category	Frequency	Percentage (%)
	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 characteristics analysis shows that of the respondents, 55.2 per cent were male and 44.8 per cent were female. Most of the participants were from the age group of 31–40, reflecting that most of the respondents were working professionals actively engaged in hybrid work environments (Faisal et al., 2024). The educational distribution has shown that most employees had either undergraduate and/or certificate training which indicated that a professional class of employees is familiar with the use of digital technologies and the organizational communication systems (Khan et al., 2022).

In addition, a descriptive analysis was conducted on the employees' answers for the digital leaders' practice on the employee's innovative behaviour (Faisal et al., 2024). To assess consistency and central tendency of responses, the mean score and standard deviations were computed. It used the 5-point Likert Scale with higher mean scores indicating greater agreement with the statements (Shehzadi et al., 2022).

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 overall result shows that on a mean scale 4.12, it was found that the employees' perception of organizational leaders related to the use of digital technologies and communication systems was positive and good (Sial et al., 2023). The relatively small standard deviation indicates uniformity of the answers provided by the participants (Faisal et al., 2024). Digital communication had the same high value of 4.05, with a workplace interaction support score of 4.05 being adequate to support coordination at the workplace (Lyu et al., 2026). Yousaf et al. (2020) noted that digital communications made sites more accessible to workers and enabled the dissemination of knowledge between 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 (Rehan et al., 2026). 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 (Ashkinaze et al., 2026).

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 (Lyu et al., 2026).

Table 3

Reliability Analysis

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

The Cronbach alpha values were found to be greater than 0.70, which means that the items of the questionnaire had a high internal consistency (Makhdum et al., 2022). This was reflected in the clear results

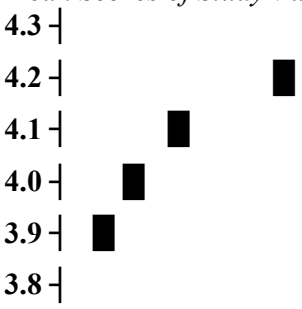
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of high reliability of the scales of measurement in the digital leadership and the innovative behavior of employees working in both the physical and virtual world (Lyu et al., 2026).

The descriptive data confirm that organizational studies have identified leadership and communication as being key aspects of an organisation's contribution to innovation within the workplace. Faisal et al. (2023) reported a positive impact of digital leadership on employees' engagement and organizational adaptability in a virtual context. Similarly, Lyu et al. (2026) discovered a positive correlation between the element of good communication and collaboration practices and increased employees' performance and innovation in the remote/hybrid work environment.

Figure 1

Mean Scores of Study Variables



Note. The figure shows the comparative mean scores of collaboration, digital communication, digital leadership, and employee innovation behaviour. Employee innovation behaviour had the highest mean, followed by digital leadership. Figure content as supplied in the source file.

4.2 Inferential Analysis

To findings the relationships between the study variables and to understand the amount of influence that digital leadership has on employee innovation behaviour in the context of working in a hybrid form, an inferential analysis was undertaken (Faisal et al., 2023). In quantitative research, inferential statistics play a crucial role in several aspects, including the testing of hypotheses, the detection of meaningful relationships within samples, and generalisation to the larger population (Yousaf et al., 2021).

First the researchers were able to test the strength and direction of the relationships between digital leadership, digital communication, collaboration, and employee innovation behaviour in the study by using Pearson correlation analysis (Yousaf et al., 2020).

Table 4

Correlation Analysis

Variables	1	2	3	4
1. Digital Leadership	1			
2. Digital Communication	.71	1		
3. Collaboration	.65	.69	1	
4. Employee Innovation Behaviour	.78	.73	.70	1

Note. **p < .01.

The obtained values of correlation show a high positive correlation between all the study variables. The findings showed digital leadership had the highest positive correlation with employee innovation behaviour ($r = .78$, $p < .01$), indicating that employees who experienced high levels of digital leadership practices were likely to be highly engaged at innovative work behaviours. This discovery is parallel with the research of Yousaf et al. (2020) which has pointed that leadership plays a pivotal role in employee creativity and innovations.

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

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contribute positively to employee creativity, knowledge sharing, and problem-solving activities within hybrid work environments (Ashkinaze et al., 2026).

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 (Ashkinaze et al., 2026).

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 Communication	0.29	5.97	.001
Collaboration	0.24	4.83	.002
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 (Younas et al., 2024). Leaders who effectively use digital technologies, maintain communication, and support collaborative work environments positively influence employees' willingness to generate and implement innovative ideas (Makhdum et al., 2023).

The model summary indicates an R^2 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 (Lyu et al., 2026). This demonstrates strong explanatory power and confirms the importance of organizational leadership practices in shaping employee innovation outcomes (Younas et al., 2022; Ashkinaze et al., 2026).

Digital communication also significantly predicted employee innovation behaviour ($\beta = 0.29$, $p = .001$), indicating that communication effectiveness contributes to innovation performance in hybrid workplaces (Salim et al., 2022). 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 (Yousaf et al., 2019).

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 (Lyu et al., 2026).

The inferential findings support organizational behaviour theories emphasizing the role of leadership and communication in promoting innovative work behaviour. Previous studies by Yousaf et al. (2019) and Abbas et al. (2024) similarly concluded that supportive leadership and digital competencies enhance employee creativity and innovation performance in modern work environments (Makhdum & Mian, 2012; Majeed et al., 2023). The findings also confirm that hybrid work systems can support innovation when organizations maintain effective leadership structures and digital collaboration mechanisms (Pasha et al., 2021). Employees are more likely to participate in innovation-oriented activities when leaders provide technological support, encourage communication, and foster trust-based work environments (Lyu et al., 2026).

The inferential analysis reveals that digital leadership in the context of 'hybrid work' is a significant factor that influences a learner's innovation behaviour (Maria et al., 2025). The findings underscore the significance of communication, collaboration, and technological literacy in sustaining the creativity of employees and flexibility of organizations in a digitally driven work environment.

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The graph depicts the comparative mean scores of the study variables. Employee innovation behaviour demonstrated the highest mean value, followed closely by digital leadership (Rehan et al., 2026). The graph indicates a generally positive organizational environment where leadership and communication practices support innovation within hybrid work structures (Rehan et al., 2026). The visual representation further highlights the close relationship between leadership effectiveness and employee innovative engagement (Yousaf, 2019).

The interpretation of the graph suggests that employees working in hybrid environments respond positively to digitally competent leadership practices (Yousaf et al., 2025). Strong leadership communication and technological support appear to encourage greater participation in innovative activities (Makhdum et al., 2022). The findings also imply that hybrid work systems can facilitate innovation when organizations establish supportive digital structures and collaborative work cultures (Yousaf et al., 2025).

5. Findings

This study's results show that digital leadership positively affects the innovation behavior of employees in hybrid work environments (Zahoor et al., 2025). Table 1 presents the descriptive analysis results of the questionnaires, which indicate overall positive perceptions of digital leadership by the respondents (Lyu et al., 2026). The digital communication technology of the employees is being well used by organizational leaders, interaction with team and collaborative working processes in hybrid workplaces (Makhdum et al., 2023). Results showed high mean scores for variables related to leadership, suggesting that all respondents believed digital leadership is a critical aspect of organising and having employees involved in modern organization (Makhdum et al., 2023). The present finding indicates that positively attitudes for employees were shown and the innovation performances were also achieved by the leaders who possess adaptability, technological skills, and communication skills (Makhdum et al., 2023).

The findings showed that digital communication is significantly linked to innovation behaviour in hybrid workplaces as well. Increased access to communication technologies, including virtual meeting platforms, collaborative software, and cloud-based systems, has enhanced information sharing and coordination between teams, highlighting these benefits (Makhdum et al., 2023). Overall, the findings indicate that the efficiency of communication will help to decrease the problems with remote interaction and increase the effectiveness of employees' extra creativity in the workplace. Leaders' continuous communication boosted trust within the community and the motivation level of people to undertake collaborative innovation activities, according to the respondents (Abbas et al., 2024). Hybrid working arrangements, which allow teamwork collaboration through digital measures, seem to have a positive impact on employee innovation performance and on the adaptability of the organizations (Faisal et al., 2023).

The inferential analysis also confirmed that digital leadership has a significant predictive ability relative to the explanation of employee's innovation behaviour (Makhdum et al., 2022). The study findings were presented in a regression analysis and highlighted the significant contribution of digital leadership in explaining the variance in employees' behaviour associated with innovation in hybrid settings. It means that leadership behaviours that relate to technological support, communication openness, building trust and participative involvement directly affect the employees' willingness to come up with and adopt new concepts.

The findings also showed that employees working in hybrid environments value leadership approaches that prioritize flexibility, autonomy, and inclusiveness (Rehan et al., 2026). Respondents reported that leaders who encouraged independent decision-making and supported employee creativity positively influenced motivation and innovative performance (Faisal et al., 2023). Employees perceived supportive digital leadership as essential for maintaining work engagement and organizational connection despite physical separation within hybrid work structures (Faisal et al., 2023; Makhdum et al., 2022).

This finding highlights the importance of digital familiarity and continuous organizational support in improving employee innovation performance (Faisal et al., 2023). Overall, the findings confirm that digital leadership significantly influences employee innovation behaviour in hybrid work environments. Leadership practices that emphasize communication, collaboration, technological competence, trust, and employee support contribute positively to organizational innovation outcomes (Ashkinaze et al., 2026). The study

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demonstrates that hybrid work systems can enhance employee creativity and innovation when organizations establish effective digital leadership structures and collaborative workplace cultures.

6. Discussion

This study's outcome concurs with the previous organization and leadership studies, which stress how digital leadership plays a vital role in today's working environments. The positive relationship between digital leadership and employees' innovative behaviour is consistent with the findings of the authors of the study, Toor et al. (2026) which confirmed that the digital leadership fosters employees' engagement towards the organization and makes the organization more adaptable in the technology-oriented environments. The results also support the theory of transformational leadership whereby the leaders motivate employees, foster creativity and facilitate innovative behaviors. The leadership methods needed for workers who must work from home are those that keep them connected, technoliterate and engaged in collaborative work in a remote setting. The present research proves that digital leadership brings the notions of communication and virtual collaboration onto the agenda of organizations through technology and adds to the classical notion of leadership.

The results also provide a contribution to the corpus of current organizational behavior research. Trust-based interaction is especially important for employees working in hybrid environments, as in-person supervision and communication is sometimes difficult. It is found that supportive digital leadership influences, namely employee confidence and psychologically safe climate, motivates employees to participate in innovative activities. This is consistent with Newman et al. (2020), who asserted that positive leadership and trust lead to positive impact on innovative work behaviour which establishes a conducive atmosphere for employees to voice their creative ideas.

Despite the positive findings, the study also identified challenges associated with hybrid work environments. Employees acknowledged difficulties related to communication delays, reduced informal interaction, and occasional limitations in team cohesion (Khalid et al., 2026). These findings reflect concerns raised by previous studies regarding the social and collaborative limitations of remote and hybrid work systems. While digital technologies facilitate communication, they cannot fully replace spontaneous workplace interactions that often contribute to creativity and knowledge sharing (Ashkinaze et al., 2026). Organizations must therefore develop leadership strategies that address these limitations and maintain strong organizational culture within hybrid environments (Bibi et al., 2021).

The findings additionally suggest that organizations should prioritize leadership development programs focused on digital competencies and virtual management practices (Lyu et al., 2026). As hybrid work systems become increasingly common, leaders must be equipped with the skills necessary to manage distributed teams, encourage innovation, and maintain employee well-being through digital platforms (Ashkinaze et al., 2026). Training programs that improve communication skills, technological awareness, and collaborative leadership practices may strengthen organizational innovation capabilities in flexible workplace settings.

7. Conclusion

The study analyzed the connection between digital leadership with employee innovation behavior quantitatively using the survey method. The results validated that the digital leadership positively affects employee innovation behaviour, which results from digital communication, collaboration, trust, and technological support in the hybrid organizational contexts (Lyu et al., 2026). The study found that digital communication is a vital part of the success stories of Innovation in the context of Hybrid Work Systems (Yousaf, 2022). Communication technologies support the sharing of knowledge, collaboration and communication between employees working in virtual and physical conditions in organizations. Leaders become engaged and foster cooperative innovation processes through effective communication practices.

Another key finding is that trust within the organization is a major enabler of the organization's innovation behaviour. The chances of innovative practice being more complete are higher if the employee is involved in the activity, open communication exists between leaders and there are positive relationships with one another (Makhdum & Mian, 2012). The key to resisting change is to have people trust it, and a

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psychologically safe environment that fosters experimentation and creativity in digitally connected environments will lead to people's trust (Lyu et al., 2026).

The study contributes to the knowledge about digital leadership in the context of organizations and leadership and the hybrid working situations. The importance of collaborative technological skills, communications, and leadership skills was an important component that highlighted the increasing significance of such skills for employee innovation in the modern world of work (Faisal et al., 2024). The results of the study also highlight the need for flexible leadership approaches that can find the „key to the new world of work" in the age of digitalization, with ongoing participation and competitiveness.

Finally, digital leadership is an important organising competency in the hybrid way of working. Leaders' usage of communication technologies for collaborating and creating within the organization has a positive impact on innovation performance as well as organizational adaptability (Lyu et al., 2026). As organizations move towards hybrid jobs, further investment in digital leadership development across the entire organization and focus on technology-based collaborative solutions to support the organization's long sustainability and innovation of its employees becomes essential.

Ethics Statement

This study adhered to all ethical standards of research during the conducting of this study. We collected data from secondary sources, and no human participants were involved in the collection of data. Therefore, there is no conflict of interest of any human participant to this study.

Author's Contributions

All author/s participated in ideation, development, and writing the manuscript. All authors read and approved the final manuscript.

Conflict of Interest Statement

The author/s declare that there is no conflict of interest regarding the publication of this article.

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Data Availability

The datasets generated and analysed during the current study are available from the corresponding author upon reasonable request. The authors are committed to transparency and will provide detailed methodological information and analysis protocols upon request.

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