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ANALYZING THE IMPACT OF INNOVATIVE TECHNOLOGIES ON ORGANIZATIONAL PERFORMANCE

Abstract

Purpose. This study aims to examine the impact of innovative technologies on organizational performance. It investigates relationships between digital innovation, digital capabilities and innovation propensity, assessing how these factors collectively drive organizational performance.

Design/methodology/approach. To fulfil the stated objective, the data were collected using an online survey from 99 employees working in companies operating in manufacturing, trade, distribution and service sectors.

Findings. The results indicate that digital innovation, digital capabilities and innovation propensity have a positive and significant impact on organizational performance.

Originality. This study contributes to the literature by providing empirical evidence on the integrated role of innovative technologies in improving organizational performance. It expands existing knowledge by examining multiple technological and organizational factors simultaneously.

Keywords: digital innovation, digital capabilities, innovation propensity, organizational performance.

Introduction

Presently, enterprises operate in a market environment characterized by uncertainty and constant change. Chen Y., Wang Y., Nevo S., Benitez-Amado J and Kou G. (2015) stated that in the era of globalization, firms are required to adopt strategies to remain competitive and achieve high performance. In such unstable conditions, organizations need to continuously reassess their strategic priorities and approaches to resource allocation to ensure long-term sustainability. Increasing competition compels companies to invest in innovative practices and technologies.

Therefore, enterprises should act proactively by adopting technologies that enable product improvement and diversification. Accordingly, this allows them to strengthen their competitive position and enhance their organizational performance (Pinho and Ferreira, 2017). The active adoption of innovative technologies not only improves operational performance but also enhances a company's ability to respond quickly to market changes. In rapidly evolving markets, innovation flexibility is an important factor for growth.

Organizational performance is commonly defined as an organization's ability to achieve its goals through the efficient use of available resources (Daft, 2000). In this regard, prior research emphasizes that effective utilization of technological resources plays a crucial role in improving firm performance and enhancing the ability to identify and exploit new business opportunities (García-Morales V., Bolívar-Ramos M., and Martín-Rojas R., 2013). In addition, performance is evaluated through both financial and non-financial indicators, reflecting the multidimensional nature of organizational success.

In the study by Lawless, M.J. and Fisher, R.J. (1990), it is stated that firm's competitive advantage often stems from its capabilities and innovative propensity in developing new products. The development of these capabilities leads to an increase in product innovation and contributes to the firm's overall innovation achievements (Guan, J., 2002). Compared to low-performing firms, high-performing firms generally possess stronger innovation propensity. Innovation propensity is defined as the skills to learn, improve and effectively utilize existing technologies, as well as the knowledge and experience required to develop new technologies. Such adaptability reflects on an organization culture that is oriented toward experimentation and continuous improvement. Companies that support knowledge sharing and creativity

are more capable of transforming ideas into implemented innovations in the market.

Furthermore, companies have begun to realize the importance of reconsidering their activities and strategies in order to adapt to the requirement of the "new normal" (Loureiro, Ferreira & Simões, 2021). Enterprises have started to implement digital tools to optimize the efficiency of their processes and to ensure the stable operation of their businesses. As a result, in unstable and uncertain market conditions, the importance of digital capabilities in increasing and interest continues to grow (Zhen, Yousaf, Radulescu & Yasir, 2021). Digital capabilities facilitate data-driven decision making and increase organizational agility.

Understanding how digital innovations influence the organizational environment enables enterprises to enhance their organizational performance and achieve strategic objectives. For this study, we conducted a survey to examine the impact of digital innovation, digital capabilities and innovation propensity on organizational performance. This research seeks to provide empirical evidence on how these factors interact and to offer practical insights for improving organizational performance through the adoption of innovative technologies. The findings of this research will have significant practical implications for managers aiming to enhance organizational performance and competitiveness through technological development.

Literature review

Organizational performance is a comprehensive concept that describes the extent to which an organization achieves its strategic objectives. Daft (2000) defines organizational performance as an organization's ability to achieve its goals through the efficient use of available resources. In contemporary research, organizational performance is measured through both financial and non-financial indicators. From this perspective, performance directly depends on the organization's internal capabilities and its level of adaptation to the external environment.

A firm's ability to adapt is mostly determined by its level of digital innovation. In the context of research, digital innovation is defined as use of information and communication technologies to create new and improved products, processes, business models, marketing and organizational methods (Ahu Tuğba Karabulut, 2020). The implementation of innovative technologies enables enterprises to enhance product quality, diversify markets and strengthen their competitiveness (Shan, Song, & Ju, 2015).

Innovation is closely related to an organization's internal strategies. Organizations must be technologically innovative to remain competitive. The authors argue that development of innovative technologies and the formation of core competencies constitute the foundation of long-term competitiveness. Furthermore, the effective utilization of digital capabilities enables enterprises to adapt to market changes and achieve sustainable performance outcomes.

In this context, digital capabilities play a crucial role. In general, digital capabilities are defined as a firm's ability to integrate, build and reconfigure information technologies with organizational resources and competencies; this capability enables the company to anticipate the strategic and operational requirements of the business environment and respond to them appropriately (Baiyere, A., Salmela, H., Nieminen, H., & Kankainen, T., 2025).

In addition, innovation propensity is defined as the degree to which an organization strives to achieve an innovation environment through innovations that support organizational architecture (Dobni, 2008). Organizations with a strong innovation propensity are more capable of adapting to technological changes and achieving sustainable performance through digital capabilities.

Accordingly, innovation propensity contributes to the development of digital capabilities, digital capabilities enhance digital innovation, and digital innovation leads to enhanced organizational performance.

Digital innovation and organizational performance

The relationship between digital innovation and organizational performance has been widely investigated in the literature, but the findings are not entirely consistent or conclusive (A. Oke, 2007). Some researchers have suggested that this relationship may be negative, as innovation involves high costs, uncertain investment returns. For example, in the study by Terwiesch and Lonch (1998), the authors emphasize that innovation intensity may have a negative or no significant effect on firm profitability.

Nevertheless, numerous studies indicate a positive relationship between digital innovation and organizational performance. For instance, Capon et al. (1990) emphasize that firms investing in innovation tend to achieve better organizational performance. Market responses also support this positive effect. Chaney and Devinney (1992) demonstrate that public announcement of innovative announcement gets

positive market reactions. Similarly, Oke (2007) demonstrated a direct positive relationship between innovation and organizational performance. In addition, in the study by Zhang et al. (2014), it was stated that firms receiving innovation awards tend to perform better financially, further confirming the benefits of innovation. Moreover, Yoo (2010) stated that digital innovations enhance organizational performance and encourage maintaining the attractiveness of core offerings as well as creating additional sources of revenue.

Overall, literature largely supports the notion that digital innovation positively influences organizational performance.

Accordingly, we propose the following hypothesis:

H1: Digital innovation has a positive effect on organizational performance.

Digital capabilities and organizational performance

Digital capabilities enable organizations to effectively utilize the large amount of information obtained from their environment and implement technology in alignment with organization's value proposition (Gobble, 2018). Therefore, as Osmanbekov, Bello & Gilliland (2002) indicate firms need to adopt digital tools to improve their operations and respond quickly to market changes.

Organizations need to properly understand how necessary technological and innovative changes are to successfully implement digital innovation. If a company timely recognizes the importance of new technologies and integrates them into its operations, it can enhance its organizational performance. Digital capabilities enable organizations to take advantage of new opportunities and improve their activities. Lyytinen, Yoo and Boland (2016) define digital capabilities as digital systems that generate new outcomes and structures without involvement of external parties and without deliberate planning by the system creator. In other words, these are not only technological tools, but also important resources that support the development and adaptability of organizations.

Furthermore, recent studies show that the relationship between digital capabilities and organizational performance is not always clear. This depends on how effectively an organization utilizes its digital capabilities and how they are applied through business intelligence and analytics (BI&A), as these tools allow organizations to monitor their environment and make timely strategic decisions.

In the study by Heredia et al. (2022), it was stated that there is a positive relationship between digital capabilities and organizational performance. Additionally, in the study by Khin and Ho (2020) it was argued that digital capabilities have a positive impact on organizational performance.

Accordingly, we propose following hypothesis:

H2: Digital capabilities are a positive and significant indicator of organizational performance.

Innovation propensity and organizational performance.

Innovation propensity refers to an organization's inclination to adopt new approaches and strategies to achieve long-term sustainable competitive advantage. In the study by Kenedy (2007), innovation was described as an organization's ability to attain sustainable competitive advantage through innovative practices and strategies. This concept is not limited to the introduction of new products. It encompasses the organization's overall strategic orientation and its tendency toward innovativeness.

As indicated in business management research, innovation is considered one of the key determinants of organizational performance (Dunk, 2011). The positive impact of innovation propensity on organizational performance has been extensively studied in existing literature. The introduction of innovative methods into management systems enabled more efficient utilization of resources, which in turn improves organizational (Damanpour, Walker and Avellaneda, 2009; Sako, 2012).

Accordingly, innovation propensity supports development of a organization's digital capabilities. Enterprises that focus on innovation tend to adopt innovative technologies actively and integrate them with their strategies.

In the study by Hult Ketchen (2001), it was stated that an increase in innovation propensity contributes to improved firm performance through enhanced market orientation, which in turn leads to increased organizational performance.

Accordingly, we present the following hypothesis:

H3: Innovation propensity positively affects organizational performance through digital capabilities.

Methodology

This study selected the appropriate sample size of 12 companies, operating in the manufacturing, trade, distribution and service sectors (including IT and

logistics). The study aimed to examine the relationships between variables by testing hypotheses. For this purpose, data were collected through an online survey using Google Forms. As a result, 99 respondents completed the questionnaire, of whom 67.7% were women, while 32.3% were men. The age distribution of the respondents was as follows: 27.3% were between 18-25 years, 18.2% were between 26-35 years, 11.1% were between 36-45 years, 32.3% were between 46-55 years and 11.1% were over 56 years old. The participating companies varied in size, providing broader industry representation.

Measures

The research constructs were developed based on previous studies and pilot testing. To conduct the survey, we use a multiple-item method. The constructs were based on a Likert scale ranging from "strongly disagree" to "strongly agree".

Organizational performance

According to the study by Lee, H., & Choi, B. (2003), the **Organizational performance** variable was measured using 5 survey items and 6-point Likert scale. The sample item of this scale is: "Our company's overall profitability is higher compared to competitors". The Cronbach's alpha for this scale was 0.792.

Digital innovation

The questions for **Digital innovation** were adapted from Khin, S., & Ho, T. C. F. (2018) and described using 6 survey items and 5-point Likert scale. The sample item of this scale is: "The quality of our digital solutions is superior to that of our companies". The Cronbach's alpha for this scale is 0.716.

Digital capabilities

Digital capabilities variable, as indicated in the study by Khin, S., & Ho, T. C. F. (2018), was measured using 5 survey items and a 5-point Likert scale. The sample item of this scale is: "Our company can respond effectively to that demands of digital transformation". The Cronbach's alpha for this scale is 0.801.

Innovation propensity

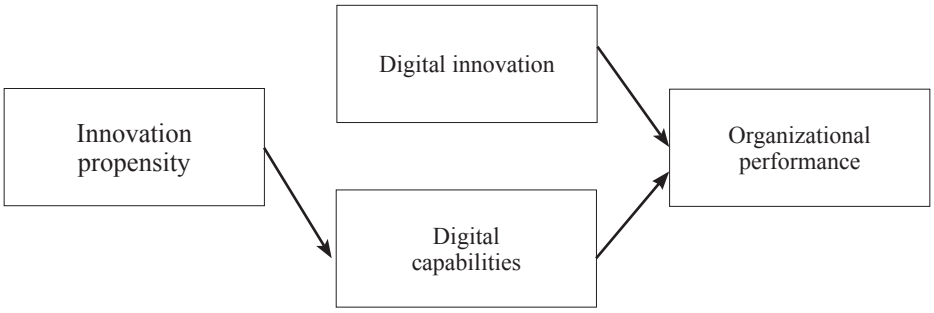
According to the study by Dobni, C. B. (2008), **Innovation propensity** is described using 9 survey items and a 7-point Likert scale. The sample item of this scale is: "Innovation is one of core values of our organization". The Cronbach's alpha for this scale is 0.829.

All items were measured reflectively. Since data were collected through an online survey, the confidentiality of respondents was ensured, and the data questionnaire was carefully designed to minimize potential methodological bias.

The research data were analyzed using SmartPLS 4.0, as this software is suitable for applying the PLS-SEM method. It also allows for assessing reliability and validity of constructs and analyzing structural models.

Our results produced the following model:

Figure 1
Research Model



Results

The measurement model was evaluated by examining indicator reliability, internal consistency and convergent validity. To ensure the reliability and convergent validity of the measurement model, several indicators (DI3, DI4, IP5, IP6 and IP8) were removed, as their factor loadings were below the recommended threshold of 0.6. After removing these low-loading items, all remaining indicators exhibited factor loadings above 0.7, confirming strong indicator reliability.

As shown in Table 1, Cronbach's alpha values for all constructs were above 0.7, ranging from 0.716

to 0.829, which indicates high internal consistency. Furthermore, composite reliability (CR) values ranged from 0.822 to 0.875, which exceeds the minimum threshold of 0.7. Average variance extracted (AVE) values for all factors were above 0.5, ranged from 0.536 to 0.558. This shows that the questions effectively measure the constructs, confirming convergent validity.

To test discriminant validity, we used the Fornell-Larcker criterion. According to this criterion, the square root of the AVE for each construct should be greater than its highest correlation with any other construct. Results in Table 1 show that AVE square roots are greater than the correlations between constructs, which confirms the discriminant validity.

Table 1
Summary of construct validity, reliability and correlation matrix

Construct	Digital innovation	Innovation propensity	Digital capabilities	Organizational performance	CR	AVE	α
Digital innovation	0.732				0.822	0.536	0.716
Innovation propensity	0.627	0.734			0.875	0.539	0.829
Digital capabilities	0.684	0.674	0.747		0.863	0.558	0.801
Organizational performance	0.631	0.729	0.720	0.740	0.858	0.547	0.792

To test the proposed hypothesis, a bootstrapping procedure with 5000 resamples was performed to evaluate the significance of the path coefficients. The results of the structural model assessment, including path coefficients, t-statistics and p-values are summarized in Table 2.

Table 2

Hypothesis testing result

Hypothesis	Direct effect			Std Estimate	S.E.	C.R.	P	Support
H1	Digital innovation – organizational performance			0.261	0.117	2.227	0.026*	Yes
H2	Digital capabilities – organizational performance			0.542	0.126	4.292	0.000***	Yes
	Mediation effect	Path coefficient A	Path coefficient B					
H3	Innovation propensity – Digital capabilities – Organizational performance	0.674	0.542	0.365	0.106	3.437	0.001***	Yes

Notes: t-values > 1.65* (p < 0.1); t-values > 1.96** (p<0.05); t-values > 2.57*** (p<0.001)

All three hypotheses were statistically validated. First, digital innovation was found to have a significant positive impact on organizational performance ($\beta = 0.261$, $t = 2.227$, $p < 0.05$). That is, the more an organization invests in and implements innovative digital solutions, the better its organizational performance becomes.

Second, the analyses revealed that the relationship between digital capabilities and organizational performance was also positive and significant ($\beta = 0.542$, $t = 4.293$, $p < 0.001$).

Third, the mediation analysis confirmed that innovation propensity significantly leads to better organizational performance through digital capabilities

($\beta = 0.365$, $t = 3.437$, $p < 0.001$). In other words, a company's desire to innovate leads to better performance by pushing the organization to build digital skills and tools.

Consequently, the statistical analysis confirms validity of all three hypotheses within the proposed research model.

Discussion and conclusion

This study provides a comprehensive analysis of the impact of digital innovation, innovation propensity and digital capabilities on organizational performance. The empirical results confirm that all proposed hypotheses are supported. The findings demonstrate that these factors play a significant role in enhancing organizational performance.

First, the results confirm that digital innovation has a positive effect on organizational performance. Digital innovation enables organizations to maintain the attractiveness of their core offering, generate new sources of revenue and quickly adapt to changing market conditions (Yoo Y., 2010). Consequently, digital innovation strengthens competitiveness and facilitates the achievement of strategic objectives.

Second, the findings indicate that innovation propensity influences organizational performance through digital capabilities. In other words, when supported by strong digital capabilities, an organization's readiness to embrace new ideas and develop innovations translates into concrete performance outcomes. Innovation propensity creates the foundation for the effective adoption and utilization of digital tools, thereby promoting efficient resource allocation and improved managerial processes.

Third, digital capabilities were found to be a significant and positive indicator of organizational performance. The effective use of digital technologies enhances operational processes, improves decision-making quality and increases overall productivity.

Overall, the study highlights the importance of promoting digital innovation, cultivating an innovation-oriented culture and systematically developing digital capabilities to improve organizational performance. The interaction among these factors enables organizations to achieve sustainable competitive advantages and successfully implement long-term development strategies. In addition, the research findings empirically validate the integrated relationship among digital innovation, innovation propensity and digital capabilities, therefore enriching the current academic literature. From a practical perspective, the results provide guidance for managers in developing strategies that support digital transformations initiatives and enhance organizational performance

Practical implications

According to the results of this study, the implementation of innovative technologies in companies provides effective practical guidance for managers and employees. Companies need to strategically integrate digital technologies into business processes to increase organizational performance. Employee training, the development of modern technologies, and digital infrastructure help maintain competitive advantage. Managers should develop long-term strategies that support innovation-based development. Building an innovation-oriented organizational culture increases employees' readiness to adopt new digital solutions. The results also show that organizations in the manufacturing, trade, distribution and service sectors can benefit from systematic digital transformation practices. Overall, the study highlights the importance of developing digital innovation, digital capabilities, and innovation propensity to improve sustainable development and organizational performance.

Limitations and future research

This study has several limitations that should be acknowledged. First, the research was conducted only within a specific geographical region and involved a limited number of enterprises. Therefore, the applicability of research results to other enterprises is limited. Second, the data were collected using Google Forms, it is not possible to be fully confident in the sincerity and objectivity of the respondents.

Future research should consider expanding sample size by including a larger number of enterprises and respondents from diverse regions and sectors. It is also effective to identify sector-specific characteristics and opportunities through a comparative analysis of different industries. Future research should employ qualitative methods, such as interviews and case studies, as these approaches would provide a deeper understanding of how organizations implement innovation processes. In addition, adopting longitudinal research approaches would allow research to explore the long-term influence of innovative technologies on organizational performance. Such approaches would provide deeper insights into the sustainability and dynamic impact of technological innovation.

Acknowledgements and Conflict of Interest

The authors declare that there are no acknowledgements and no conflicts of interest related to this study.

Author contributions

Conceptualization, T.Z.; Methodology, T.Z.; Software, T.Z.; Validation, T.Z., A.K. and M.E.; Formal Analysis, M.E.; Investigation, A.K.; Resources, T.Z.; Data Curation, T.Z.; Writing – Original Draft Preparation, T.Z., A.K. and M.E.; Writing – Review & Editing, A.K. and M.E.; Visualization, T.Z.; Supervision, A.K.; Project Administration, T.Z. and A.K.

References

Adeyeye, T. C. (2014). The Impact of Technological Innovation on Organizational Performance. Industrial Engineering Letters, 4(3), 97-101.

Akpa, V. O., Asikhia, O. U., & Nneji, N. E. (2021). Organizational culture and organizational performance: A review of literature. International Journal of Advances in Engineering and Management (IJAEM), 3(1), 361–372. https://doi.org/10.35629/5252-0301361372

Baiyere, A., Salmela, H., Nieminen, H., & Kankainen, T. (2025). Assessing digital capabilities for digital transformation—The MIND framework. Information Systems Journal, 35(1), 6–38 https://doi.org/10.1111/isj.12519

Bolívar-Ramos, M. T., García-Morales, V. J., & Martín-Rojas, R. (2013). The effects of information technology on absorptive capacity and organisational performance. Technology Analysis & Strategic Management, 25(8), 905–922. https://doi.org/10.1080/09537325.2013.823152

Capon, N., Farley, J. U., & Hoenig, S. (1990). Determinants of financial performance: A meta-analysis. Management Science, 36(10), 1143–1159. https://doi.org/10.1287/mnsc.36.10.1143

Chaney, P. K., & Devinney, T. M. (1992). New product innovations and stock price performance. Journal of Business Finance & Accounting, 19(5), 677–695. https://doi.org/10.1111/j.1468-5957.1992.tb00651.x

Daft, R. L. (2000). Organization theory and design (7th ed.). South-Western College Publishing.

Dibrell, C., Craig, J. B., & Neubaum, D. O. (2014). Linking the formal strategic planning process, planning flexibility, and innovativeness to firm performance. Journal of Business Research, 67(9), 2000-2007. https://doi.org/10.1016/j.jbusres.2013.10.011

Dobni, C. B. (2008). Measuring innovation culture in organizations: The development of a generalized innovation culture construct using exploratory factor analysis. European Journal of Innovation Management, 11(4), 539–559. https://doi.org/10.1108/14601060810911156

Gobble, M. M. (2018). Digitalization, digitization, and innovation. Research-Technology Management, 61(4), 56–59. https://doi.org/10.1080/08956308.2018.1471280

Guan, J. (2002). Comparison study of industrial innovation between China and some European countries. Production and Inventory Management Journal, 43(3), 1–10.

Hafeez, M. H., Basheer, M. F., Rafique, M., & Siddiqui, S. H. (2018). Exploring the links between TQM practices, business innovativeness and firm performance: An emerging market perspective. Pakistan Journal of Social Sciences (PJSS), 38(2), 485–500

Hanelt, A., Firk, S., Hildebrandt, B., & Kolbe, L. M. (2021). Digital M&A, digital innovation, and firm performance: An empirical investigation. European Journal of Information Systems, 30(1), 3–26. https://doi.org/10.1080/0960085X.2020.1747365

Heredia, J., Castillo-Vergara, M., Geldes, C., Carbajal Gamarra, F. M., Flores, A., & Heredia, W. (2022). How do digital capabilities affect firm performance? The mediating role of technological capabilities in the "new normal". Journal of Innovation & Knowledge, 7(2), 100171. https://doi.org/10.1016/j.jik.2022.100171

Karabulut, A. T. (2020). Digital innovation: An antecedent for digital transformation. International Journal of Commerce and Finance, 6(2), 179–186.

Khin, S., & Ho, T. C. F. (2018). Digital technology, digital capability and organizational performance: A mediating role of digital innovation. International Journal of Innovation Science,11(2), 177-195. https://doi.org/10.1108/IJIS-08-2018-0083

Khin, S., & Ho, T. C. F. (2020). Digital technology, digital capability and organizational performance: A mediating role of digital innovation. International Journal of Innovation Science, 11(2), 177–195.

Lawless, M. J., & Fisher, R. J. (1990). Sources of durable competitive advantages in new products. Journal of Product Innovation Management, 7(1), 35–43. https://doi.org/10.1111/1540-5885.710035

Lee, H., & Choi, B. (2003). Knowledge management enablers, processes, and organizational performance: An integrative view and empirical examination. Journal of Management Information Systems, 20(1), 179–228. https://doi.org/10.1080/07421222.2003.11045756

Loureiro, R., Ferreira, J. J. M., & Simoes, J. (2021). Approaches to measuring dynamic capabilities: Theoretical insights and the research agenda. Journal of Engineering and Technology Management, 62. https://doi.org/10.1016/j.jengtecman.2021.101657

Mahto, R., Singhal, C., & Kraus, S. (2022). Technological innovation, firm performance, and institutional context: A meta-analysis. IEEE Transactions on Engineering Management, 69(6), 2894–2907 https://doi.org/10.1109/TEM.2020.3021378

Oke, A. (2007). Innovation types and innovation management practices in service companies. International Journal of Operations & Production Management, 27(6), 564–587. https://doi.org/10.1108/01443570710750268

Osmonbekov, T., Bello, D. C., & Gilliland, D. I. (2002). Adoption of electronic commerce tools in business procurement: Enhanced buying center structure and processes. Journal of Business & Industrial Marketing, 17(2/3), 151–166. https://doi.org/10.1108/08858620210419781

Pinho, C. S. B., & Ferreira, J. J. (2017). Impact of Information Technologies, Corporate Entrepreneurship and Innovation on Organizational Performance: A Literature Review. International Journal of Social Ecology and Sustainable Development, 8(1), 32–48.

Shah, N., Zehri, A. W., Saraih, U. N., Abdelwahed, N. A. A., & Soomro, B. A. (2024). The role of digital technology and digital innovation towards firm performance in a digital economy. Kybernetes, 53(2), 620–644 https://doi.org/10.1108/K-01-2023-0124

Terwiesch, C., Loch, C., & Niederkofler, M. (1998). When product development performance makes a difference: A statistical analysis in the electronics industry. Journal of Product Innovation Management, 15(1), 3–15. https://doi.org/10.1111/1540-5885.1510003

Tipu, S. A. A., Ryan, J. C., & Fantazy, K. A. (2012). Transformational leadership in Pakistan: An examination of the relationship of transformational leadership to organizational culture and innovation propensity. Journal of Management & Organization, 18(4), 461–480. https://doi.org/10.5172/jmo.2012.18.4.461

Yam, R. C. M., Lo, W., Tang, E. P. Y., & Lau, A. K. W. (2010). Technological innovation capabilities and firm performance. International Journal of Economics and Management Engineering, 4(6), 1056–1062.

Yoo, Y., Boland, R. J., Jr., Lyytinen, K., & Majchrzak, A. (2012). Organizing for innovation in the digitized world. Organization Science, 23(5), 1398–1408. https://doi.org/10.1287/orsc.1120.0771

Yoo, Y., Henfridsson, O., & Lyytinen, K. (2010). Research commentary—The new organizing logic of digital innovation: An agenda for information systems research. Information Systems Research, 21(4), 724–735. https://doi.org/10.1287/isre.1100.0322

Zhang, G. P., Yu, J. F., & Xia, Y. S. (2014). The payback of effective innovation programs: Empirical evidence from firms that have won innovation awards. Production and Operations Management, 23(8), 1401–1420. https://doi.org/10.1111/j.1937-5956.2012.01368.x

Zhen, Z., Yousaf, Z., Radulescu, M., & Yasir, M. (2021). Nexus of digital organizational culture, capabilities, organizational readiness, and innovation: Investigation of SMEs operating in the digital economy. Sustainability, 13(2), 720. https://doi.org/10.3390/su13020720

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