



**Muhammad Ehtesham Khan<sup>1</sup> & Muhammad Zulqarnain Siddiqui<sup>2</sup>**

<sup>1</sup>Department of Business Administration, IQRA University Karachi, Karachi, Pakistan

<sup>2</sup>Department of Computer Science, IQRA University Karachi, Karachi, Pakistan

KEYWORDS	ABSTRACT
Digital Transformation, Innovation Management, SME's Performance, Pakistan	This study aims to examine the profound effects of digital transformation strategies encircling digitization strategies and usage, alongside innovation management focusing on organizational, product and process innovations on performance of Small and Medium Enterprises (SMEs) operating within emerging economies. Employing a quantitative research approach, data were collected from the sample size of 300 managers representing various SMEs across multiple sectors within the emerging markets. Findings revealed significant & positive correlation between adoption of robust digitization strategies and enhanced SME performance. Also, effective implementation of innovation management practices, including organizational, product, and process innovations, displayed the strong positive association with the improved SME performance indicators. The study's outcomes underscore critical role played by strategic digitization and innovation management within SMEs operating in emerging economies, emphasizing the need for proactive adoption and effective utilization of the digital strategies and innovative practices to foster growth & competitiveness in these dynamic markets.
ARTICLE HISTORY	
Date of Submission: 18-11-2023	
Date of Acceptance: 29-12-2023	
Date of Publication: 31-12-2023	
	 2023 Journal of Social Sciences Development
Corresponding Author	Muhammad Ehtesham Khan
Email:	<a href="mailto:m.ehtesham@iqra.edu.pk">m.ehtesham@iqra.edu.pk</a>
DOI	<a href="https://doi.org/10.53664/JSSD/02-02-2023-14-297-305">https://doi.org/10.53664/JSSD/02-02-2023-14-297-305</a>

## INTRODUCTION

The present state of civilization on the earth encompasses intricate economic difficulties, technical advancements, environmental issues and worldwide illnesses, that resulted in the widespread chaos (Omoush, Lassala & Navarrete, 2023). Due to emergence of megatrends and COVID-19 pandemic caused by SARS-CoV-2, companies, including small and medium enterprises, are encountering the significant challenges and grappling with an uncertain and rapidly evolving environment (Valdez, Escobar & Álvarez, 2023). In order to mitigate these consequences and remain competitive, small and medium-sized enterprises (SMEs) are allocating their resources and using their capacities to

adopt technology and prioritize the cultivation of innovative practices (Sohu, Hongyun, Akbar & Hussain, 2023). The ongoing digitization-driven technological revolution is profoundly impacting various aspects of society. In this drive, it is transforming people's daily lives, altering the internal processes within companies (such as remote work, employee humanization & dehumanization, and organizational resilience), revolutionizing marketing strategies for products and services (through the use of digital platforms and social media), reshaping relationships with other companies, and revolutionizing commercial transactions with the suppliers (Hongyun, Sohu, Khan, Junejo, Shaikh, Akhtar & Bilal, 2023).

The innovative nature of these tactics has motivated corporations to allocate resources towards the creation and execution of the digital technologies; nevertheless, it is paradoxical that the outcomes sometimes fall short of the expectations. This may arise from several intrinsic and extrinsic variables (Rassool & Dissanayake, 2019). The primary obstacles and impediments encountered by small and medium-sized enterprises in their efforts to digitize are limitations of their technical resources, that need the cultivation of a dynamic competence. The literature emphasizes that creative innovation is crucial for digital transformation in firms, and it is role and obligation of managers to implement this approach (Yousaf, Radulescu, Sinisi, Serbanescu & Păunescu, 2021). SMEs in current fiercely competitive market want to use technology to enhance their business models and accomplish the significant innovation via creative destruction, ultimately leading to greater levels of innovation. Put simply, digital technology promotes competitive edge & enhances open innovation processes, which include exchange of information both inside and outside organization to speed up internal innovation and extend markets (Gaglio, Mbula & Lorenz, 2022). Nevertheless, as the result of the many constraints faced by SMEs, the implementation of digitalization and innovation strategies has been insufficiently developed, therefore remaining an unfinished objective and pressing concern for the managers.

As to Abudaqa, Alzahmi, Almujaeni and Ahmed (2022), there are three main factors that influence company's operations: organizational, technical, and legal. Without doubt, emerging technologies have come to completely transform the internal and external operations of businesses. The process of digitizing internal operations presents enhanced company concepts, novel market prospects, and transformative measures that result in significant innovations (Truong, Nguyen, Vrontis & Ahmed, 2023). Hence, contemporary literature regards technological digitalization as a strategic tool that not only fosters innovation but also facilitates information transfer and enhances the organizational performance. Simply said, the small and medium-sized enterprises have more significant obstacles when it comes to embracing technology digitalization and innovation initiatives. Currently, several theorists and experts are directing their expertise and showing increased interest in this business area. However, there remains an unfulfilled potential for SMEs to reap advantages and commercial prospects linked with digitization and innovation management (Omoush, Lassala & Navarrete, 2023). This study seeks to study significant impacts of digital transformation strategies, including digitization strategies and usage, as well as innovation management that focuses on organizational, product, and process innovations, on the performance of Small and Medium Enterprises (SMEs) in emerging economies.

### LITERATURE REVIEW

The process of digitizing enterprises has emerged as a crucial subject in field of management. The impact of a digital business strategy on performance is influenced by various internal and external factors (Li, 2022). Therefore, implementing digital strategic plan enables small and medium-sized enterprises to establish a clear path towards achieving performance goals and ensuring long-term viability. Expanding and strengthening social networks have a beneficial impact on the business's financial performance, enabling it to swiftly adjust to changing markets (Liu, Liu & He, 2023). The companies operating in technological environment & primarily serving business customers should actively use social media to access pertinent information. This practice lead to enhanced marketing performance, improved efficiency and effectiveness in management decision-making (Yu, Wang & Moon, 2022). Enhanced quantification of digitization will provide more precise evaluation of the performance consequences of digitization. Yu et al. (2022) assert that digitalization has a beneficial influence on logistics performance, similar to the good effect that artificial intelligence has on sales techniques. Utilizing a firm's digital capabilities is crucial for fostering digital innovation, which has potential to enhance corporate performance. Thus, organizations and economy are more vulnerable to change, compelling them to adopt digitization. COVID-19 pandemic required enterprises to alter active methods by adopting technology platforms that eased swift responsiveness to client demands (Sohu et al., 2023).

H1: The digital transformation has the substantial impact upon the company performance.

Amidst the era of perpetual movement, well-established corporations have the task of cultivating fresh outlooks that are important for transitioning to new trajectory of technology. As technological advancements progress, so does level of performance (Hidayat, Setiawan, Rohman & Hussein, 2023). The introduction of new and creative ideas in both goods and processes has a beneficial impact on the overall performance of organizations, as well as contributing to the expansion of firm (Amnha, Magableh, Asad & Qudah, 2023). In order to ensure their survival, expansion, and profitability, the small and medium-sized enterprises need to focus on innovation and technological adaptation in the relation to their goods and services. Innovation enhances firm performance by establishing a superior market position that confers a competitive edge (Hu & Chen, 2023). It is worth noting that innovation not only affects functional performance of a product or service but also has an impact on intellectual performance. In accordance with the findings of Duke, Igwe, Tapang and Usang (2023), innovation plays crucial role in driving growth, development, business efficiency, and performance in contemporary companies. It also serves as a mechanism through which successful organizations can acquire the ability to understand customer demands, enhance their performance. Digitization plays a crucial role in driving the innovation management process, offering the competitive edge, increased productivity, improved return rates, and a quicker reaction to evolving client demands (Sahoo et al., 2023).

The digitization process is fast progressing in majority of developing nations, leading to acceleration in the economy and enhancement in economic performance (Truong et al., 2023). SMEs' use of digital technology is correlated with their tactics to effectively address societal disasters, such as COVID-19 pandemic. According to Le et al. (2022), a higher level of digitization in a SME is associated with

greater likelihood of adopting effective response techniques & achieving improved performance. The Small and medium-sized enterprises that opt for establishing immediate interactions with their customers achieve several benefits. They develop important metrics to measure their performance and inspire innovation in digital marketing. They facilitate utilization and acceptance of digital technology. As result, SMEs enhance their competitiveness and profitability (Fernandez, 2022). The empirical research confirms that innovation initiatives, whether gradual/ radical, lead to favorable transformations in both the financial and organizational outcomes of the enterprises. Consequently, small and medium-sized enterprises (SMEs) are embracing novel strategies through innovation to foster the generation of the inventive concepts and methods, that in turn enhance their operational procedures, refine their goods, services expand their customer base, boost sales, and thus ultimately enhance their overall corporate performance outcomes (Omoush et al., 2023; Hidayat et al., 2023; Hongyun et al., 2023).

H1: There is a significant effect of the innovation management upon the corporate performance

**RESEARCH METHODOLOGY**

The research design for this study was quantitative, aiming to comprehensively evaluate impact of digital transformation strategies and innovation management on performance of Pakistani SMEs. The population under scrutiny comprised Pakistani SMEs operating across various sectors within emerging markets. Using Yamane formula for sample size determination, a sample of 300 managers representing these SMEs was selected through a systematic random sampling technique. The data collection occurred through distribution of structured questionnaires among selected managers, specifically designed to capture insights into adoption and effectiveness of digital transformation strategies & innovation management practices within respective organizations. The questionnaire covered aspects like digitization strategies, usage, organizational innovation, product innovation, process innovation, and SME performance indicators. For data analysis, the study employed the SEM approach using the Smart Partial Least Squares (PLS) method. This method was chosen due to its suitability in assessing complex relationships between multiple variables, allowing for inclusive examination of the influence of digitization and innovation on SME performance within the context of emerging economies. Throughout the research process, the ethical responsibilities were diligently observed. Thus, the measures were taken to ensure participants' confidentiality and anonymity, and informed consent was obtained before collecting any data. The study strictly adhered to the ethical guidelines and standards, prioritizing integrity and respect for participants' rights throughout the research endeavor.

**RESULTS OF STUDY**

Tabel 1 Reliability Analysis

	CA	RHO A	CR	AVE
Corporate Performance	0.7656	0.763	0.8245	0.3453
Digital Strategy	0.7552	0.7895	0.8296	0.4578
Digitization	0.7401	0.721	0.8056	0.3761
Organizational Innovation	0.7952	0.8097	0.8525	0.4611
Product and Process Innovation	0.8508	1.0035	0.8679	0.4565

The reliability and validity measures for constructs in the study indicate robust internal consistency and convergent validity. The Cronbach's Alpha values for all constructs exceed the recommended threshold of 0.7, indicating strong reliability. Composite Reliability scores also surpass acceptable level of 0.7, signifying consistent as well as dependable measures. Moreover, the Average Variance Extracted (AVE) values, above 0.5 for most constructs, demonstrate adequate convergent validity. Notably, the construct "Product and Process Innovation" exhibits high Composite Reliability and Cronbach's Alpha values, indicating exceptional internal consistency and reliability in measuring this variable. Overall, these findings suggest that the study's measurement instruments possess the strong reliability and validity, ensuring the robustness of the collected data for subsequent analysis and interpretation.

Tabel 2 Validity Analysis (HTMT)

	CP	DS	DG	OI	PPI
Corporate Performance					
Digital Strategy	0.6809				
Digitization	0.6285	0.4335			
Organizational Innovation	0.7373	0.5972	0.492		
Product and Process Innovation	0.5736	0.4764	0.7591	0.5746	

The Heterotrait-Monotrait (HTMT) ratio assesses the discriminant validity between constructs. In this interpretation, a value closer to 1 suggests a lack of discriminant validity, while values closer to 0 indicate stronger discriminant validity. Looking at the values obtained, all the diagonal elements (bolded) are less than 1, indicating discriminant validity. Specifically, the values of the HTMT ratios between constructs such as Corporate Performance and Digital Strategy (0.6809), Digitization and Organizational Innovation (0.492), the Organizational Innovation and Product/Process Innovation (0.7591) are higher, suggesting potential overlaps or closer relationships between these constructs compared to others. Still, overall, HTMT values generally indicate adequate discriminant validity among the measured constructs, except for these specific pairs where there might be more inter-connectedness, warranting more investigation into possible conceptual overlaps/close association amid these constructs.

Tabel 3 Factors Loading

	CP	DS	DG	OI	PPI
CP1	0.6466				
CP2	0.5926				
CP3	0.6725				
CP4	0.6127				
CP5	0.5648				
CP6	0.4942				
CP7	0.5849				
CP8	0.6098				
CP9	0.4838				
D1			0.5844		
D2			0.5926		
D3			0.5603		
D4			0.5704		

D5			0.5233		
D6			0.7964		
D7			0.6265		
DS1		0.5617			
DS2		0.7			
DS3		0.4171			
DS4		0.7919			
DS5		0.7898			
DS6		0.7187			
OI1				0.4517	
OI2				0.7126	
OI3				0.7269	
OI4				0.7332	
OI5				0.7601	
OI6				0.7968	
OI7				0.4873	
PPI1					0.6478
PPI2					0.6585
PPI3					0.6512
PPI4					0.6551
PPI5					0.5409
PPI6					0.8373
PPI7					0.5431
PPI8					0.8106

Factor loadings in a structural equation model indicate strength and direction of the relationship between observed variables (indicators) and latent constructs (factors). In this context, high factor loadings closer to 1 signify a robust correlation between the factors and the observed variables they represent. For instance, within our model, factor loadings for Corporate Performance (CP), Digital Strategy (DS), Digitization (D), Organizational Innovation (OI), and Product and Process Innovation (PPI) indicate strong associations between the measured indicators and their respective constructs. These loadings, CP1-CP9, D1-D7, DS1-DS6, OI1-OI7, and PPI1-PPI8, confirm contribution degree of each indicator to its underlying factor, signifying their reliability in lieu of broader constructs within the study.

Table 4 Structural Equational Model

	OS	SM	SD	TS	PV
Digital Strategy → Corporate Performance	0.2341	0.2342	0.0346	6.7582	0
Digitization → Corporate Performance	0.2329	0.2369	0.0446	5.2256	0
Organizational Innovation → Corporate Performance	0.2787	0.2712	0.0514	5.4223	0
Product and Process Innovation → Corporate Performance	0.1918	0.1961	0.0424	4.5258	0

The structural equation model (SEM) results exhibit compelling insights into relationship between many factors digital strategy, digitization, organizational innovation, product process innovation and their impact on corporate performance. The analysis indicates a significant positive influence of each factor on corporate performance, as evidenced by respective coefficients: digital strategy at 0.2341, digitization at 0.2329, organizational innovation at 0.2787, and product and process

innovation at 0.1918. These coefficients, when compared to the sample mean, suggest that all factors consistently contribute positively to enhancing corporate performance within the studied SMEs. Additionally, the T statistics for each relationship, ranging from 4.5258 to 6.7582, highlight the robustness of these associations, substantiating their statistical significance. The p-values of 0 across all relationships further confirm significance, indicating a high level of confidence in the observed effects. This interpretation underscores pivotal role played by digital strategies and innovation across organizational and process domains in bolstering performance of SMEs within the context of emerging economies, advocating for strategic emphasis on these factors for sustained growth and desired competitiveness.

Figure 1 Measurement Model

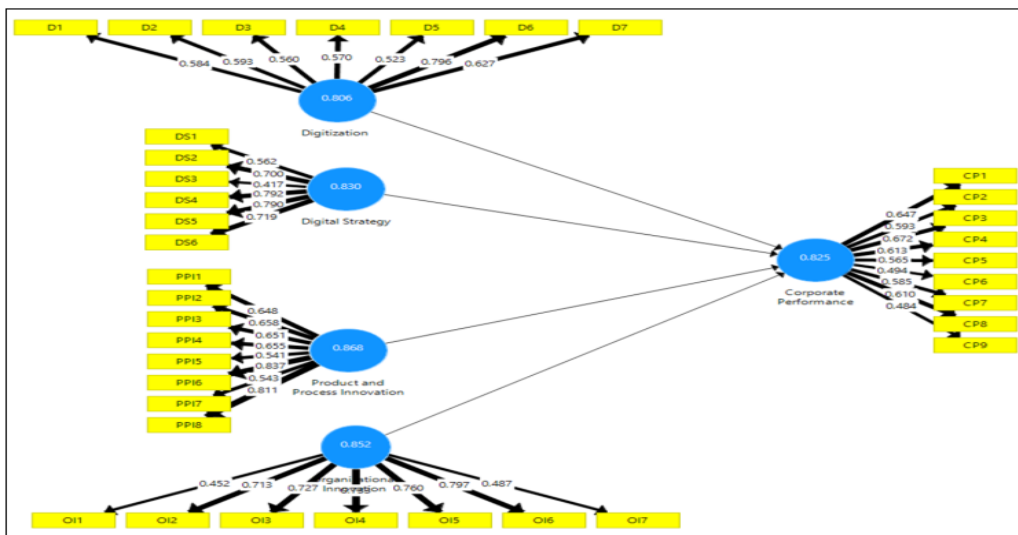
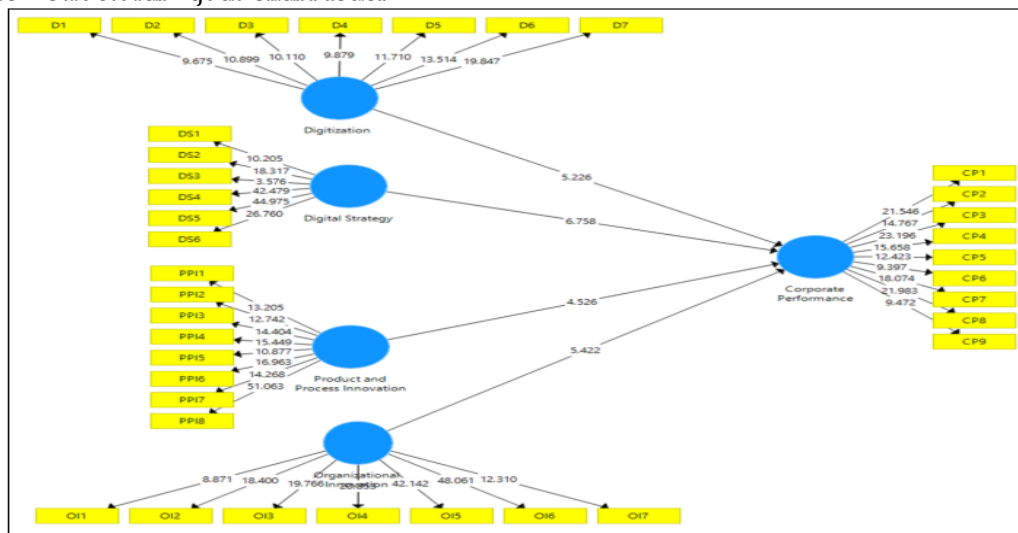


Figure 2 Structural Equational Model



## DISCUSSION & CONCLUSION

The findings derived from the structural equation model (SEM) shed light on crucial role of digital strategies and innovation in influencing corporate performance within context of SMEs operating in emerging economies. Thus, the strong positive relationship observed between digital strategy, digitization, organizational innovation, & product/process innovation with corporate performance highlights the significance of these factors in driving success. These results align with contemporary literature emphasizing the importance of leveraging technological advancements and fostering innovative practices to enhance competitiveness and growth. In this linking, the robustness of these relationships, as indicated by high T statistics and extremely low p-values, signifies the statistical significance and reliability of observed effects. Such compelling statistical evidence underscores the need for SMEs in the emerging economies to strategically prioritize digital transformation and innovation across the various facets of their operations to achieve and sustain enhanced corporate performance.

In conclusion, research underscores that digital strategies and innovative practices significantly contribute to the improvement of corporate performance in SMEs within emerging economies. The positive influence of digital strategies, digitization, organizational innovation, and product/process innovation on corporate performance indicates that investing efforts and resources in these areas can yield the substantial benefits for the SMEs seeking growth and competitiveness. It's essential to acknowledge certain limitations within this study. The research primarily focuses on quantitative data analysis, potentially overlooking nuanced qualitative aspects that could provide the deeper insights into the contextual intricacies of the relationships observed. Moreover, the study's scope is confined to specific emerging economies and SMEs within these regions, limiting generalizability of the findings to broader contexts. In this connection, future research could consider longitudinal studies or qualitative approaches to further explore the dynamics and potential causality between digital strategies, innovation & corporate performance in small medium enterprises across diverse emerging markets.

## REFERENCES

- Abudaga, A., Alzahmi, R. A., Almujaani, H., & Ahmed, G. (2022). Does innovation moderate the relationship between the digital facilitators, digital transformation strategies and overall performance of SMEs of UAE? *International Journal of Entrepreneurial Venturing*, 14(3), 330-350.
- Duke, J., Igwe, V., Tapang, A., & Usang, O. (2023). The innovation interface between knowledge management and firm performance. *Knowledge Management Research & Practice*, 21(3), 486-498.
- Fernandez, V. (2022). The Environmental management: Implications for business performance, innovation, and financing. *Technological Forecasting and Social Change*, 182, 121797.
- Gaglio, C., Mbula, E., & Lorenz, E. (2022). The effects of digital transformation on innovation and productivity: Firm-level evidence of South African manufacturing micro and small enterprises. *Technological Forecasting and Social Change*, 182, 121785.
- Liu, Q.-R., Liu, J.-M., & He, Z.-P. (2023). Digital transformation ambidexterity and business performance. *Journal of Enterprise Information Management*, 36(5), 1402-1420.



- Hidayat, S., Setiawan, M., Rohman, F., & Hussein, A. S. (2023). Reawakening digital innovation and collaboration strategy: Strategies to Improve business performance. *WSEAS Transactions on Business and Economics*, 20, 342-351.
- Hongyun, T., Sohu, J. M., Khan, A. U., Junejo, I., Shaikh, S. N., Akhtar, S., & Bilal, M. (2023). Navigating the digital landscape: examining interdependencies of digital transformation and big data in driving SMEs' innovation performance. *Kybernetes*.
- Hu, S., & Chen, A. (2023). Unlocking the potential of sustainability: the influence of green innovation and supply chain management on corporate performance. *The Environmental Science and Pollution Research*, 30(44), 99774-99788.
- Le, T. T., Vo, V., & Venkatesh, V. (2022). Role of green innovation and supply chain management in driving sustainable corporate performance. *Journal of Cleaner Production*, 374, 133875.
- Li, L. (2022). Digital transformation and sustainable performance: The moderating role of market turbulence. *Industrial Marketing Management*, 104, 28-37.
- Omoush, K., Lassala, C., & Navarrete, S. (2023). The role of digital business transformation in frugal innovation and SMEs' resilience in emerging markets. *International Journal of Emerging Markets*, 18 (2), 121785.
- Rassool, M. R., & Dissanayake, D. R. (2019). Digital transformation for small & medium enterprises (Smes): with special focus on sri lankan context as an emerging economy. *International Journal of Business and Management Review*, 7(4), 59-76.
- Sahoo, S., Kumar, A., & Upadhyay, A. (2023). How do green knowledge management and green technology innovation impact corporate environmental performance? Understanding the role of green knowledge acquisition. *Business Strategy and the Environment*, 32(1), 551-569.
- Sohu, J. M., Hongyun, T., Akbar, S., & Hussain, F. (2023). Digital Innovation, Digital Transformation, and Digital Platform Capability: Detrimental Impact of Big Data Analytics Capability on Innovation Performance. *International Research Journal of Management & Social Sciences*, 4(3), 265-281.
- Amnha, M. A., Magableh, I. K., Asad, M., & Qudah, S. (2023). Open innovation: The missing link between synergetic effect of entrepreneurial orientation and knowledge management over product innovation performance. *Journal of Open Innovation: Technology, Market, and Complexity*, 9(4), 100147.
- Truong, T., Nguyen, P. V., Vrontis, D., & Ahmed, Z. U. (2023). Unleashing corporate potential: the interplay of intellectual capital, knowledge management, and environmental compliance in enhancing innovation and performance. *Journal of Knowledge Management*, 14 (3).
- Valdez, L. E., Escobar, E. A., & Álvarez, E. P. (2023). Reconfiguration of Technological and Innovation Capabilities in Mexican SMEs: Effective Strategies for Corporate Performance in Emerging Economies. *Administrative Sciences*, 13(1), 15.
- Yousaf, Z., Radulescu, M., Sinisi, C. I., Serbanescu, L., & Păunescu, L. M. (2021). Towards sustainable digital innovation of SMEs from the developing countries in the context of digital economy and frugal environment. *Sustainability*, 13(10), 5715.
- Yu, J., Wang, J., & Moon, T. (2022). Influence of Digital Transformation Capability on Operational Performance. *Sustainability*, 14(13), 7909.