Journal of Management Science Research Review
https://jmsrr.com/index.php/Journal/about

Volume 5 Issue No 2 (2026)

Online ISSN: 3006-2047
Print ISSN: 3006-2039

The Impact of Digital Leadership and Knowledge Management on Organizational Performance: The Mediating Role of Innovation Capability and Moderating Role of Organizational Agility

Muhammad Idrees Rahoojo*
Principal SMK INSTITUTE OF NURSING SHIKAR PURMSPHD Szabist Karachi. idreesrahoojo@gmail.com

Neelam Jugwani
Visiting Faculty The Shaikh Ayaz University, Shikarpur. neelam.jugwani@gmail.com

Zulfiqar Ali Rajper
Associate Professor the Shaikh Ayaz University Shikarpur. zulfiqar.rajper@saus.edu.pk

Yusra Shehzadi
Assistant Professor Iqra University, Karachi. yshehzadi44@gmail.com

Abstract
The purpose is to explore the role of digital leadership and knowledge management in influencing the organizational performance with mediation of the innovation capability and moderation of the organizational agility.
Design, methodology, and approach: The data were gathered from 463 managerial and professional employees of the organizations of Pakistan by three wave time lagged survey design. The proposed hypotheses were tested using partial Least Squares Structural Equation Modeling (PLS-SEM).
Results: The findings revealed that digital leadership and knowledge management are significant in improving innovation capability and in turn the performance of the organization. Innovation capability plays a strong mediating role between both relationships, and organizational agility positively moderates the innovation capability – performance relationship. The study combines two theories—Resource Based View and Dynamic Capability Theory—to understand the contribution of the strategic resources and the organizational capabilities in achieving superior organizational performance in emerging economies.

Keywords: Digital Leadership; Knowledge Management; Innovation Capability; Organizational Agility; Organizational Performance.

Introduction

In the current digital and knowledge-based economy, companies not only need to access technology, but they must also be able to leverage their firms' intellectual knowledge

Volume 5 Issue No 2 (2026)
Online ISSN: 3006-2047
Print ISSN: 3006-2039

and innovative capacity to achieve better results. This is of special significance in developing countries like Pakistan where companies face the challenge of technological change, scarcity of resources, uncertainty of institutions and increased competition. The SMEs constitute a significant portion of the national economy, contributing over 5.2 million to the GDP, exports, and non-agricultural employment in Pakistan (State Bank of Pakistan, 2024; SMEDA, 2022). Despite this, there are numerous organizations in Pakistan that face the problem of knowledge utilization, development of innovations, knowledge strategic utilization, digital adoption and limited responsiveness in strategies that negatively affect the sustainable organizational performance.

This has led to the development of digital leadership as a very important ability within the organization. Digital leadership is a leadership with focus on strategic use of digital technologies, data-informed leadership decisions, digital culture and organizational transformation respectively, as compared to traditional leadership. Previous research indicates that digital leadership facilitates innovation performance through fostering an organization's ability to connect digital technologies to their processes and goals (Benitez et al., 2022; Borah et al., 2022). In the eyes of the resource-based view, digital leadership is an asset and an ability that is hard to imitate, as it enables organizations to align technological and human resources towards better performance (Barney, 1991). Digital leadership could be particularly impactful in enhancing innovation capability and organizational outcomes in Pakistan, where many organizations are still in the process of transitioning into digital business.

Another strategic lever for the performance of the organisation is Knowledge Management. It is about the organized assimilation, dissemination, assimilation and use of knowledge in an organization. Sources of knowledge form the core of the concept of competitive advantage as they are vital for learning, problem solving, innovations, and informed decision making (Nonaka & Takeuchi, 1995; Grant, 1996). Empirical studies reveal the positive effects of the knowledge management on innovation capability and firm performance by enabling organizations to transform their internal and external knowledge into valuable products, services, and processes (Donate & de Pablo, 2015; Ferraris et al., 2019). In the context of Pakistani organizations, effective knowledge management is especially significant, as companies tend to have deficiencies in managerial knowledge, technological competence and organized learning processes. Hence the knowledge management can help companies to overcome its internal capability constraints and enhance its innovation potential.

Digital leadership and knowledge management can have a significant impact on the organizational performance via innovation capability. Innovation capability is the ability of a firm in generating, adoption and implementation of new ideas, products, services, processes, and managerial practices. Previous studies have suggested that innovation capacity positively affects the competitiveness of the firms as they are able to respond to changes in the market, enhance their efficiency, and establish new value proposition for the market (Lawson & Samson, 2001; Saunila, 2020). Especially in emerging economies, innovation capability is vital as firms need to compete in a resource constrained environment with fluctuating market conditions. Digital experimentation and technological readiness facilitated by digital leadership can

Volume 5 Issue No 2 (2026)
Online ISSN: 3006-2047
Print ISSN: 3006-2039

stimulate innovation, and knowledge sharing and organizational learning facilitated by knowledge management can support innovation. Therefore, the relationships between digital leadership, knowledge management and organizational performance are hypothesized to be mediated by innovation capability.

But organization's innovation capability is not enough to enhance performance unless they can adapt to the environment changes quickly. In volatile markets, the capacity to identify opportunities and threats and react quickly by reconfiguring resources (agility) is a critical capability (Teece, 2007; Clauss et al., 2019). The results indicate that agility helps to better align organizational capabilities with performance as agile companies are more likely to undertake innovations, adapt strategies and seize market opportunities (Nguyen et al., 2025). Organizational agility can further augment the performance effects of innovation capability in Pakistan's volatile business landscape, where businesses are constrained by economic fluctuations, digital infrastructure deficiencies and shifting customer expectations. Hence, in this study, the organizational agility is suggested as a moderator between innovation capability and organizational performances.

The concept of digital leadership, knowledge management, innovation capability and organizational performance have been studied individually, but no study has combined all these in one framework particularly in the context of Pakistan. Furthermore, the current studies have neglected the role of the innovation capability as a mediator for digital leadership and knowledge management on organizational performance, and how organizational agility enhances this mediation. This study proposes and validates an integrated model, in which digital leadership and knowledge management affect the organizational performance via innovation capability and organizational agility, act as a moderating variable for the relationship between innovation capability and organizational performance.

This study theoretically adds to the literature by incorporating the resource-based view and the dynamic capability theory. The resource based view of the organization describes digital leadership and knowledge management as strategic resources and the dynamic capability theory of organisation defines how the innovation capability and the organizational agility can be considered as the sources of creating superior performance outcomes. In real-life terms, the study offers suggestions for Pakistani managers and policymakers aiming to enhance organizational competitiveness via digital leadership, knowledge-based practices, innovation development, and agile strategic responses.

Theoretical Underpinning

The two theories underlying this study are the Resource Based View (RBV) and Dynamic Capability Theory (DCT) that serve as a solid theoretical basis to explain how organizations can transform strategic resources into excellent organizational performance. RBV is a theory that aims to show the importance of valuable organizational resources in providing a competitive advantage, while DCT is a theory that attempts to describe how firms are constantly changing and reshaping their valuable organizational resources in order to gain advantage in dynamic and uncertain environments (Barney, 1991; Teece, 2007). Recent studies indicate that the application

Volume 5 Issue No 2 (2026)
Online ISSN: 3006-2047
Print ISSN: 3006-2039

of RBV and DCT is especially important for the study of organizational success in digitally transformed environments, in which the organization's competitiveness is dependent on a combination of leadership skills, knowledge resources, innovation and agility (Verhoef et al., 2021; Mikalef & Gupta, 2021; Kraus et al., 2022).

This is because organisations have resources that RBV says give them sustainable competitive advantage if they have resources that are valuable, rare, inimitable and non-substitutable (Barney, 1991). These resources used to be considered as physical assets like physical infrastructure and financial capital. Today, the organizations gain competitive advantage more from intangible resources such as leadership skills, organizational knowledge, technological skills and innovation culture (Barney et al., 2021; Wamba et al., 2024). In the digital economy, organisational learning, strategic adaptation and value creation depend on such intangible assets, which have become important influencers on organisational performance in today's rapidly changing business context (Verhoef et al., 2021).

In this context, digital leadership is understood as a strategic resource of the organization. Digital leadership is about leaders skillfully using digital technologies, encouraging digital transformation, supporting data-driven decision making and fostering a culture of innovation and lifelong learning. Recent research shows that digitally competent leaders can greatly improve their organization's adaptability, innovation output and business competitiveness when they ensure the appropriate alignment of technological investments with business goals (Benitez et al., 2022; Karippur & Balaramachandran, 2024). In addition, digital leadership can help address the technological disruptions and facilitate digital transformation efforts, especially in emerging economies, where it is common for organizations to lack the resources and capabilities needed to transform into digital organizations (Ciriello et al., 2025). In this regard, from the RBV perspective, digital leadership is an important managerial competence that helps directly to build organizational resources oriented to innovation.

Under the proposed framework, knowledge management is a second strategic resource. An extension of RBV, the knowledge-based view suggests that organizational knowledge is the most strategically relevant asset because it is the source of value creation, better decision making and competitive advantage (Grant, 1996; Nonaka & Takeuchi, 1995). The literature also suggests that organizations with good knowledge management systems would be more competent to support knowledge sharing, organizational learning, and collaborative innovation, which would lead to improved performance on both the operational and strategic levels (Ferraris et al., 2023; Singh et al., 2024). Effective knowledge management can play a crucial role in driving innovation and organizational resilience, especially in emerging markets like Pakistan, where businesses often face challenges related to knowledge gaps, limited technological expertise, and resource scarcity.

RBV captures the value of digital leadership and knowledge management for the organization, but does not fully elucidate how the resources become more effective outcomes. Dynamic Capability Theory is used to overcome this limitation. DCT asserts the necessity of constant internal and external resource acquisition, development, and restructuring for organizations to be able to adapt to their ever changing environment

Volume 5 Issue No 2 (2026)
Online ISSN: 3006-2047
Print ISSN: 3006-2039

and stay competitive (Teece et al., 1997; Teece, 2007). In today's context of technological disruption, markets volatility and digital transformation, studies have highlighted the growing importance of dynamic capabilities (Troise et al., 2023; Wamba et al., 2024).

One of the most critical dynamic capabilities in today's organizations is innovation capability. It shows how well a firm could develop, embrace and execute new ideas, products, services, technologies and business processes that bring value and enhance competitiveness. The literature indicates that innovation capability is an important means of transforming strategic resources into organizational outcomes (Lawson & Samson, 2001). There are more recent studies that also indicate that companies with high levels of innovation skills enjoy better financial performance, operational efficiency, and sustainable growth, as they can take advantage of fresh opportunities and adapt to evolving market needs (AlNuaimi et al., 2023; Saunila, 2024). As such, innovation capability is set as the intermediary between digital leadership and knowledge management resources and improved organizational performance.

In the present study, organizational agility is also included as a moderating capability. Organizational agility is the capacity of the companies to quickly detect changes to the environment, make the appropriate decisions quickly and rearrange resources to adjust to changing market conditions. Dynamic Capability Theory proposes that agility allows an organization to successfully implement the innovation results and adjust the strategic maneuvers to the evolving environments (Teece, 2007). Empirically, the findings from the last decade show that organizational agility also enhances the effectiveness of innovation efforts by enabling quicker innovation implementation, better responsiveness and strategic flexibility (Clauss et al. 2024; Troise et al. 2023). Thus, firms with more agility are more likely to translate innovation capability into concrete performance than organizations with less agility and more rigid structures and slower decision-making.

RBV and DCT are then integrated; therefore, the proposed research model is explained. RBV discusses the value of knowledge management and digital leadership as strategic resources, while DCT provides an explanation of how innovation capability and agility within an organization can help turn these resources into a better organizational performance. This holistic theoretical approach is especially significant in the context of Pakistan, where organizations are being put under pressure to become more digitalized, technologically disruptive and competitive. In these circumstances, simply having resources isn't enough; companies also need to build their capabilities to innovate, adapt and respond effectively to environmental change. Hence, the following is proposed: Digital leadership and knowledge management positively impact the organizations' performance by increasing the organization's innovation capability, and in turn, the organizational agility has been found to be a strong influence on the effectiveness of the innovation capability in achieving better organizational outcomes.

Hypotheses Development

Digital Leadership and Innovation Capability

As the world of business changes to a digital environment, digital leadership has emerged as an essential organizational competency that demands a high level of

Volume 5 Issue No 2 (2026)
Online ISSN: 3006-2047
Print ISSN: 3006-2039

alignment between technology resources, vision, and innovation-focused organizational practices from leaders. Digital leadership allows companies to perceive technological opportunities, drive digital resources, foster experimentation and establish an organizational culture that helps develop new concepts and change enabled by technology. In the resource-based perspective, digital leadership is considered an invisible managerial resource that can be used by the organizations to introduce digital technologies and human resources into innovation-driven strategies (Barney, 1991; Barney et al., 2021). Empirical research in recent years has corroborated that having a digital leadership capability is effective in improving innovation performance by helping firms digitize platforms, redesign processes and improve technology-enabled innovation activities (Benitez et al., 2022). Likewise, research on digital transformation shows that leadership initiatives to develop digital capability have a positive impact on innovation within the organization by enhancing digital readiness, cross-functional collaboration and strategic alignment (Verhoef et al., 2021; Kraus et al., 2022). Digital leadership plays a crucial role in fostering digital innovation capability, especially in emerging economies like Pakistan, where many organizations struggle with digital skill gaps, resource constraints, and technological transitions. Thus, digitally oriented leaders are expected to improve an organization's capacity for novel idea generation and implementation of processes and services.

H1: The capability of innovation is positively influenced by the digital leadership.

Knowledge management and innovation capability.

Knowledge management is a strategic capability of an enterprise for knowledge acquisition, sharing, integration and application that is widely recognized as a major contributor to innovation. According to the knowledge-based view, knowledge is one of the most important organizational resources because it helps firms learn and solve problems, and builds new capabilities (Grant, 1996; Nonaka & Takeuchi, 1995). Recent research further supports this: knowledge management processes have been shown to significantly affect the capability of organizations to innovate, through their role in knowledge creation, knowledge sharing and knowledge application (Migdadi, 2022; Cristache et al., 2025). If organizations can effectively manage their knowledge, their employees are able to combine existing knowledge with new information, thereby enhancing their creativity, product development, process improvement and service innovation. Another asset of KM is that it also minimizes duplication of effort and aids in quicker decision making, which are critical functions for innovation in uncertain and limited resource settings (Ferraris et al, 2019; Migdadi 2022). Knowledge Management is particularly significant in the organizational context of Pakistan where many companies lack proper formalized learning system and disorganized knowledge sharing mechanisms. Knowledge acquisition, sharing and application of knowledge is more likely to be institutionalized in organizations that will have increased innovation capacity.

H2: The positive influence of knowledge management on the capability of innovation is known.

Innovation Capability and Organizational Performance

Volume 5 Issue No 2 (2026)
Online ISSN: 3006-2047
Print ISSN: 3006-2039

Innovation capability is one of the three key dynamics of capability, which involves the ability of organisations to convert resources into new product, services, processes and managerial practices. Dynamic capabilities theory states that firms can perform better than their rivals, not only because they have the resources to do so, but because they can reconfigure and use those resources to suit different market conditions (Teece, 2007). The innovation capability enhances the organizational performance by providing operational efficiency, market responsiveness, product differentiation and customer value creation. Innovation capability is an important factor in the competitiveness and performance of a firm as organizations with the ability to innovate are more likely to be able to deal with the technological disruption and changing customer needs (Lawson & Samson, 2001; Ferreira et al., 2020). In recent years, there has been further evidence that innovation capability positively affects the performance of organizations and companies, especially in competitive markets and markets that undergo digital transformation (Ilmudeen, 2022; Cristache et al., 2025). In Pakistan, where organizations are under cost pressures, competition and technological changes, the capability of innovation gives the companies the opportunity to increase their productivity, launch new and better services, and improve market performance. Hence, it can be inferred that organizations with higher innovation capability should have higher level of organizational performance.

H3: Innovation capability has a positive impact on organizational performance.

Digital Leadership and Digital Innovation Capability

Digital leadership does not necessarily equate with organizational performance without being transformed into leadership skills for innovation. The leadership role of digital leaders can be defined as strategic direction, technological vision and support to digital transformation; but the benefits of digital leadership in terms of performance is more likely to be felt when it is used to create innovative products, services, processes and business models. This logic is further reinforced by the theory of dynamic capability which posits that organizational capabilities are important in determining the influence of strategic resources because they facilitate transformation and renewal of resources (Teece, 2007; Teece et al., 1997). Recent studies suggest that digital leadership enhances the performance of innovation by facilitating platform digitization and technology-enabled innovation activities (Benitez et al. 2022). Likewise, digital transformation literature suggests that digital capability development positively affects the performance through leadership in the areas of innovation, agility, and organizational adaptation (Verhoef et al., 2021; Kraus et al., 2022). Hence, digital leadership has been theorized to enhance organizational performance in the field of innovation capability. In Pakistani organizations, digital leadership has the potential to offer the direction and context for digital transformation, while innovation capability plays a pivotal role in translating this direction into tangible performance results. Therefore, digital leadership is hypothesized to influence innovation capability, which in turn is expected to have an impact on organizational performance.

H4: Digital leadership has an indirect effect on organizational performance through innovation capability.

Volume 5 Issue No 2 (2026)
Online ISSN: 3006-2047
Print ISSN: 3006-2039

Mediating Role of Innovation Capability between Knowledge Management and Organizational Performance

KK is beneficial in improving the performance of the organization if knowledge resources are used effectively and are converted into innovative results. While knowledge acquisition, sharing and application are useful organization processes, the effect on performance is likely to be greater when they contribute to stimulation of the innovativeness capability of the organization. The knowledge-based view argues that value is created if knowledge is used to solve problems, to learn and to develop capabilities within an organization (Grant, 1996). Empirically, there are recent studies supporting this argument, which indicated that innovation acts as a mediator between knowledge management processes and organizational performance (Migdadi, 2022; Cristache et al., 2025). Knowledge management can gather and share valuable information but innovation capability can turn that information into better products, services, processes, and strategy responses. This mediating mechanism is particularly important in emerging economies where the lack of resources and institutional problems demands that organizations use knowledge-based learning and innovation. Organizations that manage knowledge effectively are more likely to build and enhance their innovation capability, leading to better organizational performance at several levels including efficiency, adaptability and competitiveness in Pakistan. Hence, the innovation capability is suggested to be a mediator between knowledge management and organizational performance.

H5: Knowledge management influences organizational performance via innovation capability.

Organization's agility as moderator

Organizational agility is the capacity to detect changes in their environment, react quickly to opportunities and threats in the market and reconfigure resources in a timely manner. Dynamic capability theory posits that a company's agility helps it to refresh its capabilities and modify its strategies in response to uncertainty and change (Teece, 2007). While the innovation capability has the potential to enhance performance of the organization, the strength of this relationship might be determined by the agility of the organization in terms of the speed with which innovations are implemented and the ability to link them with the changing market needs. In emerging economies, recent studies indicate that agility is especially crucial because the ability to quickly adapt to market changes, such as those driven by competition, technology advancements, and customer expectations, is essential for companies to thrive in this dynamic landscape (Adomako et al., 2022; Ilmudeen, 2022). Organizational agility enhances the innovation capability effectiveness in terms of quicker implementation, responsiveness and resource reconfiguration. The absence of agility can cause innovative ideas to not be properly used, or ineffective performance results. Agile organizations are more likely to turn their innovation capacity into better organizational performance as they can quickly adapt and react to the changes in technology, economy and competition in Pakistan's dynamic business environment. Thus, the positive relationship between organizational innovation capability and organizational performance is expected to increase as a result of organizational agility.

Volume 5 Issue No 2 (2026)
Online ISSN: 3006-2047
Print ISSN: 3006-2039

H6: The relationship between Innovation capability and Organizational performance is moderated positively by Organizational agility and the positive effect of innovation capability on organizational performance is greater when organizational agility is high.

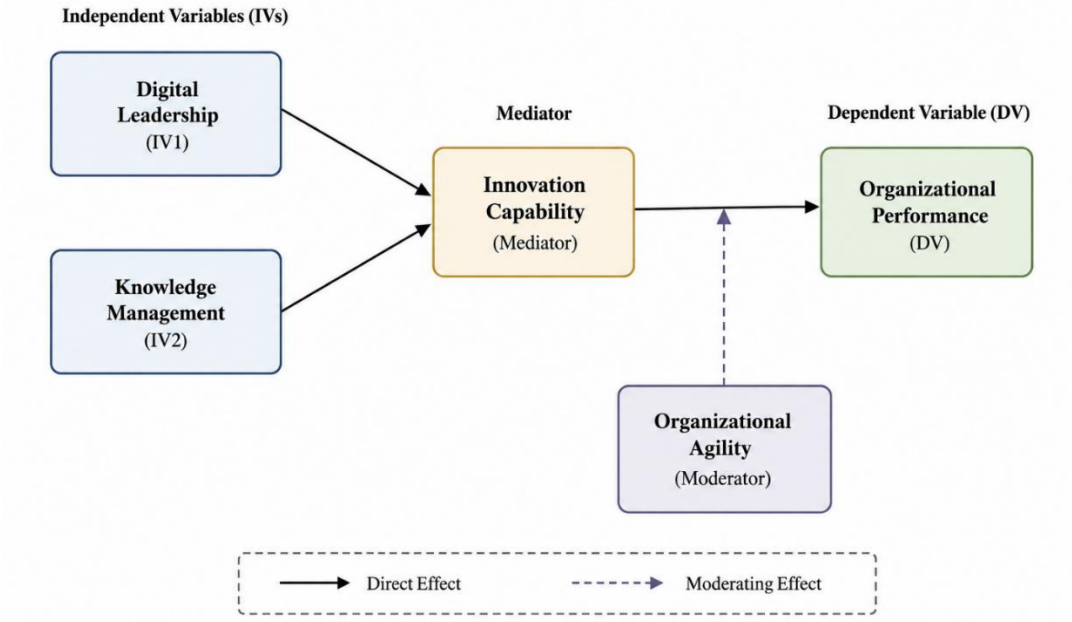

Figure 01: Framework

Methodology

Research Design

For this study, a quantitative, explanatory and time-lagged research design was used to find the relationship between digital leadership, KM, innovation capability, organizational agility and organizational performance in Pakistani organizations. To minimise the common method variance and create temporal separation between the predictor, mediator, moderator and outcome variables, a three-wave survey procedure was used, which also enhanced the internal validity of the study (Podsakoff et al., 2012; Rönkkö & Cho, 2022).

The study was carried out in medium size and large organizations working in the manufacturing, banking, telecom, information technology, pharmaceutical, consumer goods and service sector in Pakistan. The industries were chosen since they are engaged in digital transformation projects and/or innovation business activities.

Population, sample, and sampling technique

The population included managerial and professional employees from organizations with formalized knowledge management and digital technologies. The respondents were selected from the department heads, project managers, innovation managers, digital transformation managers, IT managers, functional managers and senior

Volume 5 Issue No 2 (2026)
Online ISSN: 3006-2047
Print ISSN: 3006-2039

executives who have enough knowledge about organizational capabilities, practices of leadership, innovation activities, and organizational performance.

The respondents with direct exposure to organizational digitalization, knowledge management systems, and innovation-related activities were identified through purposive sampling (Hair et al., 2022). To ensure that the participating organisations had been engaged in digital transformation projects in the last three years, the organisations were screened before the field work was conducted.

The minimum sample size size was calculated with the GPower 3.1. With a medium effect size ($f^2 = 0.15$), a significance level of 0.05, and up to three endogenous predictors per endogenous construct, the sample size required was 119 observations (Faul et al., 2009). The PLS-SEM guidelines from the last few years, however, recommend the use of significantly larger samples if mediation and/or moderation effects are analyzed as well as when predictive assessment is planned (Hair et al., 2024). Thus the study aimed at obtaining responses from more than 400 respondents.

A total of 850 questionnaires were originally sent out at Time 1. Of these questionnaires, 712 usable ones were returned (83.8% response rate). To assess any changes in attitudes and/or behaviors over time, questionnaires were sent at Time 2 to only those who had completed the Time 1 questionnaire, resulting in 603 matched responses. A total of 487 matched responses were obtained at Time 3. A total of 463 cases of valid matched questionnaires were obtained for final analysis after excluding questionnaires that were incomplete or had too many missing variables. This is a relatively large sample size compared to the statistical minimum requirements for the PLS-SEM and sufficient to test the mediation and moderation effects.

Data Collection Procedure

A 12-week time-lagged three-wave survey design was used.

Time 1 (T1) Time 1 was when respondents gave data about digital leadership, digital knowledge management, and demographic data such as age, gender, highest education, organizational tenure, managerial level and industry sector. Time 2 (T2) The same respondents were called back four weeks later and asked to assess the innovation capability and organizational agility in their organizations. Time 3 (T3). To evaluate organisational performance, respondents rated it 4 weeks after Time 2. Respondents created anonymous identification codes to match responses between the three waves of the study. The survey was conducted voluntarily and participants were assured of the confidentiality of all information and that it would only be used for academic research. Common method bias is minimized by adopting the three-wave design recommended in current organization studies to reduce common method bias by separating variables in time (Podsakoff et al., 2012; Rönkkö & Cho, 2022).

Measurement Instrument

Constructs were all assessed by previously validated multi-item scales from well-cited studies. All items were measured on a 7-point Likert scale from 1 (strongly disagree) to 7 (strongly agree).

Digital Leadership: The six items adopted from Benitez et al. (2022) were used to measure digital leadership. The scale measures the ability to encourage digital

Volume 5 Issue No 2 (2026)
Online ISSN: 3006-2047
Print ISSN: 3006-2039

transformation, technology adoption, digital innovation and data-driven decision making.

Knowledge Management: The knowledge management measured using eight items adapted from Gold et al. (2001) and then validated by Migdadi (2022). The scale measures knowledge acquisition, knowledge sharing, knowledge storage and knowledge application practices.

Innovation Capability: The seven items drawn from this source (Lawson & Samson, 2001) and further validated by Saunila (2020) was used to measure the innovation capability. The instrument evaluates the organisation's ability to develop, implement and market innovative ideas and solutions.

Organizational Agility: Organizational agility was assessed on the six items from Clauss et al. (2019). The scale reflects the extent of an organization's responsiveness, flexibility, adaptability and speed of reaction to changes in the environment.

Organizational Performance: Seven items were used to assess organizational performance based upon the instrument developed by Delaney and Huselid (1996) and recently validated in organizational performance studies. Respondents judged their organization's performance against their competitors on productivity, profitability, growth, operational effectiveness and in the marketplace.

The questionnaire was pretested by three academic experts with a specialization in organizational behavior and strategic management and by two senior practitioners from the industry. A few minor wording changes have been made to aid clarity and context for Pakistani organizations.

The proposed research model was analyzed by Partial Least Squares Structural Equation Modeling (PLS-SEM) software SmartPLS 4.0 for data analysis. PLS-SEM is regarded as an appropriate analysis method because it is able to work with complex research models that involve mediation and moderation effects, has a strong predictive power, and is robust to address non-normal data distribution (Hair et al., 2024). The analysis will be carried out in two stages following the steps proposed by Hair et al. (2024) – measurement model and analysis of the structural model.

The first step is to assess the measurement model to ensure reliability and validity of the constructs in the first phase. The reliability of each indicator will be reviewed using outer loadings, 0.708 or above is acceptable. Cronbach's alpha, Composite Reliability (CR) and rho_A will be checked for internal consistency reliability. Convergent validity will be evaluated using the Average Variance Extracted (AVE), which if it is ≥ 0.50, it is considered to have good convergent validity. In addition, the Heterotrait-Monotrait (HTMT) ratio criterion and HTMT inference procedures will be used to verify the discriminant validity.

In the second stage, the structural model was evaluated by analyzing the collinearity problem using the Variance Inflation Factor (VIF) values and then the path coefficients will be checked to test the hypotheses. The explanatory power of the model will be measured by coefficient of determination (R^2) and the contribution of individual exogenous constructs will be measured by the effect size (f^2). The blindfolding-based Q^2 statistic was used to assess predictive relevance. In addition, the out-of-sample predictive ability of the model will be evaluated using PLSpredict while overall

Volume 5 Issue No 2 (2026)
Online ISSN: 3006-2047
Print ISSN: 3006-2039

predictive ability will be evaluated using Cross-Validated Predictive Ability Test (CVPAT). Lastly, the importance of the direct, mediating and moderating relationships were assessed with bias corrected bootstrapping with 10,000 resamples and 95% confidence intervals for hypothesis testing. (Hair et al., 2024).

Common Method Bias Assessment

Common method bias was mitigated with several procedural and statistical remedies. Handling the temporal separation in a procedural way was achieved by using a three-wave survey design, anonymity was ensured, and psychological separation of constructs was maintained. Variance inflation factors were used to test full collinearity and values under the threshold of 3.3 were used to conclude that there was no substantial common method bias (Kock, 2020).

Ethical Considerations

The study was conducted in accordance with the accepted ethical procedures in social science studies. The research was voluntary, informed, and confidentiality and anonymity were ensured during the data collection and analysis process.

Findings and Analysis

Measurement Model

To test the reliability, convergent validity and collinearity of the study constructs, the measurement model was evaluated. The results show that the loading of all indicators exceeded the recommended value of 0.708 with a min. value of 0.792 and a max. value of 0.872 indicating good indicator reliability. In particular, the loading values for Digital Leadership (DL) ranged from 0.803 to 0.872, for Innovation Capability (IC) values ranged from 0.792 to 0.862, for Knowledge Management (KM) values ranged from 0.799 to 0.846, for Organizational Agility (OA) values ranged from 0.792 to 0.856, and for Organizational Performance (OP) values ranged from 0.808 to 0.863. Internal consistency reliabilities of constructs were supported by Cronbach's Alpha and Composite Reliability (CR) values. Cronbach's Alpha values ranged from 0.908 to 0.932 and CR values ranged from 0.929 to 0.944, which is greater than the recommended value of 0.70. These results show that the items that measured the same construct were internally consistent. In addition, the Average Variance Extracted (AVE) values ranged from 0.677 to 0.704, which is higher than the minimum cut-off value of 0.50, thereby demonstrating convergent validity. This means that they explained over 50% of the variance in their indicators.

The results of collinearity test showed that all the VIF values were below the recommended limit of 3.30 and between 1.063 and 1.137. Thus, it was found that no multicollinearity was a problem in the model. In general, the measurement model has good reliability, convergent validity, and collinearity diagnostics, so that it can be used for further structural model analysis. (Hair et al., 2024).

Table 01
Reliability and validity

Volume 5 Issue No 2 (2026)
Online ISSN: 3006-2047
Print ISSN: 3006-2039

Construct	Item	Outer Loading	Alpha	CR	AVE	Structural VIF
DL	DL1	0.832	0.916	0.935	0.704	DL → IC = 1.137
	DL2	0.866				
	DL3	0.803				
	DL4	0.872				
	DL5	0.817				
	DL6	0.844				
IC	IC1	0.846	0.929	0.942	0.700	IC → OP = 1.063
	IC2	0.818				
	IC3	0.860				
	IC4	0.841				
	IC5	0.862				
	IC6	0.792				
	IC7	0.837				
KM	KM1	0.799	0.932	0.944	0.677	KM → IC = 1.137
	KM2	0.807				
	KM3	0.839				
	KM4	0.809				
	KM5	0.838				
	KM6	0.824				
	KM7	0.821				
	KM8	0.846				
OA	OA1	0.792	0.908	0.929	0.685	OA → OP = 1.064
	OA2	0.831				
	OA3	0.826				
	OA4	0.856				
	OA5	0.820				
	OA6	0.839				
OP	OP1	0.822	0.929	0.943	0.702	—
	OP2	0.862				
	OP3	0.819				
	OP4	0.859				
	OP5	0.863				
	OP6	0.808				
	OP7	0.830				

Volume 5 Issue No 2 (2026)
Online ISSN: 3006-2047
Print ISSN: 3006-2039

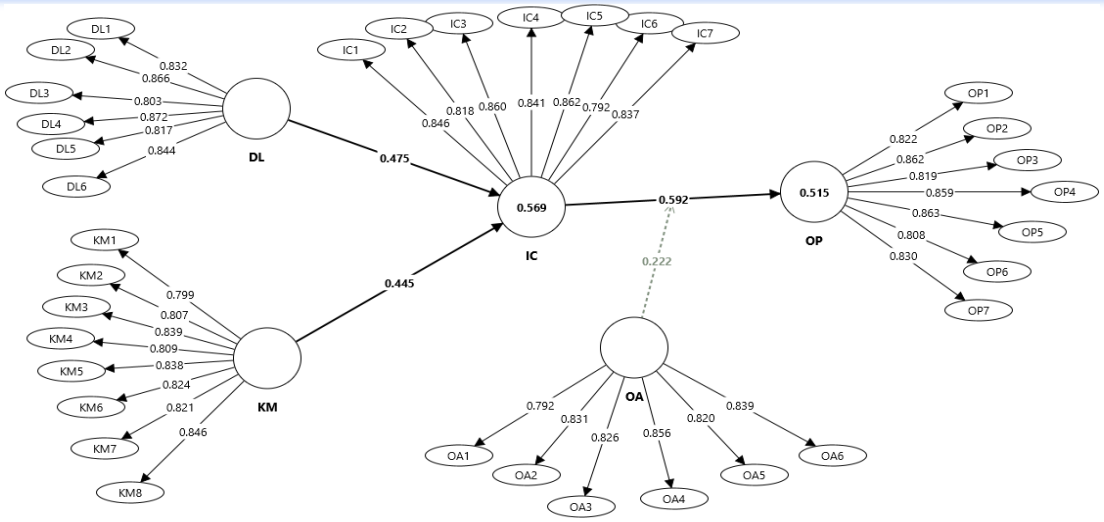

Figure 02: Measurement Model

Discriminant Validity

The results of the correlation matrix showed that there were positive correlations among each of the constructs, which gave preliminary support for the proposed theoretical framework. Organizational Performance (OP) shows the highest correlation with Innovation Capability (IC) (r = 0.709), indicating that the better the innovation capability, the better the performance of the organization. Digital Leadership (DL) is moderately associated with Innovation Capability (r = 0.679), suggesting that successful use of Digital Leadership can contribute to innovation in the organization. Knowledge Management (KM) also shows a significant positive correlation (r = 0.653) with Innovation Capability (IC), indicating the significance of knowledge-sharing practices in improving innovative outcomes.

In addition, Organizational Performance is positively correlated with Knowledge Management (r = 0.489), Digital Leadership (r = 0.451) and Organizational Agility (OA) (r = 0.353). The interaction effect (OA × IC) has relatively low to moderate correlations with the other constructs, with the most significant correlation being with Organizational Performance (r = 0.337). Importantly, all the correlation coefficients are below the boundary of 0.85, suggesting that there should be no concern of multicollinearity and no concern of discriminant validity issues in the model. (Hair et al., 2024).

Table 02

HTMT Criteria

Construct	DL	IC	KM	OA	OP
DL	—				
IC	0.679	—			
KM	0.375	0.653	—		
OA	0.199	0.233	0.224	—	
OP	0.451	0.709	0.489	0.353	—

Volume 5 Issue No 2 (2026)
Online ISSN: 3006-2047
Print ISSN: 3006-2039

Construct	DL	IC	KM	OA	OP

Variance and effect size

Both the coefficient of determination (R^2) and the effect size (f^2) were used to test the ability of the model to explain the results and the contribution of each predictor. The results show that Innovation Capability (IC) had an R^2 value of 0.569 and an adjusted R^2 value of 0.567, which means that Digital Leadership (DL) and Knowledge Management (KM) together explain 56.9% of the variance of Innovation Capability. This is a sufficient degree of explanatory power as per Hair et al. (2024) indicating that the chosen antecedents are very relevant determinants of innovation capability in organizations.

Likewise, Organizational Performance (OP) had an R^2 value of 0.515 and an adjusted R^2 value of 0.512, meaning that Innovation Capability (IC) along with Organizational Agility (OA) and the interaction effect of Organizational Agility and Innovation Capability together account for 51.5% of the variance in organizational performance. This finding is indicative of a high predictive power of the proposed model, which indicates that the variables included in the model explain a large amount of organizational performance.

The effect size (f^2) analysis also shows the relative significance of the predictors. The findings reveal that both Digital Leadership ($f^2 = 0.460$) and Knowledge Management ($f^2 = 0.404$) have a significant influence on Innovation Capability, suggesting that they are crucial factors for organizational innovation. Similarly, Innovation Capability has the highest f^2 value (0.680) indicating a large effect size with regards to Organizational Performance. Conversely, Organizational Agility has a small effect on Organizational Performance ($f^2 = 0.054$) and the interaction effect of Organizational Agility and IC on Organizational Performance is also a small effect size ($f^2 = 0.091$). These effects, though not as strong, still help to improve the explanatory power of the model.

Overall, the R^2 and f^2 results give great support to the strength of the model's predictive power and validate the Innovation Capability as the most powerful mechanism between the resources/capabilities of organizations and better organizational performance. The results validate the theoretical background of the proposed framework and evidence the real importance of building digital leadership, digital knowledge management and digital innovation capability to ensure better organizational results. (Hair et al., 2024).

Table 03

R Square and f Square

Endogenous Construct	R^2	Adjusted R^2	Predictor Path	f^2	Effect Size Interpretation
Innovation Capability (IC)	0.569	0.567	DL → IC	0.460	Large
			KM → IC	0.404	Large
Organizational Performance (OP)	0.515	0.512	IC → OP	0.680	Large
			OA → OP	0.054	Small

Volume 5 Issue No 2 (2026)
Online ISSN: 3006-2047
Print ISSN: 3006-2039

Structural Model

All the proposed hypotheses are supported strongly by the results of the structural model. Digital Leadership (DL) positively influences Innovation Capability (IC) ($\beta = 0.475$, $t = 16.349$, $p < 0.001$) and organizations with greater digital leadership practices are more likely to improve their innovation capabilities. Also, Knowledge Management (KM) has a positive effect on Innovation Capability ($\beta = 0.445$, $t = 14.560$, $p < 0.001$), indicating that knowledge management is essential for the acquisition, sharing and use of knowledge and fostering innovation.

The greatest direct relationship in the model is between Innovation Capability and Organizational Performance (OP) ($\beta = 0.592$, $t = 20.176$, $p < 0.001$). This discovery indicates that the companies that can come up with new ideas and put them into practice are more successful in their performance. The moderation analysis also shows that Organizational Agility (OA) significantly enhances the relationship between Innovation Capability and Organizational Performance ($\beta = 0.222$, $t = 6.982$, $p < 0.001$), which means that the more agile an organization is, the more likely it is to link innovation to the actual generation of performance.

As can be seen from the mediation results, the indirect effect of Digital Leadership on Organizational Performance through Innovation Capability was significant with the value of $\beta = 0.281$, $t = 13.001$, $p < 0.001$ while the indirect effect of Knowledge Management on Organizational Performance through Innovation Capability was also significant with the value of $\beta = 0.263$, $t = 11.385$, $p < 0.001$. Overall, the results indicate that Innovation Capability is a key mechanism that links organizational resources and capabilities to improved performance outcomes.

Table 04

Path coefficient

Hypothesis	Relationship	Beta (β)	STDEV	t-value	p-value	Decision
H1	DL → IC	0.475	0.029	16.349	0.000	Supported
H2	IC → OP	0.592	0.029	20.176	0.000	Supported
H3	KM → IC	0.445	0.031	14.560	0.000	Supported
H4	OA × IC → OP	0.222	0.032	6.982	0.000	Supported
H5	DL → IC → OP	0.281	0.022	13.001	0.000	Supported
H6	KM → IC → OP	0.263	0.023	11.385	0.000	Supported

Volume 5 Issue No 2 (2026)
Online ISSN: 3006-2047
Print ISSN: 3006-2039

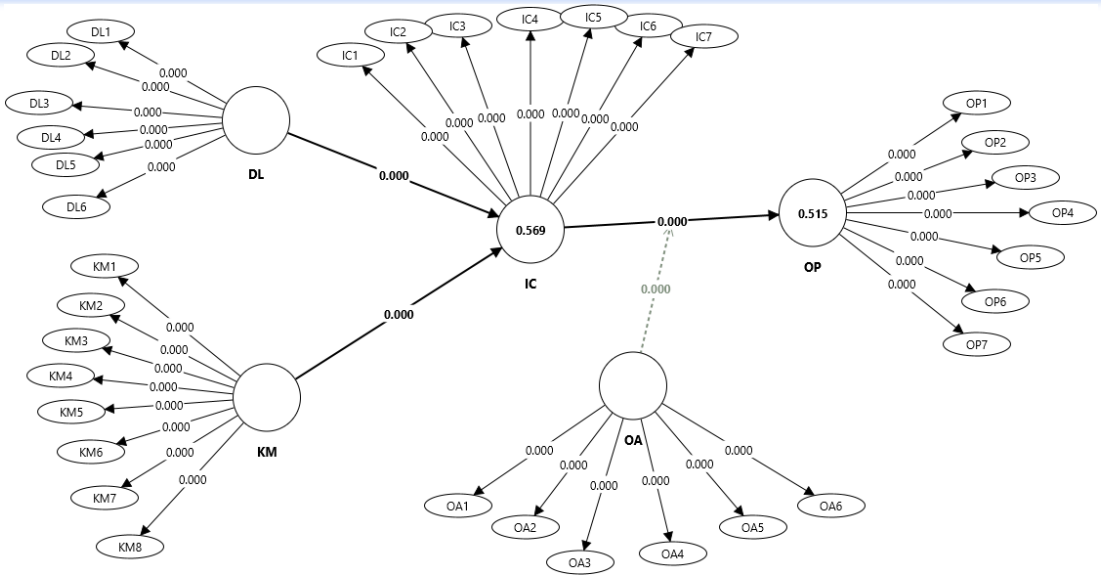

Figure 03 Structural Model

Predictive Relevance (Q^2)

Stone–Geisser Q^2 statistic was calculated for the blindfolding procedure and used to assess the model's relevance in predicting. The results indicate that Innovation Capability (IC) had a Q^2 value of 0.394 and Organizational Performance (OP) had a Q^2 value of 0.357. Both of the values are positive, which indicates good predictive relevance for these endogenous constructs in the model. Hair et al. (2024) suggest that a Q^2 greater than zero means the model has the ability to predict the data, while a higher Q^2 suggests that the model is more accurate at predicting the data. Thus, the results justify that the proposed model has high predictive value and can predict Innovation Capability and Organizational Performance with high accuracy.

Table 05

Blindfolding

Construct	SSO	SSE	$Q^2 = (1 - SSE/SSO)$
IC	3241.000	1965.063	0.394
OP	3241.000	2083.510	0.357

CVPAT Analysis

The Cross-Validated Predictive Ability Test (CVPAT) was used to assess the predictive performance of the PLS-SEM model in comparison with the Indicator Average (IA) model. The results indicate that the loss value of both Innovation Capability (IC) and Organizational Performance (OP) is smaller than the loss value of IA, so the average loss value of Innovation Capability (IC) and Organizational Performance (OP) is negative (-0.540, -0.360). Moreover, the t-values are significant ($p<0.001$) which quite clearly shows that the PLS model predicts the endogenous constructs significantly better than the benchmark model. The overall CVPAT results (average loss difference

Volume 5 Issue No 2 (2026)
Online ISSN: 3006-2047
Print ISSN: 3006-2039

= -0.450, t = 10.403, p < 0.001) are consistent with the model's superior predictive performance, and its strong out-of-sample predictive capability.

Table 06
CVPAT results

Construct	PLS Loss	IA Loss	Average Loss Difference	t-value	p-value
IC	0.829	1.368	-0.540	10.544	0.000
OP	1.084	1.444	-0.360	7.308	0.000
Overall	**0.956**	**1.406**	**-0.450**	**10.403**	**0.000**

Discussion

The results of this study support the research framework proposed in the study and show that digital leadership, knowledge management, innovation capability and organizational agility are essential to improve the performance of organizations. The findings show that digital leadership has a significant impact on innovation capability, suggesting that effective use of digital technologies and development of a digital culture by leaders has an impact on stimulating innovation. The results align with earlier research which interpreted digital leadership as one of the most important enablers of organizational change and innovation. Likewise, knowledge management was concluded as a significant positive influence on innovation capability and organizations that are able to acquire, share and apply knowledge are more likely to develop innovative solutions and achieve organizational goals.

The results showed that innovation capability was the most significant factor in determining organizational performance, indicating its significance as a dynamic capability that can be used to transform organizational resources into competitive advantage. In addition, the effects of digital leadership and knowledge management on organizational performance were significantly mediated by innovation capability, highlighting the fact that innovation processes mediate the value creation of digital leadership and knowledge management as strategic resources. The moderation results also show that organizational agility boosts the positive relationships between innovation capability and organizational performance. This indicates that companies that are able to react swiftly to environmental shifts have a greater potential to convert innovation into improved performance. The overall findings reflect that sustainable success in organizations is dependent on the integration of digital leadership, effective knowledge management, innovation ability and organizational agility.

Theoretical Implications

The present study makes a contribution to the literature by combining the Resource Based View (RBV) and the Dynamic Capability Theory (DCT) as a model for organizational performance. The findings complement RBV by showing that DL and KM are two strategic organizational resources that indirectly affect performance via innovation capability. Additionally, the study contributes to the field of DCT, as it identifies innovation capability as a transformation mechanism and organizational agility as a boundary condition that further boosts the relationship between innovation

Volume 5 Issue No 2 (2026)
Online ISSN: 3006-2047
Print ISSN: 3006-2039

capability and performance. In addition, this research is empirical evidence from a less-studied emerging economy of Pakistan in the literature on digital transformation, which enhances the generalizability and contextual relevance of both theoretical frameworks.

Practical Implications

The results indicate that investments in digital leadership development, knowledge management systems and infrastructure that support innovation are priorities for organizations. Companies should push technological adoption, data-driven decision making and digital transformation initiatives with their leaders. It is also important to set up appropriate knowledge acquisition, sharing and application mechanisms to further reinforce the capability of innovation. Another way to foster innovation is to fund innovation programs at the organizational level that promote creativity and continual improvement. Organizational agility boosts innovation capability, so firms need to be flexible with their organization and responsive to market changes. These activities can have a huge impact on the competitiveness and long-term success of an organization.

Managerial Implications

Managers need to understand that today, digital leadership, knowledge management and innovative capability are becoming the key drivers of organizational performance. Senior leaders must foster settings that promote innovation, development and innovation of technology. HRM should offer training programs on building digital competencies and skills that are related to innovation amongst staff members. Managers also need to create knowledge-sharing platforms that enable collaboration between departments. In addition, businesses should foster agility through efficient decision-making mechanisms and adapting to environmental shifts. Managers can enhance the performance of their organization, its agility and strategic flexibility, and operational effectiveness by building their digital leadership, concurrent with building their knowledge resources, and their innovation capability.

Restrictions & recommendations

There are several limitations in this study that are opportunities for future studies. The study was conducted in a limited area of Pakistan and hence, the results of the study may not apply to other countries and institutional settings. Second, this study used a three-wave study design but was based on self-report survey data that could lead to response bias. Third, only the innovation capability was studied as a mediator and the organizational agility was studied as a moderator. Further research on other mediations that include organisational learning, digital capability and employee creativity should be conducted. The study can also explore other moderators such as organizational culture, technological turbulence and environmental uncertainty with longitudinal and cross-country comparative designs.

Conclusion

The study aimed at analyzing the impact of DL and KM on organizational performance in terms of its innovation capability and organizational agility. The results show that digital leadership and knowledge management have a significant positive impact on the innovation capability, and consequently on the performance of the organization. Strategic resources are made effective with the help of Innovation capability, and the

Volume 5 Issue No 2 (2026)
Online ISSN: 3006-2047
Print ISSN: 3006-2039

agility of the organization enhances the effectiveness of the transformation process. The study combines both RBV and DCT, offering a holistic perspective on value creation in digital environments for organizations. The overall results highlight the need for leadership, knowledge, innovation and agility for sustainable organizational success and competitive advantage.

References

Adomako, S., Amankwah-Amoah, J., Tarba, S. Y., Khan, Z., & Wood, G. (2022). Institutional voids, international learning effort and entrepreneurial orientation in emerging markets. *International Business Review, 31*(5), 102032.

AlNuaimi, B. K., Singh, S. K., Ren, S., Budhwar, P., & Vorobyev, D. (2023). Mastering digital transformation: The nexus between digital leadership, innovation capability, and organizational performance. *Technological Forecasting and Social Change, 188*, 122296. https://doi.org/10.1016/j.techfore.2022.122296

Armstrong, J. S., & Overton, T. S. (1977). Estimating nonresponse bias in mail surveys. *Journal of Marketing Research, 14*(3), 396–402. https://doi.org/10.1177/002224377701400320

Barney, J. B. (1991). Firm resources and sustained competitive advantage. *Journal of Management, 17*(1), 99–120. https://doi.org/10.1177/014920639101700108

Barney, J. B., Ketchen, D. J., Jr., & Wright, M. (2021). Resource-based theory and the value creation framework. *Journal of Management, 47*(7), 1936–1955. https://doi.org/10.1177/01492063211021655

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

Benitez, J., Ruiz, L., Castillo, A., & Llorens, J. (2022). How digital leadership capability enables digital transformation: The mediating role of organizational agility. *Information & Management, 59*(3), 103567. https://doi.org/10.1016/j.im.2021.103567

Borah, P. S., Iqbal, S., & Akhtar, S. (2022). Linking digital leadership and organizational performance: The role of innovation capability and digital transformation. *Technological Forecasting and Social Change, 180*, 121648. https://doi.org/10.1016/j.techfore.2022.121648

Clauss, T., Abebe, M., Tangpong, C., & Hock, M. (2019). Strategic agility, business model innovation, and firm performance. *Technological Forecasting and Social Change, 145*, 205–216. https://doi.org/10.1016/j.techfore.2019.05.018

Clauss, T., Kraus, S., Kallmuenzer, A., Brem, A., & Ribeiro-Soriano, D. (2024). Organizational agility, dynamic capabilities, and firm performance in turbulent environments. *Technological Forecasting and Social Change, 201*, 123420.

Cristache, N., Croitoru, G., & Florea, N. V. (2025). The influence of knowledge management on innovation and organizational performance. *Journal of Innovation & Knowledge, 10*(5), 100793. https://doi.org/10.1016/j.jik.2025.100793

Volume 5 Issue No 2 (2026)
Online ISSN: 3006-2047
Print ISSN: 3006-2039

Delaney, J. T., & Huselid, M. A. (1996). The impact of human resource management practices on perceptions of organizational performance. *Academy of Management Journal, 39*(4), 949–969. https://doi.org/10.2307/256718

Donate, M. J., & de Pablo, J. D. S. (2015). The role of knowledge-oriented leadership in knowledge management practices and innovation. *Journal of Business Research, 68*(2), 360–370. https://doi.org/10.1016/j.jbusres.2014.06.022

Faul, F., Erdfelder, E., Buchner, A., & Lang, A. G. (2009). Statistical power analyses using G*Power 3.1: Tests for correlation and regression analyses. *Behavior Research Methods, 41*(4), 1149–1160. https://doi.org/10.3758/BRM.41.4.1149

Ferraris, A., Santoro, G., & Dezi, L. (2019). How MNCs manage knowledge and innovation: The role of external sources and internal capabilities. *Journal of Knowledge Management, 23*(5), 1049–1071. https://doi.org/10.1108/JKM-09-2018-0585

Ferraris, A., Santoro, G., & Dezi, L. (2023). Knowledge management capabilities and innovation performance: A systematic review and future research agenda. *Journal of Knowledge Management, 27*(4), 1041–1062.

Gold, A. H., Malhotra, A., & Segars, A. H. (2001). Knowledge management: An organizational capabilities perspective. *Journal of Management Information Systems, 18*(1), 185–214. https://doi.org/10.1080/07421222.2001.11045669

Grant, R. M. (1996). Toward a knowledge-based theory of the firm. *Strategic Management Journal, 17*(Winter Special Issue), 109–122.

Hair, J. F., Hult, G. T. M., Ringle, C. M., & Sarstedt, M. (2022). *A primer on partial least squares structural equation modeling (PLS-SEM)* (3rd ed.). Sage Publications.

Hair, J. F., Hult, G. T. M., Ringle, C. M., Sarstedt, M., Danks, N. P., & Ray, S. (2024). *Partial least squares structural equation modeling (PLS-SEM) using R: A workbook*. Springer.

Ilmudeen, A. (2022). Organizational agility and innovation capability as determinants of organizational performance in the digital era. *Review of Managerial Science, 16*(8), 2341–2368. https://doi.org/10.1007/s11846-021-00501-9

Karippur, N. K., & Balaramachandran, P. R. (2024). Digital leadership and organizational competitiveness: The role of innovation and digital capabilities. *Management Decision, 62*(4), 1158–1178.

Kock, N. (2020). Common method bias in PLS-SEM: A full collinearity assessment approach. *International Journal of e-Collaboration, 16*(1), 1–10. https://doi.org/10.4018/IJeC.2020010101

Kraus, S., Durst, S., Ferreira, J. J., Veiga, P., Kailer, N., & Weinmann, A. (2022). Digital transformation in business and management research: An overview of the current status quo. *International Journal of Information Management, 63*, 102466.

Lawson, B., & Samson, D. (2001). Developing innovation capability in organisations: A dynamic capabilities approach. *International Journal of Innovation Management, 5*(3), 377–400. https://doi.org/10.1142/S1363919601000427

Migdadi, M. M. (2022). Knowledge management, innovation capability and organizational performance. *International Journal of Productivity and*

Volume 5 Issue No 2 (2026)
Online ISSN: 3006-2047
Print ISSN: 3006-2039

Performance Management, 71(6), 2331–2351. https://doi.org/10.1108/IJPPM-04-2020-0154

Mikalef, P., & Gupta, M. (2021). Artificial intelligence capability: Conceptualization, measurement calibration, and empirical study on its impact on organizational creativity and firm performance. *Information & Management, 58*(3), 103434.

Nguyen, T. T., Nguyen, H. P., & Le, T. M. (2025). Organizational agility, innovation capability, and firm performance in emerging economies. *Technological Forecasting and Social Change, 211*, 123654.

Nonaka, I., & Takeuchi, H. (1995). *The knowledge-creating company: How Japanese companies create the dynamics of innovation*. Oxford University Press.

Podsakoff, P. M., MacKenzie, S. B., & Podsakoff, N. P. (2012). Sources of method bias in social science research and recommendations on how to control it. *Annual Review of Psychology, 63*, 539–569. https://doi.org/10.1146/annurev-psych-120710-100452

Rönkkö, M., & Cho, E. (2022). An updated guideline for assessing common method bias in organizational research. *Organizational Research Methods, 25*(1), 6–35.

Saunila, M. (2020). Innovation capability for SME success: Perspectives of financial and operational performance. *Journal of Advances in Management Research, 17*(2), 163–175. https://doi.org/10.1108/JAMR-11-2018-0091

Saunila, M. (2020). Innovation capability for SME success: Perspectives of financial and operational performance. *Journal of Advances in Management Research, 17*(2), 163–175. https://doi.org/10.1108/JAMR-11-2018-0091

Small and Medium Enterprises Development Authority (SMEDA). (2022). *SME sector profile of Pakistan*. Government of Pakistan.

State Bank of Pakistan (SBP). (2024). *Annual report 2023–24*. State Bank of Pakistan.

Teece, D. J. (2007). Explicating dynamic capabilities: The nature and microfoundations of (sustainable) enterprise performance. *Strategic Management Journal, 28*(13), 1319–1350. https://doi.org/10.1002/smj.640

Troise, C., Corvello, V., Ghobadian, A., & O'Regan, N. (2023). How can SMEs successfully navigate digital transformation? The role of organizational agility and dynamic capabilities. *Technological Forecasting and Social Change, 193*, 122612.

Verhoef, P. C., Broekhuizen, T., Bart, Y., Bhattacharya, A., Dong, J. Q., Fabian, N., & Haenlein, M. (2021). Digital transformation: A multidisciplinary reflection and research agenda. *Journal of Business Research, 122*, 889–901. https://doi.org/10.1016/j.jbusres.2019.09.022

Wamba, S. F., Queiroz, M. M., Trinchera, L., & Guthrie, C. (2024). Digital transformation capability and organizational performance: The mediating role of innovation and dynamic capabilities. *International Journal of Information Management, 76*, 102734.

Journal of Management Science Research Review
https://jmsrr.com/index.php/Journal/about

Volume 5 Issue No 2 (2026)

Online ISSN: 3006-2047
Print ISSN: 3006-2039