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Digital leadership, technological infrastructure, and digital readiness as determinants of employee performance in the telecommunications industry

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ABSTRACT

Digital transformation has intensified the need for high-performing employees in the telecommunications industry. This study examines the effects of digital leadership, technological infrastructure, and digital readiness on employee performance. A quantitative explanatory design was employed using survey data from 182 employees in the telecommunications sector. The data were analyzed using Partial Least Squares Structural Equation Modeling (PLS-SEM). The findings show that digital leadership, technological infrastructure, and digital readiness have positive and significant effects on employee performance. Among these predictors, digital readiness has the strongest effect, indicating that employees' ability, confidence, and adaptability in using digital technologies are critical for improving performance in digitally intensive work environments. The study contributes to digital transformation and employee performance literature by offering a socio-technical explanation of how leadership capability, technological support, and individual digital readiness jointly shape employee performance. Practically, the findings suggest that telecommunications companies should not only invest in technological infrastructure but also strengthen digital leadership and continuously develop employees' digital readiness through training, coaching, and adaptive digital work systems.

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1. INTRODUCTION

Digital transformation in the telecommunications industry has significantly reshaped organizational dynamics, emphasizing the increasing importance of employee performance in delivering technology-enabled services. In this context, organizations are required to integrate digital platforms, advanced information systems, and automation to enhance operational efficiency and maintain competitive advantage (Asraf dkk., 2024; Wang, 2024). As a result, employee performance is no longer determined solely by traditional competencies but is increasingly influenced by the ability to operate effectively within digitally mediated work environments.

In response to these changes, digital leadership has emerged as a strategic capability that enables organizations to guide employees through technological transformation while fostering innovation and adaptability. Digital leaders play a crucial role in shaping employees' behavior by promoting the adoption of digital tools, facilitating communication through digital channels, and

encouraging innovation-oriented work practices. At the same time, the development of robust technological infrastructure is essential for supporting digital work environments through reliable systems, integrated platforms, and stable networks (Chen, 2024). Such infrastructure not only enhances operational efficiency but also enables flexible work arrangements through digital information and communication technologies (ICT), which allow employees to work across time and location boundaries (Anja Abendroth & Mareike Reimann, 2023).

Beyond leadership and technological support, digital readiness has become a critical individual capability that determines how effectively employees can adapt to digital transformation. Digital readiness reflects employees' willingness, confidence, and ability to use digital technologies in their work. It is influenced by psychological factors such as self-efficacy, which can be strengthened through experience and learning, leading to greater acceptance of digital systems and reduced resistance to change ((Nora Hampel dkk., 2023). Furthermore, prior studies highlight that the interaction between digital literacy and managerial capability plays a significant role in enabling organizations to leverage digital technologies effectively (Nadia Zahoor dkk., 2023). The increasing adoption of digital communication tools, such as chatbots and AI-based systems, further illustrates how organizational processes are becoming more technology-driven, although their effectiveness remains dependent on employee perceptions and readiness (Sean Newman & Shalini S. Gopalkrishnan, 2023). State-of-the-art research on digital transformation increasingly emphasizes the importance of integrating leadership capability, technological resources, and employee digital capability to achieve superior organizational performance. Recent studies demonstrate that digital leadership significantly influences both financial and non-financial performance by fostering innovation and enhancing employee engagement (Asraf dkk., 2023).

In addition, digital transformation readiness—comprising technological resources, business processes, and human capability—has been identified as a critical determinant of successful digital initiatives (Aránega dkk., 2023). Empirical evidence from various industries, including aviation and manufacturing, further shows that coordinated investments in leadership development, technological infrastructure, and dynamic capabilities can significantly improve employee digital performance (Anwar & Saraih, 2024; Asraf dkk., 2025).

Moreover, multi-level frameworks of digital transformation highlight that leadership, human resources, and organizational culture must work synergistically to prepare employees for digital change (Trenerry, 2021). Similarly, the Leadership–Infrastructure Readiness Model demonstrates that leadership and infrastructure jointly influence organizational readiness for Industry 4.0, reinforcing the interdependence between managerial capability and technological resources (Hutapea et al., 2021). However, empirical findings regarding the relationships among digital leadership, technological infrastructure, digital readiness, and employee performance remain inconsistent. Several studies report that digital leadership significantly improves employee performance through innovation and adaptability, whereas other studies indicate that leadership capability alone is insufficient when employees lack digital readiness or when technological systems are inadequate. Likewise, technological infrastructure has been found to positively support organizational performance in some contexts, yet other studies reveal that infrastructure investments do not always produce significant performance improvements due to differences in employee capability, digital culture, and organizational readiness. These inconsistencies indicate that the interaction between leadership, infrastructure, and readiness remains underexplored, particularly in highly digitalized sectors such as telecommunications.

Despite these advances, existing studies tend to examine digital leadership, technological infrastructure, and digital readiness in isolation, resulting in limited understanding of how these factors interact to influence employee performance. In particular, there is a lack of empirical evidence explaining the mechanism through which digital leadership and technological infrastructure are translated into improved employee performance through employees' digital readiness, especially within the telecommunications industry. This gap is significant because telecommunications organizations operate in highly dynamic digital environments where performance outcomes depend on both technological systems and human adaptability.

Accordingly, this study addresses this gap by examining digital readiness as a mediating mechanism linking digital leadership and technological infrastructure to employee performance

among employees in the telecommunications sector. By positioning digital readiness as a key explanatory mechanism, this study moves beyond direct-effect models and provides a more comprehensive understanding of how digital transformation factors influence employee performance. Theoretically, this study contributes to the digital transformation and employee performance literature by integrating digital leadership, technological infrastructure, and digital readiness within a socio-technical perspective. This integration provides a more holistic explanation of employee performance by emphasizing the interaction between organizational resources and individual capabilities.

Practically, this study offers insights for telecommunications managers on how to enhance employee performance by aligning leadership practices, technological investments, and employee capability development. Specifically, organizations are encouraged to strengthen digital leadership, ensure the availability of reliable technological infrastructure, and develop employees' digital readiness to maximize the effectiveness of digital transformation initiatives.

2. LITERATURE REVIEW

Digital Leadership and Employee Performance

Digital leadership refers to leaders' capability to guide employees, coordinate work, and stimulate innovation in digitally mediated organizational environments. In the telecommunications industry, leaders are expected not only to supervise employees but also to articulate a clear digital vision, encourage technology-based innovation, support technology adoption, and empower employees to work effectively with digital systems. Prior studies on digital transformation highlight that leadership capability is central in preparing employees for digital work because leaders shape employee motivation, communication patterns, and adaptation to new technologies (Cortellazzo dkk., 2019; Trenerry, 2021). Digital workplace research also shows that digital leadership capability strengthens organizational performance in technology-driven environments (Chatterjee dkk., 2023). In telecommunications companies, employee performance depends heavily on the ability to respond quickly to technical problems, customer demands, digital service changes, and operational complexity. Digital leaders can enhance performance by providing direction, reducing uncertainty, encouraging innovation, and enabling employees to use digital tools more confidently. Therefore, digital leadership is expected to improve employee performance through clearer digital orientation, stronger work coordination, and greater employee adaptability. H1: Digital Leadership has a positive effect on Employee Performance in the telecommunications industry.

Digital Readiness and Employee Performance

Digital readiness reflects employees' willingness, confidence, competence, and adaptability in using digital technologies for work-related activities. It indicates whether employees are psychologically and technically prepared to accept digital systems, learn new applications, and perform tasks in digital work environments. Recent digital readiness studies emphasize that readiness is a key condition for successful digital transformation because employees must be able to translate digital tools into actual work behavior and performance outcomes ((Aránega dkk., 2023; Höyng & Lau, 2023). Research on employee digital readiness also shows that acceptance of digitalization depends on personal resources, perceived usefulness, and the ability to adapt to changing technology demands (Höyng & Lau, 2023).

In the telecommunications industry, digital readiness is particularly important because employees frequently interact with digital platforms, network systems, customer databases, service applications, and real-time communication technologies. Employees with higher digital readiness are more capable of completing tasks efficiently, solving technology-related problems, maintaining service quality, and adapting to system upgrades. Thus, digital readiness becomes a direct driver of employee performance because it determines how effectively employees use digital resources in their daily work. H2: Digital Readiness has a positive effect on Employee Performance in the telecommunications industry.

Technological Infrastructure and Employee Performance

Technological infrastructure refers to the availability, reliability, integration, and usability of digital systems, networks, devices, and platforms that support organizational work processes. In

digital transformation literature, technological resources are viewed as essential enablers of organizational capability because they provide the foundation for digital operations, communication, data processing, and service delivery ((Verhoef dkk., 2021; Vial, 2019). Digital workplace studies further suggest that technology-enabled work environments can improve organizational outcomes when digital systems are effectively embedded into work routines (Chatterjee dkk., 2023).

For telecommunications companies, technological infrastructure is not merely a supporting facility; it is the operational backbone of employee performance. Stable networks, integrated platforms, reliable systems, and adequate digital tools enable employees to complete tasks faster, reduce errors, coordinate across units, and respond effectively to customer and technical issues. When infrastructure is weak, employee performance may decline due to system delays, limited access, technical disruptions, and inefficient workflows. Therefore, technological infrastructure is expected to have a positive effect on employee performance. H3: Technological Infrastructure has a positive effect on Employee Performance in the telecommunications industry.

Methods

a. Research Design, this study employed a quantitative explanatory research design to examine the effects of digital leadership, technological infrastructure, and digital readiness on employee performance in the telecommunications industry (Hair dkk., 2023). A cross-sectional survey approach was used because the study aimed to capture employees' perceptions of digital work practices, technological support, and performance at a specific point in time. The telecommunications industry was selected because it represents a highly digitalized sector in which employee performance is strongly influenced by leadership capability, technological systems, and employees' readiness to work with digital technologies. The research model was developed based on the socio-technical theory and the resource-based view (RBV). Socio-technical theory explains that organizational performance is shaped by the interaction between social elements, such as leadership capability and employee readiness, and technical elements, such as technological infrastructure.

In this study, digital leadership and digital readiness represent the social dimension, while technological infrastructure represents the technical dimension influencing employee performance in digital work environments. Furthermore, the resource-based view suggests that organizational resources and capabilities can generate competitive advantage and superior performance when they are valuable and effectively utilized. Accordingly, digital leadership, technological infrastructure, and digital readiness are conceptualized as strategic organizational capabilities that contribute to employee performance in the telecommunications industry.

b. Population, Sample, and Data Collection, the population of this study consisted of employees working in telecommunications companies. The unit of analysis was individual employees who were directly involved in digital-based work processes, including network/technical, customer service, operations, and administrative/support functions. A total of 182 valid responses were obtained and used for analysis (Hair Jr. dkk., 2021). The sample size of 182 respondents was considered adequate for PLS-SEM analysis based on both statistical and methodological considerations. First, the sample exceeded the minimum requirement suggested by the ten-times rule, which recommends that the sample size should be at least ten times the maximum number of structural paths directed at a latent construct. In this model, employee performance receives three direct paths from digital leadership, technological infrastructure, and digital readiness; therefore, the minimum required sample size was 30 respondents. Second, a sample size above 100 is generally considered acceptable for PLS-SEM when the model contains a moderate number of constructs and indicators. Therefore, the use of 182 respondents provides sufficient statistical power to estimate the proposed structural relationships and evaluate the measurement model reliably (Hair Jr. dkk., 2021).

c. Measurement Instrument, the questionnaire was developed based on the constructs used in the research model, namely digital leadership, technological infrastructure, digital readiness, and employee performance. Each construct was measured using reflective indicators adapted from prior studies and adjusted to the context of the telecommunications industry. All items were measured using a five-point Likert scale ranging from 1 = strongly disagree to 5 = strongly agree. Digital leadership was measured through indicators reflecting visionary digital

leadership, encouragement of digital innovation, support for technology adoption, digital communication, and empowerment in digital work. Technological infrastructure was measured through the availability, reliability, integration, accessibility, and usability of technological systems. Digital readiness was measured through employees' confidence, skills, adaptability, willingness to learn, and readiness to use digital technologies. Employee performance was measured through work quality, productivity, efficiency, adaptability, and task accomplishment in digital work environments.

Table 1. Research constructs and indicators

Construct	Code	Indicator
Digital Leadership	DL1	Visionary Digital Leadership
	DL2	Digital Innovation Encouragement
	DL3	Technology Adoption Support
	DL4	Digital Communication
	DL5	Empowerment in Digital Work
Technological Infrastructure	TI1	Availability of Digital Systems
	TI2	Reliability of Technology
	TI3	System Integration
	TI4	Accessibility of Digital Platforms
	TI5	Usability of Technology
Digital Readiness	DR1	Digital Confidence
	DR2	Digital Skills
	DR3	Adaptability to Technology
	DR4	Willingness to Learn Digital Tools
	DR5	Readiness to Use Digital Systems
Employee Performance	EP1	Work Quality
	EP2	Productivity
	EP3	Work Efficiency
	EP4	Adaptive Performance
	EP5	Task Accomplishment

d. Data Analysis Technique, the data were analyzed using Partial Least Squares Structural Equation Modeling (PLS-SEM). This technique was selected because it is suitable for examining predictive models, testing relationships among latent constructs, and analyzing data with relatively moderate sample sizes. The analysis was conducted in two stages: assessment of the measurement model and assessment of the structural model.
e. Measurement Model Assessment, the measurement model was evaluated to ensure the reliability and validity of the constructs. Indicator reliability was assessed through outer loading values. Internal consistency reliability was evaluated using Cronbach's alpha and composite reliability. Convergent validity was assessed using the Average Variance Extracted (AVE). The recommended thresholds were outer loading above 0.70, Cronbach's alpha and composite reliability above 0.70, and AVE above 0.50. Discriminant validity was examined using the Fornell-Larcker criterion and the Heterotrait-Monotrait ratio. These procedures were used to ensure that each construct measured a distinct theoretical concept and did not overlap excessively with other constructs in the model (Hair Jr. dkk., 2021).
f. Structural Model Assessment, the structural model was evaluated by examining path coefficients, t-statistics, and p-values. Bootstrapping was applied to test the significance of the hypothesized relationships. A hypothesis was considered supported when the path coefficient was positive and the p-value was below 0.05. The model tested three direct relationships: digital leadership to employee performance, digital readiness to employee performance, and technological infrastructure to employee performance. The strength of each relationship was interpreted based on the size of the path coefficient, while statistical significance was determined using t-statistics and p-values.

3. RESULTS AND DISCUSSION

Respondent Characteristics

A total of 182 valid responses were obtained from employees in the telecommunications industry. Table 1 presents the demographic profile of the respondents. The sample was dominated by male employees (61.5%), while female respondents accounted for 38.5%. In terms of age distribution, the majority of respondents were between 25 and 34 years (40.7%), followed by those aged 35–44 years (28.6%), indicating a workforce in a productive and digitally adaptive stage. Regarding educational background, most respondents held a bachelor's degree (56%), followed by a master's degree (24.2%) and diploma qualifications (19.8%). In terms of work experience, the majority had between 6 and 10 years of experience (33%), reflecting substantial exposure to organizational digital systems. From a functional perspective, respondents were primarily distributed across network/technical (35.2%), customer service (26.4%), and operations (22%) departments, which are critical units in digital service delivery. Furthermore, most respondents were permanent employees (76.9%), indicating stable employment conditions within the sample.

Table 2. Respondent characteristics (n = 182)

Characteristic	Category	Frequency	Percentage (%)
Gender	Male	112	61.5
	Female	70	38.5
Age	< 25 years	28	15.4
	25–34 years	74	40.7
	35–44 years	52	28.6
	≥ 45 years	28	15.4
Education Level	Diploma	36	19.8
	Bachelor's Degree	102	56.0
	Master's Degree	44	24.2
Work Experience	< 3 years	34	18.7
	3–5 years	56	30.8
	6–10 years	60	33.0
	> 10 years	32	17.6
Department	Network/Technical	64	35.2
	Customer Service	48	26.4
	Operations	40	22.0
	Administration/Support	30	16.5
Employment Status	Permanent Employee	140	76.9
	Contract Employee	42	23.1

Measurement Model Assessment

The measurement model was evaluated in terms of indicator reliability, internal consistency reliability, and convergent validity. As presented in Table 2, all constructs demonstrate satisfactory reliability and validity. Indicator loadings ranged from 0.635 to 0.874, exceeding the minimum threshold of 0.60, indicating acceptable indicator reliability. Cronbach's alpha values ranged from 0.811 to 0.853, while composite reliability values (rho_c) ranged from 0.868 to 0.893, all exceeding the recommended threshold of 0.70. Furthermore, the Average Variance Extracted (AVE) values ranged from 0.57 to 0.625, indicating adequate convergent validity as all values exceeded the threshold of 0.50.

Table 3. Measurement model results

Item	Loading factor	Cronbach's alpha	Composite reliability (rho_c)	Average variance extracted (AVE)
Digital Leadership				
Leaders articulate a clear vision for digital transformation within the organization	0.791	0.811	0.868	0.57
Leaders encourage the use of technology-based innovation in work processes	0.801			
Leaders support the adoption of new technologies in daily work activities	0.814			
Leaders utilize digital technologies to facilitate work-related communication	0.734			
Leaders empower employees to perform tasks using digital tools and platforms				

Item	Loading factor	Cronbach's alpha	Composite reliability (rho_c)	Average variance extracted (AVE)
Digital Readiness				
Employees possess the necessary skills to use digital technologies effectively	0.635	0.822	0.874	0.583
Employees are able to adapt to new technologies in the workplace	0.77			
Employees feel confident in using digital systems and applications	0.79			
Employees demonstrate a willingness to learn and adopt new technologies	0.827			
Employees exhibit a mindset that is open to digital change and transformation	0.783			
Employee Performance				
Employees consistently produce high-quality work outputs	0.806	0.848	0.892	0.625
Employees complete their tasks efficiently and effectively	0.874			
Employees complete their tasks within the specified time frame	0.809			
Employees are able to adapt to changes in job requirements	0.731			
Employees deliver high-quality service to customers	0.723			
Technological Infrastructure				
The organization's technological network operates reliably and consistently	0.719	0.849	0.893	0.625
The technological systems used in the organization are well integrated	0.808			
The organization provides adequate digital tools to support work activities	0.836			
Data and information are easily accessible to employees when needed	0.808			
Technical support is readily available when technological issues arise	0.778			

Discriminant Validity

Discriminant validity was assessed using the Heterotrait-Monotrait ratio (HTMT) and Fornell-Larcker criterion. As shown in Table 3, the HTMT values between constructs are relatively high, indicating potential conceptual overlap between some constructs. However, the Fornell-Larcker results confirm that the square root of AVE for each construct is higher than its correlation with other constructs, suggesting acceptable discriminant validity.

Table 4. Fornell-larcker criterion

Construct	DL	DR	EP	TI
Digital Leadership	0.755			
Digital Readiness	0.758	0.764		
Employee Performance	0.789	0.812	0.790	
Technological Infrastructure	0.744	0.660	0.724	0.791

Structural Model Assessment

The structural model was evaluated by examining path coefficients, t-statistics, and p-values obtained through bootstrapping procedures. The results are presented in Table 4. Digital leadership has a positive and significant effect on employee performance ($\beta = 0.290$, $t = 4.455$, $p < 0.001$), supporting H1. Digital readiness exhibits the strongest positive effect on employee performance ($\beta = 0.454$, $t = 8.235$, $p < 0.001$), supporting H3. Technological infrastructure also has a positive and significant effect on employee performance ($\beta = 0.208$, $t = 3.151$, $p = 0.002$), supporting H2. These results indicate that employee performance in the telecommunications industry is influenced by both leadership and technological factors, with digital readiness emerging as the most dominant predictor.

Table 5. Structural model results

Hypothesis	Path	β	t-value	p-value	Result
H1	DL → EP	0.290	4.455	0.000	Supported
H2	TI → EP	0.208	3.151	0.002	Supported
H3	DR → EP	0.454	8.235	0.000	Supported

Structural Model Results

The structural model was evaluated to examine the hypothesized relationships among digital leadership, technological infrastructure, digital readiness, and employee performance in the telecommunications industry. The assessment of the structural model was conducted using path coefficients (β), t-statistics, and p-values obtained through the bootstrapping procedure in PLS-SEM. These results provide empirical evidence regarding the strength and significance of the proposed relationships. To provide a clearer visualization of these relationships, the structural model results are in Figure 1, which presents the standardized path coefficients among the constructs.

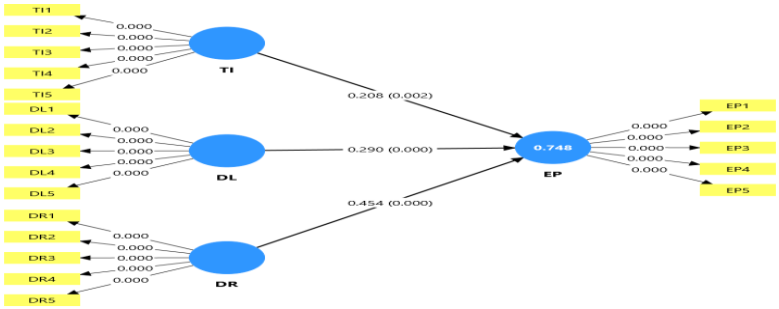

Figure 1. Structural model results

Furthermore, the findings provide important strategic implications for telecommunications companies in building a sustainable digital workforce. Telecommunications organizations should strengthen digital leadership capability by preparing leaders who can effectively communicate digital vision, encourage technology-based innovation, and support employees in adapting to digital work systems. In addition, companies need to continuously invest in reliable technological infrastructure, including integrated digital platforms, stable network systems, and accessible digital tools that support productivity and collaboration. Most importantly, digital readiness should become a strategic organizational priority through continuous digital training, reskilling initiatives, and technology-oriented learning programs. These findings suggest that building a digital workforce requires not only technological investment but also the alignment of leadership capability, employee adaptability, and organizational digital support systems.

Discussion

The findings demonstrate that employee performance in the telecommunications industry is shaped by the alignment of digital leadership, technological infrastructure, and employees' digital readiness. This result confirms that performance in digitally intensive sectors cannot be explained solely by individual effort or formal job responsibility. Instead, employee performance emerges from the interaction between leadership practices, technological support, and employees' ability to adapt to digital work systems. This argument is consistent with the socio-technical perspective, which views organizational performance as the outcome of alignment between social systems and technical systems (Verhoef et al., 2021; Vial, 2019).

Digital leadership has a positive effect on employee performance in the telecommunications industry. This finding indicates that leaders who communicate a clear digital vision, encourage technology-based innovation, support technology adoption, use digital communication effectively, and empower employees in digital work are able to strengthen employee productivity and adaptability. In a telecommunications context, digital leaders are not only administrative supervisors but also transformation agents who guide employees through rapid technological change. This supports the argument that leadership in technology-mediated

environments plays a critical role in shaping work behavior, coordination, and performance outcomes ((Avolio dkk., 2000; Cortellazzo dkk., 2019).

Technological infrastructure also has a positive effect on employee performance. This finding shows that stable networks, integrated systems, reliable digital platforms, and accessible technological resources help employees complete tasks more efficiently and accurately. In the telecommunications industry, where service continuity, technical responsiveness, and customer interaction depend heavily on digital systems, infrastructure becomes a direct performance enabler. This result is consistent with the resource-based view, which positions technological resources as strategic organizational capabilities that can improve operational performance when they are valuable, reliable, and embedded in work processes (Avolio dkk., 2000; Chatterjee dkk., 2023).

Digital readiness has a positive effect on employee performance and emerges as a central determinant of performance in the digital workplace. Employees with strong digital readiness are more confident in using digital systems, more adaptive toward new technologies, and more capable of learning emerging work applications. This readiness allows employees to convert digital tools into actual work outcomes, such as faster task completion, better service quality, and higher problem-solving capacity. This finding supports technology readiness theory, which explains that individual readiness influences how people accept, use, and benefit from technology (Parasuraman & Colby, 2015). Digital leadership increases employees' digital readiness by creating direction, support, and psychological confidence in digital transformation. Leaders who provide a clear digital vision and encourage innovation reduce uncertainty among employees when new systems or platforms are introduced. In addition, leadership support can increase employees' willingness to experiment with technology, learn new digital skills, and participate in digital work processes. This finding is consistent with e-leadership literature, which argues that leadership in digital contexts must facilitate both technology use and human adaptation (Avolio dkk., 2000; Cortellazzo dkk., 2019) 2019). Technological infrastructure increases employees' digital readiness because reliable technology reduces barriers to adoption and strengthens employees' confidence in digital work. When employees have access to stable systems, adequate devices, technical support, and user-friendly platforms, they are more likely to perceive digital work as manageable and useful. In contrast, weak infrastructure may create frustration, resistance, and low readiness even when employees are expected to perform digitally. Therefore, infrastructure does not only support performance directly but also builds the conditions through which employees become ready to work in digital environments (DeLone & (Anwar & Saraih, 2024, 2024; Vial, 2019).

Digital readiness functions as a capability mechanism through which digital leadership and technological infrastructure are converted into higher employee performance. This mediation effect implies that leadership and infrastructure do not automatically produce superior performance unless employees are ready to use, adopt, and integrate digital tools into their work behavior. Digital leadership provides direction and motivation, while technological infrastructure provides the technical foundation; however, digital readiness determines whether these resources are translated into actual performance. This finding strengthens the view that digital transformation is not merely a technological investment but also a human capability-building process (Verhoef dkk., 2021; Warner & Wäger, 2019). Theoretically, this study contributes to digital transformation literature by integrating digital leadership, technological infrastructure, digital readiness, and employee performance into a single explanatory model. The findings extend the socio-technical perspective by showing that employee performance is produced through the combined role of leadership capability, technological resources, and individual digital capability. This study also strengthens the resource-based view by demonstrating that technological infrastructure becomes more meaningful when accompanied by employee readiness. Thus, the model explains not only what drives performance but also how digital resources and leadership are transformed into performance outcomes.

Practically, the findings suggest that telecommunications companies should not treat digital transformation as a purely technical agenda. Managers need to strengthen digital leadership capability by developing leaders who can articulate digital vision, support innovation, communicate through digital channels, and empower employees to work confidently with technology. At the same time, investment in technological infrastructure must be accompanied by continuous training, digital

coaching, and user-oriented system support. These actions are important because infrastructure and leadership will have stronger performance effects when employees possess adequate digital readiness. Overall, the findings suggest that digital transformation in the telecommunications industry produces stronger employee performance when leadership capability and technological infrastructure are aligned with employees' digital readiness. Digital leadership provides strategic direction, technological infrastructure provides operational support, and digital readiness converts both into productive work behavior. This integrated mechanism is especially relevant for telecommunications companies that operate in rapidly changing digital ecosystems, where employee performance depends on the ability to combine human capability and technological resources effectively.

4. CONCLUSION

This study examined the effects of digital leadership, digital readiness, and technological infrastructure on employee performance in the telecommunications industry. The findings indicate that all three factors positively contribute to employee performance, with digital readiness emerging as the strongest predictor. These results confirm that employee performance in digitally intensive work environments is shaped not only by leadership capability and technological support but also by employees' readiness to use, adapt to, and benefit from digital technologies.

Theoretically, this study contributes to digital transformation and employee performance literature by offering a socio-technical explanation of performance in the telecommunications sector. Digital leadership represents the managerial capability that guides employees through digital change, technological infrastructure provides the operational foundation for digital work, and digital readiness reflects the individual capability needed to translate digital systems into effective work behavior. Together, these findings strengthen the view that employee performance in digital transformation contexts depends on the alignment between leadership, technology, and human capability. The main contribution of this research to the literature on digital transformation and employee performance lies in the integration of digital leadership, technological infrastructure, and digital readiness into a unified explanatory model of employee performance in the telecommunications industry. Unlike prior studies that tend to examine leadership capability, technological resources, or employee readiness separately, this study demonstrates that employee performance in digital transformation contexts is shaped by the combined interaction of managerial capability, technological support, and individual digital capability.

The findings therefore extend digital transformation literature by emphasizing that successful employee performance outcomes require the alignment of social and technical organizational dimensions rather than relying solely on technology adoption or leadership practices independently. Practically, the findings suggest that telecommunications companies should strengthen digital leadership practices, improve technological infrastructure, and enhance employees' digital readiness through continuous training, digital coaching, and user-friendly work systems. Managers should not treat digital transformation as merely a technological investment, but as an integrated organizational process that requires capable leaders, reliable systems, and digitally prepared employees. This study has several limitations. The research was conducted only in the telecommunications industry and used cross-sectional survey data, which may limit the generalizability of the findings to other sectors and time periods. Future studies may extend the model to different industries, use longitudinal designs, and examine additional variables such as digital culture, organizational agility, employee innovation behavior, or digital learning climate to provide a more comprehensive explanation of employee performance in digital transformation

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