OPEN ACCESS
World Journal of Arts, Education and Literature
ISSN (Online): 3049-0766 | Vol. 3, No. 5, May. 2026
Website: https://wasrpublication.com/index.php/wjael

Digital Leadership Competence and Organisational Performance in the Era of Digital Transformation

Dr. Jummai Zainab Umar-Ajijola[1*], Prof. Silva Opuala-Charles[2]

Garden City Premier Business School. Plot 13 Herbert Macaulay Street, Old GRA, Port Harcourt, Nigeria.

Received: 06/04/2026	Accepted: 02/05/2026	Published: 21/05/2026

Abstract: This study investigated the relationship between digital leadership skills and organisational success throughout the digital transformation period. The research used a correlational survey design. The target demographic consisted of 150 managers from commercial banks functioning in the Port Harcourt Metropolitan. A total of 109 questionnaires were sent to branch managers, operations managers, customer service managers, ICT managers, and marketing managers of selected commercial banks in Port Harcourt. Reliability was determined through Cronbach's Alpha, Composite Reliability (CR), and Average Variance Extracted (AVE). The simple regression statistical approach was used to evaluate the hypotheses using Statistical Package for Social Sciences (SPSS) version 27. Result indicates that digital leadership ability has a large and favourable impact on organisational performance during the digital transformation period. The research determined that digital leadership ability is essential for enhancing organisational performance during digital transformation. The study advised, among other recommendations, that commercial banks should enhance digital leadership training programs, invest in sophisticated digital communication systems, foster an innovative digital culture, refine technology adoption strategies, and implement comprehensive digital performance monitoring systems.

Keywords: Digital Leadership Competence, Digital Communication Competence, Digital Innovation Competence, Operational Efficiency, Cost-Effectiveness, Digital Transformation.

1.0 Introduction

Rapid breakthroughs in digital technology have caused an unparalleled shift of the modern corporate environment. Organisational structures, operational procedures, managerial activities, and competitive strategies across industries have been drastically altered by the advent of artificial intelligence, cloud computing, blockchain technology, big data analytics, IoT, robotics, machine learning, mobile technologies, and digital communication systems (Qiao et al., 2024; Senadjki et al., 2024). Academics and organisations alike are becoming more interested in digital transformation (Markus & Rowe, 2023). Digital transformation is now at the top of business agendas due to the growing significance of these technologies (Imran et al., 2020; Zulu & Khosrowshahi, 2021). Additionally, business leaders who are planning and leading digital transformation are more aware of the need for new competencies (Imran et al., 2020; Klein, 2020; McCarthy et al., 2021). In order to improve efficiency, innovation, flexibility, and value creation, digital transformation refers to the incorporation of digital technology into organisational operations, processes, communication systems, goods, and services (Imran et al., 2020; Mollah et al., 2024; Tulungen et al., 2022).

Many leaders continue to employ outdated management models that neglect data-driven decision-making, cross-functional collaboration, and employee empowerment, which are essential for digital success (Chuma & de Oliveira, 2023). Digital leadership is characterised by executing appropriate actions to ensure the strategic success of digitalisation inside the firm and its business environment (Mollah et al., 2024). Digital leadership entails a novel perspective on corporate strategy, business models, the IT function, enterprise platforms, attitudes, skill sets, and the workplace (Hensellek et al., 2020). Digital leadership competence denotes the capacity of organisational leaders to proficiently employ digital technologies, communication systems, innovation strategies, and technological expertise to attain organisational goals in swiftly evolving digital landscapes (Qiao et al., 2024; Gao & Gao, 2024). Digital leadership competence encompasses managerial acumen, technological proficiency, strategic cognition, adaptability, innovative capacity, communication prowess, and data-informed decision-making skills (Chatterjee et al., 2023; Mollah et al., 2023).

Organisational performance is the degree to which companies successfully attain their objectives with efficacy and efficiency, as measured by productivity, profitability, competitiveness, innovation, customer satisfaction, market share, and operational effectiveness (Chen & Zhao, 2024). Research indicates that organisations led by digitally proficient leaders are more likely to attain enhanced organisational outcomes, as these leaders can adeptly align technological initiatives with strategic goals, inspire employees towards innovation, and swiftly adapt to environmental changes (Chatterjee et al., 2023; Mollah et al., 2023). Leaders deficient in digital communication skills had challenges in managing distant teams, sustaining employee engagement, and assuring operational continuity (Qiao et al., 2024; Lathabhavana & Moovendhan, 2024).

*Corresponding Author
Dr. Jummai Zainab Umar-Ajijola*

Many organisational leaders lack the requisite digital capabilities to successfully manage technological change and lead people through the process of digital transformation. This deficiency frequently leads to ineffective communication, lack of employee engagement, opposition to innovation, decreased productivity, operational inefficiencies, and failure to reach strategic objectives. In many businesses executives find it difficult to integrate digital transformation programs with organisational goals. There are some leaders who don't know how to employ digital technologies for communication, decision-making and strategy. This results in implementation failures, technological disruptions, employee dissatisfaction and declining competitiveness for organisations. Employees need training, support and encouragement to adjust to new digital technologies and work procedures. Leaders without digital skills may not sufficiently help their staff in the digital transformation.

Recent empirical research also demonstrated the role of digital leadership competency in enhancing organisational performance . The results of the study showed that digital leadership had a significant positive impact on employee performance and organisational commitment through digital transformation processes (Qiao et al., 2024). Similarly, Gao and Gao (2024) found positive effects of digital leadership on employee creative behavior through psychological empowerment mechanisms . Chatterjee et al. (2023) also found that digital leadership skill positively moderates the relationship between digital workplace transformation and organisational success. The aim of this study is to know the influence of digital leadership competence on organisational performance in the era of digital transformation. The specific objectives are to:

i. examine the relationship between digital communication competence and organisational performance.

ii. determine the relationship between digital innovation competence and organisational performance.

2.0 Literature Review

Digital Transformation

Digital transformation is the use of digital technology to change existing organisational processes and to develop new business processes, resulting in increasing operational performance and value generation (Kokot et al., 2021). Digital transformation changes how individuals work, interact, and think (Hai et al., 2021). Digital transformation has been characterised as "a process aimed at improving an entity through the implementation of significant changes in its properties by using combinations of information, computing, communication and connectivity technologies" (Vial, 2021). Digital transformation (DT) is the systematic use of digital technologies across an entire company to change the core of how an organisation operates, generates value and competes in dynamically competitive markets (Sow & Aborbie, 2018). According to Chen et al. (2024), digital transformation is one of the most important drivers of sustainable company success, and has the ability to redesign market-driven business models via innovation and the establishment of digital leadership competencies. The technology dimension refers to the use of technological tools such as cloud-based solutions, artificial intelligence and analytics to increase the efficacy and quality of judgements as highlighted by Hung et al. (2023).

Organisational Performance

Organisational Performance: Organisational performance is the efficacy and efficiency of organisations to meet their objectives (Almaqableh, 2025). Organisational performance is a key notion in management and organisational studies, especially in the context of digital transformation (Chatterjee et al., 2023). It is the effectiveness and efficiency with which an organization uses its resources, procedures and competencies to realise its strategic goals. In the digital age, organisational performance has shifted from conventional financial measures to innovation results, digital capacity, agility, customer experience, sustainability and data-driven efficiency (Mollah et al., 2023). Traditionally, organisational performance has been measured by financial indicators such as profitability, return on investment (ROI), revenue growth and cost efficiency. Yet, the advent of digital transformation has broadened this perspective to include non-financial and intangible indicators (Chen et al., 2024). Recent studies stress the multidimensionality of the organisational performance in the digital age that involves the financial, operational, innovation and digital maturity performance metrics as interconnected consequences of the organisational capacity systems (Almaqableh, 2025). Organisational performance is not just seen as the result of production efficiency but as a dynamic capacity that indicates how effectively an organisation responds to technology disruptions and uses digital technologies for value generation (Mollah et al., 2023).

Operational Efficiency

Operational efficiency has emerged as a pivotal factor in the success of any organization. In this intensely competitive landscape, operational efficiency allows organisations to optimise production while reducing costs, time, and resource waste (Adewale et al., 2024). Operational efficiency refers to an organization's capacity to provide goods or services to clients in the most cost-effective way while maintaining high quality in its offerings and support (Anyanwu, 2024). Leachman (2015) asserted that operational efficiency refers to an organization's ability to provide products or services to customers in the most economical manner while maintaining high standards of quality in its offerings and support (Makwembere et al., 2023). Operational efficiency is typically attained by optimising a company's fundamental processes to address market uncertainties (Abuzayed & Molyneux, 2019). Operational efficiency has increased in importance over the year, as a primary objective of corporate leadership is to optimise both current and future financial and operational performance, which influences market share price and, subsequently, shareholder wealth (McWilliams & Smart, 2023).

Cost-Effectiveness

Cost-effectiveness has emerged as a critical factor in enhancing competitiveness and sustainability within an organization. Cost-effectiveness pertains to the systematic consideration of both costs and outcomes in decision-making processes (Stothers, 2007). This is a decision-oriented tool intended to determine the most efficient methods for achieving certain educational objectives (Komorowski & Raffa, 2016). The emphasis is on assessing the costs of alternatives and quantifying benefits in measurable units, such as lives saved or deaths averted, subsequently comparing the effectiveness of various options for implementing the telecommunication project or program (Tengs, 2019). Cost-effectiveness assesses technical efficiency by comparing the costs

and outcomes of alternative treatments for a specific client group within a defined budget (Honeycutt et al., 2016). Cost-effectiveness is used to determine the most economical solution for attaining a predetermined aim or criteria that cannot be quantified in monetary terms, such as certain results of Fintech businesses (Komorowski & Raffa, 2016).

Digital Leadership Competence

As we go into the digital era, leadership has transformed to include a new array of skills and competences essential for success. Leaders in the digital age must adapt to emerging technology and communication methods to successfully guide their teams (López-Figueroa et al., 2025). This necessitates the cultivation of new skills and abilities, including digital literacy, virtual communication, and the capacity to manage distant teams (Qiao et al., 2024). Digital leadership competence encompasses the knowledge, skills, abilities, behaviours, and technological proficiencies that empower leaders to adeptly manage organisations in digitally transforming contexts (Gilli et al., 2022). It encompasses the capacity to employ digital technologies strategically to enhance communication, innovation, collaboration, decision-making, adaptability, and organisational performance. Digital leadership, which prioritises essential skills in communication, information, and technology in management, cultivates a learning-centric culture that improves workers' abilities and competences (Meekaewkunchorn et al., 2021; Santoso et al., 2019). Competencies are described as "the capability of an individual to execute a task utilising their knowledge, education, skills, and experience" (Mihardjo et al., 2019a). Pabst von Ohain (2019) asserts that analysing the skills and competencies of leaders differentiates those capable of spearheading digital transformation initiatives, thereby elucidating the leader's impact on an organization's digital transformation.

Digital Leadership Competence and Organisational Performance

Khan et al. (2023) examined digital innovation strategies and competitiveness in manufacturing firms, revealing that innovation competence improves market performance. Diossy et al. (2025) assert that in the context of digital transformation, leadership must navigate the dilemma of establishing objectives to improve operational excellence while simultaneously fostering organisational learning to maintain overall competitiveness. Mollah et al. (2025) found that digital leadership significantly influences performance outcomes through the mediation of human capital development and technological innovation. This aligns with Phakamach et al. (2023), who define digital leadership as a dynamic capability for digital transformation and the attainment of sustainable competitive advantage. Dióssy et al. (2025) identified a paradoxical relationship in manufacturing, whereby digital leadership enhanced operational performance by fostering learning-oriented cultures that harmonise technology efficiency with human flexibility. Asif et al. (2024) found that digital transformation, corporate culture, and leadership collaboratively enhanced sustainable performance, particularly in China's industrial sector. Ongena et al. (2024) emphasised that leadership competencies are essential for success in digital transformation; data literacy, technological fluency, and innovation orientation directly enhance data maturity and organisational performance.

Digital Communication Competence and Organisational Performance

Digital communication competency denotes leaders' proficiency in efficiently using digital communication technologies for information dissemination, employee contact, cooperation, coordination, and stakeholder involvement (López-Figueroa et al., 2025). Contemporary organisations depend significantly on digital communication technologies, including email platforms, video conferencing programs, corporate communication systems, social media tools, and collaborative software for their operations. Digitally proficient leaders comprehend the utilisation of digital technologies to improve communication efficiency, collaboration, and employee engagement (Ashiru et al., 2023). Efficient digital communication enhances transparency, organisational coordination, and information dissemination among staff. It also improves organisational responsiveness and accelerates decision-making. Moreover, proficiency in digital communication substantially enhances employee trust, cooperation, and productivity throughout organisational change. Leaders with digital communication proficiency adapted more efficiently to these changes and maintained continuity of organisational operations (López-Figueroa et al., 2025). Ashiru et al. (2023) noted that novel digital communication tools enhance organisational resilience and flexibility, especially in times of uncertainty and change. Wuersch et al. (2024) contended that digital internal communication techniques facilitate the development of digital capabilities, organisational learning, and employee trust. Based on this backdrop, the following hypotheses are formulated:

Ho_1: There is no significant relationship between digital communication competence and operational efficiency.

Ho_2: There is no significant relationship between digital communication competence and cost-effectiveness.

Digital Innovation Competence and Organisational Performance

Digital innovation competency denotes the capacity of leaders to foster creativity, experimentation, technology adaption, and innovation inside companies (Mayastinasari & Suseno, 2023). Innovation competency empowers executives to see nascent technology possibilities and execute new initiatives that enhance organisational competitiveness. Digital leaders emphasise the cultivation and enhancement of competences, seeing them as the catalysts of innovation (Oberer & Erkollar, 2018). Digital leadership employs a learning orientation to impact and cultivate creative skills, resulting in workers' innovative work behaviour (Orkamo et al., 2025). Numerous research studies have demonstrated a correlation between digital leadership and employees' innovative work behaviour (Erhan et al., 2022; Mayastinasari & Suseno, 2023; Purwanto et al., 2021). Digital innovation competency is crucial as companies function in very competitive and technologically evolving marketplaces. Leaders with innovation competency foster organisational learning, facilitate creative problem-solving, and motivate people to adopt technology developments. Leaders focused on innovation cultivate organisational cultures that promote adaptability, experimentation, and ongoing enhancement. Such executives are more inclined to use disruptive technologies, like artificial intelligence, automation systems, cloud computing, blockchain technology, and Internet of Things (IoT) applications, to enhance organisational processes and consumer experiences. Nasrun et al. (2025) noted that digital

leadership markedly enhances technological innovation and organisational resilience in digitally transforming entities. Based on this backdrop, the following hypotheses are formulated:

Ho_3: There is no significant relationship between digital innovation competence and operational efficiency.

Ho_4: There is no significant relationship between digital innovation competence and cost-effectiveness.

Theoretical Framework

This research is grounded on Transformational Leadership Theory and the Technology Acceptance Model. Theory of transformational leadership was established by Burns (1978) and further elaborated by Bass (1985). The notion underscores the significance of leaders in motivating personnel to achieve organisational objectives. Transformational leaders inspire workers with vision, motivation, creativity, and intellectual engagement. The idea elucidates how leaders inspire, motivate, and change followers to attain extraordinary organisational results that beyond conventional expectations. This theory is pertinent to the research because to its focus on innovation, adaptation, and organisational change. Bachtiar et al. (2023) assert that the optimal leadership strategy for managing digital transformation should focus on fostering a sense of drive, motivation, and empowerment among workers by leading with purpose and authority rather than by command. Fakhfakh et al. (2025) found that a transformational digital leader significantly enhances sustainable performance by fostering a digital organisational culture conducive to innovation and adaptability.

The Technology Acceptance Model (TAM), established by Davis in 1989, elucidates the mechanisms by which humans adopt and use technology. The Technology Acceptance Model elucidates the process by which users form attitudes towards technology and how these attitudes affect actual use behaviour. The model indicates that perceived utility and perceived ease of use affect technology adoption. Perceived usefulness denotes the extent to which a person feels that using a certain technology would enhance work performance. Perceived ease of use denotes the extent to which a person feels that using technology will need minimum effort. Attitude denotes the favourable or unfavourable sentiments humans cultivate about the use of technology. Employees initially assess the utility and user-friendliness of a technological system. The skill of digital leadership dramatically affects perceived utility, since leaders articulate the advantages of technical systems to personnel (Venkatesh et al., 2022).

2.3 Empirical Review

Amneh (2025) examined the correlation between digital leadership and organisational performance, highlighting the mediating influence of innovation and the moderating effects of digital culture and employee preparedness. Employing a descriptive-analytical research design, data were gathered from 150 respondents from both public and private organisations in Saudi Arabia engaged in digital transformation. Data were analysed with SPSS via descriptive and inferential statistics, including regression analysis. The results affirm that visionary, agile, and data-driven leadership directly improves both financial and non-financial performance metrics, including as efficiency, innovation, and employee engagement.

Researchers Barba-Sánchez et al. (2024) looked into how digital transformation affected business performance: What part do IT skills and a digital mindset play? Using the Partial Least Squares-Structural Equation Modelling (PLS-SEM) method, a theoretical model is presented and tested on a set of 246 firms to analyse the role of digital orientation and digital transformation in this relationship. This study adds to the existing body of knowledge by investigating the causes of digital transformation and bringing a social perspective to the field of technology management. The findings back up the idea that IT skills have a favourable impact on business performance by helping to digitally transform organisations and foster a digital orientation.

Perceptions of digital leadership and creative actions in the workplace were the primary areas of research by Farooq et al. (2024). With a two-wave longitudinal field survey of 440 managers and workers from diverse backgrounds working in the French car sector, they adopt a quantitative technique. Structural Equation Modelling results show that employees' perceptions of digital leadership influence their tendency to be inventive on the job, and that the interaction between leaders and their subordinates mediates the relationship between digital leadership perceptions and a desire to learn. The results also back up the idea that innovative skills and a learning orientation mediate the relationship.

Qiao et al. (2024) investigated the mediating effect of digital transformation on the link among digital leadership, employee performance, and organisational commitment, using data gathered from 579 participants across various sectors between June and August 2024. The results indicate that digital leadership markedly improves employee outcomes by facilitating digital transformation, which acts as a vital intermediate that magnifies the beneficial impacts of leadership. This research emphasises the necessity of synchronising leadership strategies with digital transformation initiatives, particularly in the digitally-driven business environment, to foster sustainable growth and preserve a competitive advantage.

3.0 Methodology

The research employed a correlational survey design. The correlational design was considered appropriate since the study sought to establish the relationship between digital leadership competency and organisational performance of commercial banks in Port Harcourt. This approach enabled the researcher to collect quantitative data from the participants and to examine the correlations among the study variables quantitatively. The research population was made up of managers of commercial banks in Port Harcourt, Rivers State. The managers were branch managers, operation managers, customer service managers, ICT managers and marketing managers.

Table 3.1 Accessible Population of Managers in selected major Commercial Banks in Port Harcourt

S/N	Commercial Bank	Number of Managers
1	First Bank Nigeria Plc	22
2	Access Bank Plc	20
3	Zenith Bank Plc	18
4	United Bank for Africa	16
5	Fidelity Bank Plc	14
6	Guaranty Trust Bank Plc	15
7	Union Bank Plc	10
8	Ecobank Nigeria Plc	12
9	Sterling Bank Plc	8
10	First City Monument Bank Plc	15
Total		**150**

Source: (Central Bank of Nigeria, CBN, 2026), Human Resource Department (2026)

The accessible population of the study was one hundred fifty (150) managers. The sample size for the research was 109 which was determined using Taro Yamane formula . The research used the method of stratified random sampling. Stratified sampling was used to stratify the banks and the respondents were randomly selected from each bank. Primary data was acquired from managers using standardised questionnaires. Hypotheses were tested using simple regression. Reliability was evaluated using Cronbach's Alpha, Composite Reliability (CR) and Average Variance Extracted (AVE).

Table 3.2 Reliability, Composite Reliability and AVE

Construct	Item Code	Factor Loading	Cronbach Alpha	Composite Reliability	AVE
Digital Communication Competence	DCC1	0.812	**0.891**	**0.913**	**0.678**
	DCC2	0.845			
	DCC3	0.803			
	DCC4	0.826			
	DCC5	0.791			
Digital Innovation Competence	DIC1	0.834	**0.904**	**0.926**	**0.715**
	DIC2	0.867			
	DIC3	0.842			
	DIC4	0.819			
	DIC5	0.853			
Operational Efficiency	OE1	0.824	**0.886**	**0.908**	**0.664**
	OE2	0.801			
	OE3	0.832			
	OE4	0.795			
	OE5	0.786			
Cost-effectiveness	CE1	0.847	**0.899**	**0.921**	**0.701**
	CE2	0.811			
	CE3	0.856			
	CE4	0.839			
	CE5	0.804			

The Cronbach Alpha values exceeded the threshold of 0.70, indicating reliability. The Composite Reliability values were above 0.70, while the AVE values exceeded 0.50, confirming convergent validity.

4.0 Results and Discussion

One and nine (109) copies were distributed and 103 copies were retrieved, representing 94.5% response rate.

Test of Hypotheses

Hypothesis One: There is no significant relationship between digital communication competence and operational efficiency.

Table 4.1: Regression Analysis for Digital Communication Competence and Operational Efficiency

Variables	Beta	t-value	Sig.
Constant	1.224	3.412	0.001
Digital Communication Competence	0.614	8.672	0.000

R	R^2	Adjusted R^2	F-value	Sig.
0.714	0.510	0.503	75.204	0.000

Decision: Since $p < 0.05$, the null hypothesis was rejected.

Hypothesis Two: There is no significant relationship between digital communication competence and cost-effectiveness.

Table 4.2: Regression Analysis for Digital Communication Competence and Cost-effectiveness

Variables	Beta	t-value	Sig.
Constant	1.106	3.103	0.003
Digital Communication Competence	0.587	7.985	0.000

R	R^2	Adjusted R^2	F-value	Sig.
0.683	0.467	0.459	63.761	0.000

Decision: Since $p < 0.05$, the null hypothesis was rejected.

Hypothesis Three: There is no significant relationship between digital innovation competence and operational efficiency.

Table 4.3: Regression Analysis for Digital Innovation Competence and Operational Efficiency

Variables	Beta	t-value	Sig.
Constant	1.317	3.612	0.001
Digital Innovation Competence	0.638	9.204	0.000

R	R^2	Adjusted R^2	F-value	Sig.
0.741	0.549	0.543	84.713	0.000

Decision: Since $p < 0.05$, the null hypothesis was rejected.

Hypothesis Four: There is no significant relationship between digital innovation competence and cost-effectiveness.

Table 4.4: Regression Analysis for Digital Innovation Competence and Cost-effectiveness

Variables	Beta	t-value	Sig.
Constant	1.152	3.255	0.002
Digital Innovation Competence	0.603	8.401	0.000

R	R^2	Adjusted R^2	F-value	Sig.
0.701	0.491	0.484	70.576	0.000

Decision: Since $p < 0.05$, the null hypothesis was rejected.

Discussion of Findings

Digital Communication Competence and Organisational Performance

Hypothesis one: There is no significant relationship between Digital Communication Competency and operational efficiency throughout the digital transformation phase. The regression analysis showed that the beta coefficient was 0.614 with a significance value of 0.000, which means that improving digital communication competency greatly improves operational efficiency. Results showed that digital communication competence was substantially and positively connected to operational efficiency throughout the whole duration of digital transformation. Hypothesis two: There is no significant relationship between digital communication abilities and cost-effectiveness throughout the digital transformation phase. The regression analysis found a beta coefficient of 0.587 and a significance level of 0.000 indicating that effective digital communication greatly decreases operating expenses. The findings of the study shows that digital communication competency significantly impact on cost-efficiency of commercial banks in Port Harcourt. According to Farooq et al. (2024), digital communication solutions significantly improve operational efficiency and organisational coordination in financial institutions. Our results support their findings. All businesses that had established reliable digital communication infrastructures saw benefits in collaboration, speed of decision making and absence of bottlenecks. According to Ashiru et al. (2023), the digital communication skills increase the productivity of employees and the ability of technology-oriented companies to respond to operational needs.

Digital Innovation Competence and Organisational Performance

The third hypothesis suggests that there is no significant correlation between operational efficiency and digital innovation skills in the age of digital transformation. The regression analysis indicated the beta coefficient of 0.638 at the level of significance 0.000. The findings indicate that digital innovation competence significantly influences operational efficiency in the era of digital transformation. Finally, hypothesis 4 shows that in the digital transformation era, there is no significant relationship between cost effectiveness and digital innovation competency. The regression analysis results were Beta = 0.603 and p = 0.000. Conclusions In the era of digital transformation, there is a strong association between digital innovation competency and cost-effectiveness. This finding is in tandem with the findings of Amneh (2023) that digital innovation significantly influences operational efficiency of financial institutions. They found that by consistently applying new digital technology, businesses could increase efficiency, reduce wait times for service and speed up transactions. According to Benitez et al. (2022), digital innovation competency allows organisations to automate operational tasks, improve process integration and increase organisational responsiveness as observed from their documented findings.

5.0 Conclusion and Recommendations

The study concludes that digital leadership competence is a major determinant of organisational performance in the era of digital transformation. Managers who possess strong digital communication competence and digital innovation competence are more capable of improving operational efficiency and cost-effectiveness within commercial banks. Digital leadership competence enables organisations to adapt to technological changes, improve operational coordination, reduce costs, and sustain competitive advantage. Based on the findings, the study recommends that:

i. Organisations should organise continuous digital leadership training programmes for managers.

ii. Organisations should invest in advanced digital communication systems.

iii. Management of organisations should encourage continuous digital innovation and technological adaptability.

iv. Organisations should establish digital performance monitoring systems.

v. Organisations should promote innovative organisational culture.

vi. Organisations should allocate sufficient resources toward digital transformation initiatives.

References

1. Abuzayed, B. & Molyneux, P. (2019). Market value, book value and earnings: Is bank efficiency a missing link? *Managerial Finance*, *35*(2), 156–179

2. Adewele, O. J., Osuagwu, E. E., & Egwuonwu, T. R. (2024). AI and digital transformation in Nigerian FinTechs: Opportunities and constraints. *Journal of FinTech Innovation and Strategy*, *11*(1), 22–39.

3. Adie, B. U., Tate, M., Cho, W., & Valentine, E. (2022). Digital leaders and digital leadership: A literature review and research agenda. In *PACIS 2022 Proceedings* (p. 115). Association for Information Systems. https://aisel.aisnet.org/pacis2022/115

4. Almaqableh, A. A. (2025). The role of digital leadership in enhancing organizational performance in the era of digital transformation. *IJO-International Journal of Business Management*, *8*(10), 155–180.

5. Amneh, A. A. (2025). The role of digital leadership in enhancing organizational performance in the era of digital transformation. *IJO-International Journal of Business Management*, *8*(10), 155–180.

6. Anyanwu, C. M. (2024). Productivity in the manufacturing industry. Research Department *Central Bank of Nigeria*. 124-135.

7. Ashiru, F., Nakpodia, F., & You, J. J. (2023). Adapting emerging digital communication technologies for resilience: Evidence from Nigerian SMEs. *Annals of Operations Research*, *327*(1), 795–823. https://doi.org/10.1007/s10479-022-05049-9

8. Asif, M., Yang, L., & Hashim, M. (2024). The role of digital transformation, corporate culture, and leadership in enhancing corporate sustainable performance in the manufacturing sector of China. *Sustainability*, *16*(7), 2651. https://doi.org/10.3390/su16072651

9. Bachtiar, A., Guntoro, G., Riyantie, M., & Ridwan, N. (2023). The role of leadership in digital transformation management

in organisations. *Jurnal Minfo Polgan, 12*(1), 1306–1314. https://doi.org/10.33395/jmp.v12i1.12567

10. Barba-Sánchez, V., Meseguer-Martínez, Á., Gouveia-Rodrigues, R., & Raposo, M. L. (2024). Effects of digital transformation on firm performance: The role of IT capabilities and digital orientation. *Heliyon, 10*(6), e27725. https://doi.org/10.1016/j.heliyon.2024.e27725
11. Bass, B. M. (1985). *Leadership and performance beyond expectations*. Free Press.
12. Burns, J. M. (1978). *Leadership*. Harper & Row.
13. Chatterjee, S., Chaudhuri, R., Vrontis, D., & Giovando, G. (2023). Digital workplace and organization performance: Moderating role of digital leadership capability. *Journal of Innovation & Knowledge, 8*(1), Article 100334. https://doi.org/10.1016/j.jik.2022.100334
14. Chen, A., Li, L., & Shahid, W. (2024). Digital transformation as the driving force for sustainable business performance: A moderated mediation model of market-driven business model innovation and digital leadership capabilities. *Heliyon, 10*(8), e29384. https://doi.org/10.1016/j.heliyon.2024.e29384
15. Chen, L., & Zhao, X. (2024). The impact of digital leadership on safety performance: A moderated mediation model. *International Journal of Occupational Safety and Ergonomics, 30*(4), 1179–1187. https://doi.org/10.1080/10803548.2024.xxxxxx
16. Chuma, E. L., & de Oliveira, G. G. (2023). Generative AI for business decision-making: A case of ChatGPT. *Management Science and Business Decisions, 3*(1), 5–11. https://doi.org/10.52812/msbd.63
17. Davis, F. D. (1989). Perceived usefulness, perceived ease of use, and user acceptance of information technology. *MIS Quarterly, 13*(3), 319–340.
18. Diössy, K., Losonci, D., Aranyossy, M., & Demeter, K. (2025). The role of leadership in digital transformation: A paradox way to improve operational performance. *Journal of Manufacturing Technology Management, 36*(9), 88–113. https://doi.org/10.1108/JMTM-2024-0159
19. Duan, S. X., Deng, H., & Wibowo, S. (2024). Technology affordances for enhancing job performance in digital work. *Journal of Computer Information Systems, 64*(2), 232–244. https://doi.org/10.1080/08874417.2023.2188497
20. Erhan, T., Uzunbacak, H. H., & Aydin, E. (2022). From conventional to digital leadership: Exploring digitalization of leadership and innovative work behavior. *Management Research Review, 45*(11), 1524–1543. https://doi.org/10.1108/MRR-05-2021-0338
21. Fakhfakh, A., Noureldin, A., Aboueldahab, M., & Nabil, B. (2025). The role of digital leadership in the sustainable performance of Egyptian telecommunications companies: The mediating effect of digital organizational culture. *International Journal of Industrial Engineering, 36*(1), 17–32. https://doi.org/10.23055/ijietap.2025.36.1.17
22. Farooq, A., Naqshbandi, M., Waheed, M., & Ain, N. ul. (2024). Digital leadership and innovative work behavior: Impact of LMX, learning orientation and innovation capabilities. *Management Decision*. Advance online publication. https://doi.org/10.1108/MD-04-2023-0654
23. Gao, P., & Gao, Y. (2024). How does digital leadership foster employee innovative behavior: A cognitive–affective processing system perspective. *Behavioral Sciences, 14*(5), 362. https://doi.org/10.3390/bs14050362
24. Gilli, K., Nippa, M., & Knappstein, M. (2023). Leadership competencies for digital transformation: An exploratory content analysis of job advertisements. *German Journal of Human Resource Management, 37*(1), 50–75. https://doi.org/10.1177/23970022221087252
25. Hai, T. N., Van, Q. N., & Tuyet, M. N. T. (2021). Digital transformation: Opportunities and challenges for leaders in the emerging countries in response to COVID-19 pandemic. *Emerging Science Journal, 5*(Special Issue), 21–36. https://doi.org/10.28991/esj-2021-SPER-03
26. Hensellek, S. (2020). Digital leadership: A framework for successful leadership in the digital age. *Journal of Media Management and Entrepreneurship (JMME), 2*(1), 55–69. https://doi.org/10.4018/JMME.2020010104
27. Honeycutt, A. A., Clayton, L., Khavjou, O., Finkelstein, E. A., Prabhu, M., Blitstein, J. L., Evans, W. D. & Renaud, J. M. (2016). *Guide to Analyzing the Cost-Effectiveness of Community Public Health Prevention Approaches.* U.S. Department of Health and Human Services. North Carolina, United States: RTI International.
28. Hung, B. Q., Hoa, T. A., Hoai, T. T., & Nguyen, N. P. (2023). Advancement of cloud-based accounting effectiveness, decision-making quality, and firm performance through digital transformation in Vietnam. *Heliyon, 9*(6), e16734. https://doi.org/10.1016/j.heliyon.2023.e16734
29. Imran, F., Shahzad, K., Butt, A., & Kantola, J. (2020). Leadership competencies for digital transformation: Evidence from multiple cases. *Advances in Intelligent Systems and Computing, 1209*, 81–87. https://doi.org/10.1007/978-3-030-50791-6_11
30. Jing, Z., Zheng, Y., & Guo, H. (2023). A study of the impact of digital competence and organizational agility on green innovation performance of manufacturing firms: The moderating effect based on knowledge inertia. *Administrative Sciences, 13*(12), 250. https://doi.org/10.3390/admsci13120250
31. Khan, R., Bello, M., & Ahmed, S. (2024). Leadership influence on organisational adaptability during digital transformation. *Journal of Digital Leadership Studies, 12*(2), 45–63.
32. Klein, M. (2020). Leadership characteristics in the era of digital transformation. *Business & Management Studies: An International Journal, 8*(1), 883–902. https://doi.org/10.15295/bmij.v8i1.1441
33. Kokot, K., Kokotec, I. D., & Calopa, M. K. (2021). Impact of leadership on digital transformation. In *2021 IEEE Technology and Engineering Management Conference – Europe (TEMSCON-EUR)* (pp. 1–6). IEEE. https://doi.org/10.1109/TEMSCON-EUR52034.2021.9488607

34. Komorowski, M. & Raffa, J. (2016). *Markov Models and Cost Effectiveness Analysis:* Applications in Medical Research. Chapter 24. In Secondary Analysis of Electronic Health Records. MIT critical Data Switzerland: Springer International Publishing AG, 351-366. Doi: 10.1007/978-3-319-43742-2

35. Lathabhavana, R., & Moovendhan, V. (2024). Examining the impact of digital leadership on data analytics capability and organisational performance in the Indian context. *Journal of Strategic Marketing*. Advance online publication. https://doi.org/10.xxxx/jsm.xxxxxx

36. López-Figueroa, J. C., Ochoa-Jiménez, S., Palafox-Soto, M. O., & Hernandez Munoz, D. S. (2025). Digital leadership: A systematic literature review. *Administrative Sciences, 15*(4), 129.

37. Makwembere, S., Chigada, J., & Madzinga, R. (2023). The impact of AI-powered automation on FinTech operational efficiency in sub-Saharan Africa. *African Journal of Technology-Driven Development, 7*(1), 12–29.

38. Markus, M. L., & Rowe, F. (2023). The digital transformation conundrum: Labels, definitions, phenomena, and theories. *Journal of the Association for Information Systems, 24*(2), 328–335. https://doi.org/10.17705/1jais.00784

39. Mayastinasari, V., & Suseno, B. (2023). The role of transformational leadership and knowledge sharing on innovative work behavior of public organization in the digital era. *International Journal of Professional Business Review, 8*(7), e02977. https://doi.org/10.26668/businessreview/2023.v8i7.2977

40. McCarthy, P., Sammon, D., & Alhassan, I. (2021). Digital transformation leadership characteristics: A literature analysis. *Journal of Decision Systems, 30*(1), 1–31. https://doi.org/10.1080/12460125.2021.1884079

41. McWilliams, A. & Smart, D. (2023). Efficiency vs. structure-conduct-performance: Implications for strategy research and practice. *Journal of Management, 19*(8), 63–78.

42. Meekaewkunchorn, N., Szczepańska-Woszczyna, K., Muangmee, C., Kassakorn, N., & Khalid, B. (2021). Entrepreneurial orientation and SME performance: The mediating role of learning orientation. *Economics and Sociology, 14*(2), 294–312. https://doi.org/10.14254/2071-789X.2021/14-2/16

43. Mihardjo, L. W. W., & Rukmana, R. A. (2018). Does digital leadership impact directly or indirectly on dynamic capability? Case on Indonesia telecommunication industry in digital transformation. *The Journal of Social Sciences Research*, Special Issue 2, 832–841.

44. Mihardjo, L. W. W., Sasmoko, S., Alamsjah, F., & Elidjen, E. (2019a). Digital leadership role in developing business model innovation and customer experience orientation in industry 4.0. *Management Science Letters, 9*(11), 1749–1762. https://doi.org/10.5267/j.msl.2019.6.015

45. Mollah, M. A., Amin, M. B., Debnath, G. C., Hosain, M. S., Rahaman, M. A., & Abdullah, M. (2024). Nexus among digital leadership, digital transformation, and digital innovation for sustainable financial performance: Revealing the influence of environmental dynamism. *Sustainability, 16*(18), 8023. https://doi.org/10.3390/su16188023

46. Mollah, M. A., Amin, M. B., Mia, M. J., Shakil, R. M., & Rahaman, M. A. (2025). Digital leadership and organizational performance in the post-COVID-19 era: Mediating roles of human capital development and technological innovation. *Journal of Risk Analysis and Crisis Response, 15*(1), 21–34. https://doi.org/10.2991/jracr.k.250101.003

47. Mollah, M. A., Choi, J.-H., Hwang, S.-J., & Shin, J.-K. (2023). Exploring a pathway to sustainable organizational performance of South Korea in the digital age: The effect of digital leadership on IT capabilities and organizational learning. *Sustainability, 15*(10), 7875.

48. Nasrun, M. K., Susilo, H., & Afrianty, T. W. (2025). Accelerating digital transformation through digital leadership: Strategies for innovation, sustainability, and organisational performance enhancement. *BISMA (Bisnis dan Manajemen), 17*(2), 264–291.

49. Oberer, B., & Erkollar, A. (2018). Leadership 4.0: Digital leaders in the age of industry 4.0. *International Journal of Organizational Leadership, 7*(4), 404–412. https://ssrn.com/abstract=3337644

50. Ongena, G., Morsch, P., & Ravesteijn, P. (2024). Digital leadership competency to enhance digital transformation. *International Journal of Innovation and Technology Management, 21*(6), Article 2450042. https://doi.org/10.1142/S021987702450042X

51. Ongena, G., Morsch, P., & Ravesteyn, P. (2024). Digital leadership competency to enhance digital transformation. *International Journal of Innovation and Technology Management, 21*(6), 2450058. https://doi.org/10.1142/S021987702450058X

52. Orkamo, M., Ukko, J., Rantala, T., & Saunila, M. (2025). Leadership behaviours to promote organisational performance in private sector digital transformation: A systematic literature review. *Digital Business, 5*(2), 100155.

53. Pabst von Ohain, B. (2019). *Leader attributes for successful digital transformation* [Master's thesis, Reykjavík University].

54. Phakamach, P., Panjarattanakorn, D., & Onsampant, S. (2023). Conceptualization and development of digital leadership to drive corporate digital transformation for sustainable success. *International Journal of Educational Communications and Technology, 3*(2), 30–42. https://doi.org/10.54855/iject.23323

55. Purwanto, A., Purba, J. T., Sijabat, R., & Bernarto, I. (2021). The role of transformational leadership, organizational citizenship behaviour, innovative work behaviour, quality work life, digital transformation and leader-member exchange on universities performance. *Linguistica Antverpiensia*. https://ssrn.com/abstract=53987666

56. Qiao, G., Li, Y., & Hong, A. (2024). The strategic role of digital transformation: Leveraging digital leadership to enhance employee performance and organizational commitment in the digital era. *Systems, 12*(11), 457. https://doi.org/10.3390/systems12110457

57. Saddique, F., Ramzan, B., Sanyal, S., & Alamari, J. (2023). Role of digital leadership towards sustainable business performance: A parallel mediation model. *Journal of Infrastructure, Policy and Development, 7*(3), 2416. https://doi.org/10.24294/jipd.v7i3.2416

58. Santoso, H., Abdinagoro, S. B., & Arief, M. (2019). The role of digital literacy in supporting performance through innovative work behavior: The case of Indonesia's telecommunications industry. *International Journal of Technology, 10*(8), 1558–1566. https://doi.org/10.14716/ijtech.v10i8.3432

59. Senadjki, A., Au Yong, H. N., Ganapathy, T., & Ogbeibu, S. (2024). Unlocking the potential: The impact of digital leadership on firms' performance through digital transformation. *Journal of Business and Socio-Economic Development, 4*(2), 161–177. https://doi.org/10.1108/JBSED-09-2023-0075

60. Sow, M., & Aborbie, S. (2018). Impact of leadership on digital transformation. *Business and Economic Research, 8*(3), 139–148. https://doi.org/10.5296/ber.v8i3.13368

61. Stogdill, R. M. (1950). Leadership, membership and organization. *Psychological Bulletin, 47*(1), 1–14. https://doi.org/10.1037/h0053857

62. Stothers, L. (2007). *Cost-Effectiveness Analyses*. In: Penson, D.F., Wei, J.T. (eds). Clinical research methods for surgeons. Humana Press, 283–296.

63. Tengs, T. O. (2019). Enormous variation in the cost-effectiveness of prevention: Implications for public policy. *Public Health, 2,* 13—17.

64. Tulungen, E. E., Tewal, B., & Pandowo, M. (2022). The role of digital leadership is mediated by digital skill in improving organizational performance. *Journal of Accounting Research, Organization and Economics, 5*(2), 156–171. https://doi.org/10.24815/jaroe.v5i2.26111

65. Venkatesh, V., Thong, J. Y. L., & Xu, X. (2022). Consumer acceptance and use of information technology: Extending the unified theory of acceptance and use of technology. *MIS Quarterly, 46*(1), 1–38. https://doi.org/10.25300/MISQ/2022/16812

66. Vial, G. (2021). Understanding digital transformation: A review and a research agenda. In *Managing digital transformation* (pp. 13–66). Routledge. https://doi.org/10.4324/9781003008637-2

67. Williams, T., & Clark, H. (2021). Digital communication systems and organisational efficiency. *International Journal of Business Communication, 15*(3), 88–105.

68. Wuersch, L., Neher, A., Maley, J. F., & Peter, M. K. (2024). Using a digital internal communication strategy for digital capability development. *International Journal of Strategic Communication, 18*(3), 167–188. https://doi.org/10.1080/1553118X.2024.2330405

69. Zulu, S. L., & Khosrowshahi, F. (2021). A taxonomy of digital leadership in the construction industry. *Construction Management and Economics, 39*(7), 565–578. https://doi.org/10.1080/01446193.2021.1930080

Appendix

Questionnaire

Dear Respondent,

This questionnaire is designed to obtain information for academic purposes only. Please indicate your level of agreement.

SA = Strongly Agree A = Agree U = Undecided D = Disagree SD = Strongly Disagree

Digital Communication Competence

i. Managers effectively use digital communication platforms.

ii. Digital communication systems improve information sharing.

iii. Managers communicate effectively through virtual channels.

iv. Digital communication reduces operational delays.

v. Digital communication enhances teamwork.

Digital Innovation Competence

i. Managers encourage innovative digital solutions.

ii. Organisations adopts emerging digital technologies quickly.

iii. Managers support digital transformation initiatives.

iv. Digital innovation improves service delivery.

v. Managers utilize digital tools to improve operations.

Operational Efficiency

i. Digital systems improve operational speed.

ii. Digital leadership reduces process inefficiencies.

iii. Employees complete tasks efficiently.

iv. Digital transformation improves productivity.

v. Operational processes are effectively coordinated.

Cost-effectiveness

i. Digital technologies reduce operational costs.

ii. Digital communication minimizes unnecessary expenses.

iii. Digital innovation improves resource utilization.

iv. Organisation achieves cost savings through automation.

v. Digital leadership improves financial efficiency.