INTERNATIONAL JOURNAL OF ACADEMIC RESEARCH IN BUSINESS & SOCIAL SCIENCES

Vol 13, Issue 9, (2023) E-ISSN: 2222-6990

# The Role of Digitalization on Manufacturing SME Firm Performance in India

Isha Kampoowale
PhD. Scholar Azman Hashim International Business School, Universiti Teknologi Malaysia, Kuala Lumpur, Malaysia
Email: kampoowale@graduate.utm.my

AP Dr. Harcharanjit Singh
Associate Professor, Azman Hashim International Business School, Universiti Teknologi Malaysia, Kuala Lumpur, Malaysia
Email: harcharanjit@utm.my

Ayu Andirah Binti Sakka, Ekene Iwuchukwu, Essra Abdulsattar Ahmed Al-Shaikhli
PhD. Scholar, Azman Hashim International Business School, Universiti Teknologi Malaysia, Kuala Lumpur, Malaysia
Email: a.andirah@graduate.utm.my, ekene@graduate.utm.my, abdulsattar.a@graduate.utm.my

**To Link this Article:** http://dx.doi.org/10.6007/IJARBSS/v13-i9/18060 DOI:10.6007/IJARBSS/v13-i9/18060

***Published Date:*** *10* September 2023

**Abstract**

This conceptual paper aims to look into how the performance of manufacturing SMEs in India has been influenced by digitalisation. Prior marketing circumstances are constantly changing in the digital age, and real problems must be solved to cover the skills gap built by digital advancements. Past research stated that theoretical and empirical contributions address the problems caused by the digitalization of marketing channels and the exponential growth in the total knowledge. In addition, the study aims to define how digitalization affects India's SMEs in manufacturing. Digitalization has a substantial impact on the performance of manufacturing SMEs. In order to avoid experiencing poor effect, the article underlines the crucial importance of digital capabilities for SMEs owners/managers to take into account while acting on behalf of their organization. Dynamic Capability theory serves as the conceptual foundation and an explanation of the interactions between the variables. Additionally, the theoretical and practical implications of this conceptual model are addressed.

**Keywords:** Digital Capability, Dynamic Capability theory, Firm performance, Manufacturing SMEs of India.

## Introduction

Emerging environment forces businesses to accept and use digital technologies, which result in fundamental and irreversible change in business operations (Lyytinen et al., 2003). This idea of "digital transformation" is taken from the word "digitalization," which is broadly defined as the use of new digital technologies to a business model in order to provide new income streams and prospects for value creation (Cenamor et al., 2019; Kohtamäki et al., 2019). Companies must take the initiative and develop certain competencies at various organizational and operational levels of their business model in order to take advantages associated with a successful adoption of digital transformation (Battistella et al., 2017; Gobble, 2018). According to others, businesses will be more prepared if they can effectively create digital resources and competencies.

In order to maintain commercial operations, businesses have started to optimize and enhance the effectiveness of their processes. Moreover, because of this shifting and unstable environment, digital skills are becoming more and more prominent (Zhen et al., 2021). Previous studies suggested that digital capabilities has been ingrained in all sectors of the manufacturing industries (Drechsler et al., 2020; Mosteanu et al., 2020). Modernisation has not only raised standards of living, but it has also sparked new approaches to manufacturing, business practices, and supply chain management (Khlystova et al., 2022). However, empirical review of the literature has resulted in the discovery vibrant debate regarding the link between digital capability and firm performance. According to several researchers, digital capability makes a business more flexible and enhances productivity (Arias-Pérez et al., 2020; Dethine et al., 2020; Joensuu-Salo et al., 2018). Firms are more likely to create a complicated and favourable plan, the more resources it has and the more efficiently it can utilize them (Sarfraz et al., 2023). Nonetheless, the inability to fully explain their mechanisms, there isn't enough evidence to prove a direct connection between digital capability and firm performance (Usai et al., 2021). The objective of this paper is to provide some understanding on the relationship of digitalization strategy from the perspective of Indian manufacturing SMEs sector. In addition, this research aims to understand how digital transformation influences firm performance in a system compared to motivation. Past, research has tried to understand how technical and digital capabilities relate to one another (Nasiri et al., 2020; Sharma et al., 2022). Zhen et al (2021) describe how management capabilities affect digital capabilities and firm performance. Iheanachor et al (2021) observed the failure to increase digital capabilities in Nigeria could have significant impact on the firm performance. Thus, firms must adapt digital capabilities in order to enjoy superior firm performance (Lee et al., 2018). Therefore, by increasing digitalization would gain its competitive advantage over competitors and increase firm performance (Soto-Acosta et al., 2018). Therefore, the goal of this conceptual paper is to examine the dynamic impact of digital capabilities in the context of Indias' manufacturing SMEs.

## Problem Statement

SMEs are crucial to the expansion and development of the Indian economy (Das et al., 2020; Sangvikar et al., 2019). SME GDP contributions are significant to the Indian economy (Kumar & Ayedee, 2021; Subhash, 2019). SMEs contributes significantly to the economy; and it is also the main contributor to job employment in India (Awasthi et al., 2021; Singh Sodhi et al., 2019).Manufacturing SMEs accounted for 7% of total SMEs manufacturing establishments in India (MSME, 2021). One of India's high-growth sector is the manufacturing of SMEs (IBEF, 2021). In order to establish India as a worldwide manufacturing centre and

boost the country's economy, the Indian government introduced the "Make in India" program in 2014. Thus, to meet the Trillion-dollar economy by 2050 target; India needs greater involvement of SMEs (Chatterjee & Bhattacharjee, 2020).

India's manufacturing sector might generate $1 trillion in revenue by 2025 (IBEF, 2021). Despite of the manufacturing SMEs significant contribution to establishments; GDP and unemployment SMEs in India, it faced numerous challenges (Chatterjee & Bhattacharjee, 2020; MSME, 2021; Pawar & Sangvikar, 2019; Sandu et al., 2020). Given the rapid technological development and the expanding rate of globalization, SMEs in India are facing many challenges and other unprecedented obstacles (Hattiambire & Harkal, 2022; Sharma & Paramati, 2021; Sharma et al., 2022; Sundaram et al., 2022).

Past studies suggested that manufacturing SMEs in India are facing a serious decline in terms of their firm performance (Gandhi et al., 2018; Palaniappan, 2017; Tripathi et al., 2021). Past study suggested that firm performance can be measured by the GDP performance (Tanaka et al., 2020; Tripathy et al., 2019). Figure 1.3 showed that SMEs manufacturing GDP contribution has fluctuated from 1.51% in 2015 to 0.94% in 2021 (Beemabai & Krishnakumar, 2019; Luthra et al., 2022; Sen et al., 2022). Nonetheless, the reason for poor SMEs GDP and GVA decline in India has not been researched sufficiently (Majumder & De, 2021). Past studies suggested that future research should investigate the SMEs' manufacturing declining GDP contribution to the nation's economy (Allamraju et al., 2020; Bardhan & Sharma, 2022; Kiran & Reddy, 2019; Sharma et al., 2022).

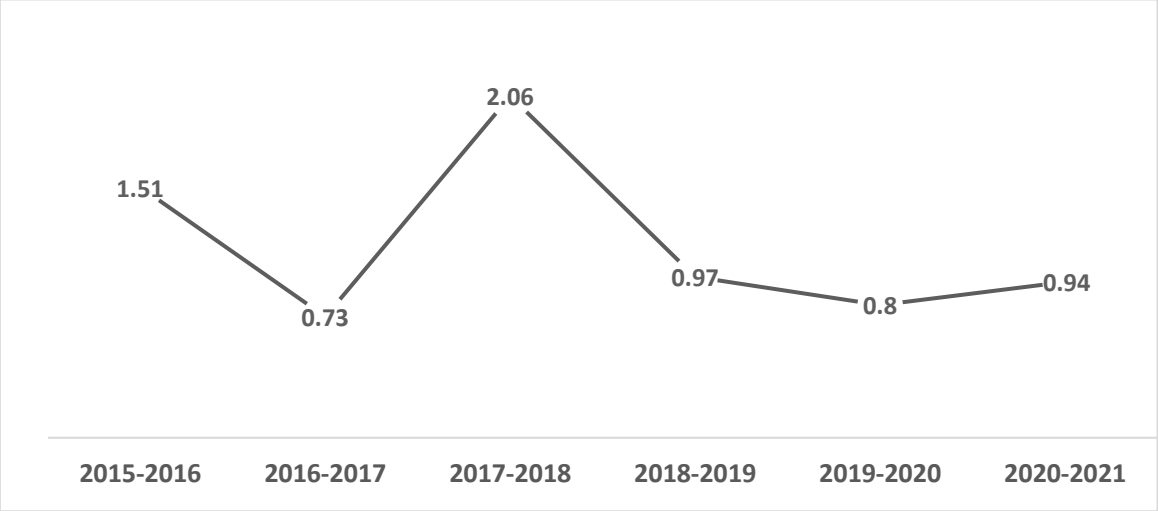


Figure 1.1 Manufacturing SMEs GDP Contribution between 2015-2021
(Source: Udyog Aadhaar Memorandum, 2020-2021)

India's SMEs lack of digital skills and unable to compete in markets that are affecting development (Kumar et al., 2023). In addition, a lack of resources prevents SMEs in emerging nations from expanding and becoming the main forces behind economic progress (Chatterjee et al., 2021). Similarly, poor infrastructure challenges, a lack of market information, and the latest techniques are some of the causes that have contributed to the failure of SMEs manufacturing in India (Chakraborty et al., 2020; Chatterjee & Bhattacharjee, 2020; Gahlawat & Kundu, 2019). Furthermore, SMEs shortage of digital capability could also influence their ability to compete globally (Biswas & Singh, 2020; Mukherjee, 2018; Sanu & Anjum, 2021).

Although 35% of SME owners/managers believe that digital technologies will bring value to their company; however, millions of Indian SMEs have not adopted digital technologies (Sinha & Dhall, 2020). In addition, 31% of owners/managers of SMEs complained on the shortage of

prerequisite skills. Meanwhile, 26% of SMEs owners/managers reported that digital technologies are too expensive for them to utilize (Sen et al., 2022).

Despite the Indian government's aggressive attempts to help SMEs in many ways, such as direct financial assistance, low-interest loans, and business training, these firms still face resource shortages and display problematic management practices that need to be improved (Sahoo & Yadav, 2018; Sen et al., 2022; Singh & Kumar, 2020). Lee et al (2022) suggested that future research should examine how digital capabilities affects firm performance. Thus, present research conceptual framework was created based on this gap.

Pan et al (2022) suggested that customer and technology orientation can help firms promote their digital capabilities. Moreover, it is evident that technological identification is a key indicator of digital capability. Lyytinen et al (2016) proposed that research in this area might integrate conceptual and theoretical frameworks that represent the various methods in which the digitalization process might affect the practical outcomes of innovation. Past studies have found digitization impacts and improves firm performance (Bouwman et al., 2019; Guo et al 2021; Lee et al., 2022). However, the authors suggested that, more research would bring more generalizability on testing this relationship. Moreover, future research need to investigate the impact of digital technologies in India's manufacturing SMEs (Bagale et al., 2021). Consequently, this conceptual paper will offer crucial information and increase awareness among owner/managers of manufacturing SME businesses in India on how digital capabilities might improve the efficiency of their company.

## Literature Review

### *Firm Performance*

Richardson et al (2009) suggested that the level to which a firm is accomplishing its goals is determined by performance. Firm performance determines whether the firm succeeds or fails. Many businesses offer their own goods or services in the market system (Rehman et al., 2019). The primary goals of every business or organization are to maximize profits and endure for a long time in the market (Chandrashekar et al., 2019). There are several elements that influence how well a firm performs, including internal and external cultural issues, rewards, financial concerns, the development of novel business models, administrative challenges, leadership abilities, poor teamwork, environmental uncertainties, and planning (Rehman et al., 2019).

Moreover, in a highly competitive market, only a firm's exceptional performance ensures its long-term sustainability (Sarfraz et al., 2023). The organizational performance has a crucial role in achieving objectives, goals, and targets not only in developing but also in developed nations' small and medium firms and large industries (Donkor et al., 2018). According to Kim (2021) firm performance comprises of financial and non-financial performance. The financial performance is measured by revenue, profitability, cost reduction, return on assets, and return on sales. non-financial attributes measures customer satisfaction, market share, ownership, and new product adoption.

### *Digital Capability*

Digital capability is the innovation in organizational design, distinctiveness in corporate operations, and manufacturing to satisfy market expectations. The administration can rebuild or reconstruct the business model in response to changes in the market dynamics impact of the digital capability (Bouwman et al., 2019; Nasiri et al., 2020; Pramanik et al., 2019). According to Verhoef et al (2019) there are three levels of digital capability, including

digitalization, digitations, and digital capabilities. In the initial phase, businesses often embrace digital technology to reinvent processes. In the second stage, particular tasks such as the retailer's choice to move sales online from the physical channel are exploited. Third phase firms modify their value creation by implementing digital technology. The papers summarized in Table 1 are among the most cited imperical papers that represents a reference literature for the notion of digitalization capability.

Table 1
*Definition of Digital Capability*

| **Author(s)** | **Definition / related concepts** |
|---|---|
| Wielgos et al (2021) | In the era of digital business transformation, firms must learn fundamental competencies to stay competitive. |
| Khin et al (2018) | Digital capability refer to a company's ability to incorporate and use digital information and data technology in its goods, operations, business operations, organization structures, and practices to provide additional value to its constituencies and recipients. |
| Wheeler (2002) | "Net-enablement" of business innovation as "firm's ability to create customer value through the business use of digital networks" |
| Saputra et al ( 2021) | The term "digital capability" refers to a company's business practices, organizational culture, office environment, and quick market response. |
| Kin et al (2018) | A company's ability to succeed or maintain a competitive advantage in a global market can be compromised by its digital capabilities. |
| Heredia et al (2022) | Digital capability refers to a data-driven strategy, robust resources, affected business operations, and strengthened resources. Digital has always been viewed as a capability that supports or enables businesses. For example, information technology might serve as a company's backbone or digital marketing. |
| Jepsen and Drahokoupil (2017) | Digitalization will change the demand for labour, skill requirements, work organization, income instability, and tax bases. |
| Ong et al (2021) | Digital capabilities can be the abilities required to see beyond solely IT to integrate certain technologies, like social media or mobile, as well as the analytical abilities required to extract value from big data. |

According to Cifone et al (2021) implementing digital tools in manufacturing processes increase product value, expanding customer and supplier engagement, and boosting internal and external collaboration, the company's profit margin was increased. The creation of a new business model, task execution, partner and stakeholder communication, and supply chain management are all made possible by the rigorous technological revolution that is digital supply chain management. (Kumari, 2018; Pramanik et al., 2019; Warner et al., 2019).

Moreover, firm capability to collect high-quality data for multiple objectives, such as growing sales, finding new markets, and creating user interfaces, adds to growth and

improves production process in the industry (Frank et al., 2019). Due to the importance of digital capability, organizations must adopt flexibility and cutting-edge technology into daily operations. Digital capability has improved managerial competence and work quality (Frank et al., 2019; Pramanik et al., 2019).

Digitalization has been widely examined in relation to SME organization performance (Bouwman et al., 2019; Kuusisto, 2017). While considering the role of SMEs to the economy, numerous studies have found that the competitive and sustainable advantage of SMEs is vital to their viability (Jalil et al., 2021). In India, researchers have stated that digitalization is not limited to analysing Wang (2007) or exhibiting an organization's tacit values; rather, it entails translating the outcomes of an organization's inherent values into new values (Bagale et al., 2021). Moreover, digital capability has also improved management competence and work quality. The importance of digital capability is that businesses must enhance their capacity for adaptation to emerging technologies and their integration into business processes. (Ferreira et al., 2019; Kuusisto, 2017; Pramanik et al., 2019). According to Dethine et al (2020); Sharma et al (2022) era of globalization and rapid technological development, SMEs include digitalization to ensure their economic resilience and competence. India demonstrates that SMEs have been willing to emphasize digitilization. Additionally, it is crucial for the digital supply chain's external connectivity since it may improve customer service by collecting enormous amounts of data from several sources. Additionally, it creates a solid network between all of the partners (Lee et al., 2022; Nasiri et al., 2020). The majority of Indian SMEs continue to give minimal attention to digitalization, and relatively limited study has been conducted on this topic (Bagale et al., 2021; Chatterjee & Bhattacharjee, 2020). Therefore, in order to improve the performance and competitiveness of Indian SMEs, the government strongly promotes digitization and everything that it involves in terms of information, relationships, skills, and organizational structure (Sinha et al., 2021).

***Digital Capability and firm performance***

A firm's technological skills indicate its ability to develop novel goods and services by combining its strategy with cutting-edge practices (Wang, 2007). These skills and knowledge include the ability to acquire, apply, integrate, modify, improve, and create new technologies (Frank et al., 2019; Gillani et al., 2020). These capabilities have proven it possible for the firm to create new goods and technologies, enhance production procedures and quality control skills, and forecast technological advancements (Gillani et al., 2020).

In a similar manner, digital capabilities are provided as a system through a different supplier-user interaction that creates value and is referred to as a digital output. According to Kohli and Grover (2008) it is the internal ability to provide consumer information at the designated time. According to Lyytinen et al. (2016) are digital systems that provide novel outcomes and organizational structures without the unforeseen involvement of third parties or the developer of the system's deliberate planning. According to Yoo et al. (2012) the same digital tools may be used to create and manage many products or subsystems.

Organizations must be able to generate competitive advantage through technological capabilities (Ferreira et al., 2020). Technological capabilities are crucial for firms to comprehend the processes that affect the adoption of digital technology (Ong et al., 2021). El-Haddadeh (2020) the facets of digitalization is determined on how fast firms adopt technology. Karimi et al. (2015) examine the effect of dynamic capabilities on the performance of digitalisation. According to (Sutherland et al., 2018) digital disruption lowers the cost of intermediary services and more effectively uses technology (Karimi et al., 2015).

In this regard, past research has reported uncertainty on the links between digital capabilities and firm performance (Ferreira et al., 2019; Khin et al., 2018; Martínez-Costa et al., 2019). Usai et al (2021) stressed the significance of business information and analytics and its beneficial relationship to firm profitability from the perspective of dynamic capabilities. However, Usai et al (2021); Chen et al (2021) suggested that firms adopt digital transformation as their principal organizational strategy in order to reconfigure their capabilities to suit new market demands.

Additionally, IT capabilities could also boost digital transformation (Grewal & Tansuhaj, 2001), artificial intelligence and machine learning (Gordini et al., 2017), use of virtual reality (Boyd et al., 2019), video conferencing (Hardwick et al., 2019) and the internet (Avlonitis et al., 200) among others, can modify the resources and capabilities available to the firm. Considering how digital capabilities are being reused in different capacities. Thus, there is evidence that digital dynamic capabilities, which support other abilities, have a positive relationship with firm performance (Soluk et al., 2020).

The fundamentals of assuring a successful adoption strategy depend on how firms are able to recognize the significance of adopting such technological innovations (Kim et al., 2018). The efficacy of organizational activities and processes must be increased by implementing digital tools (Bouwman et al., 2019). Moreover, with the help of digital capabilities, companies could more effectively combine the technology in line with an organization's value proposition and take use of a myriad of sustainability reports (Gobble, 2018). In this "new normal," Gobble (2018) highlight the indicators of the influence of digital capabilities in three business domains in the new normal: labor and social relations, marketing capabilities, and technological capabilities. Moreover, digital technology increases technical capabilities for organizations to fulfil its objectives. Bouwman et al (2019) explore SMEs concern about adopting new technologies, as well as the increasing importance of technology in gaining a competitive edge. According to Lee (2017) data from 168 manufacturing enterprises, SMEs' performance may be enhanced by embracing new technology.

Zhang et al (2020) suggested that technology are key contributor to SMEs' innovation success in the manufacturing industry. Ciffolilli and Muscio (2018) suggested, that technology adoption plays an essential role in the performance of European SMEs. As a result, digital capabilities activate technological ones, increasing the quality of provided products and services. As a result, improving firm performance (Ciampi et al., 2022). Hence, this conceptual paper viewed digital capabilities to be the primary complement to other capabilities and to enable the recognition of signals from the environment. Thus, the following hypothesis is proposed:

**$H_1$:** There is a positive relationship between digital capability and firm performance

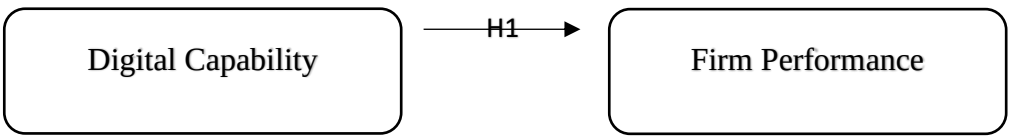


Fig.2. Conceptual Framework

***Dynamic Capability Theory (DCT)***

Dynamic capability theory (DCT) refers to the "ability to develop and reconfigure organisational competencies continuously in order to adapt to rapidly changing environments" (Teece et al., 1997). This study employed the dynamic capabilities theory, developed as an extension of the resource-based view (RBV) (Chung et al., 2019). Therefore, operational efficiency is determined by how firms continuously adapt and enhance their resources and skills (Teece et al., 1997). Moreover, dynamic capacities can be regarded as a useful integrated framework, however, there is further work to be done. Additionally, despite the difficulties that have been faced in the past, measurement is continually evolving (Lin et al., 2020; Wang et al., 2007; Weaven et al., 2021).

The primary objective of this conceptual paper is to analyse digital capabilities as a third-order capacity that enables the activation of technological capabilities and ensures a model implementation of a firm's value proposition. Dynamic third-order capabilities do, in fact, highlight a firm's long term search for resource and core capability reconfiguration and recreation in order to adapt to a changing environment (Wang et al., 2007) However, there is still a lack of empirical research that tries to explain the connection between dynamic capabilities and firm performance in the setting of the "new normal" (Ferreira et al., 2019). Accordingly, theoretical results that in order to realize firm performance, dynamic capability are both necessary and insufficient (Sarwar et al., 2021).

Loureiro et al (2021) suggested future research to take into account the necessity for an empirical investigation on dynamic capabilities. The study finds that most research talk about the connection between dynamic capabilities and firm performance. Ferreira et al. (2019) argue that a strong complement of assets and skills enables businesses to gain a competitive edge that results in impressive performance. Viswanathan and Telukdarie (2021) argued that technology capabilities, more specifically dynamic capabilities, have a favourable influence on firms performance. Consequently, resources or combined resources must continue to be managed to recent simple accessibility in the open market for enterprises to have sustained competitive advantages (Freeman et al., 2020). Additionally, it is determined that the (DCT) theory is the best foundation for the theoretical model of investigation of the influence of resources allocation on digital capability (Khin et al., 2018; Matarazzo et al., 2021; Warner et al., 2019).

**Research Design/Methodology/Approach**

A systematic review was undertaken by eight reviewers focused on the independent and sequential gathering and synthesis of information as they carried out a systematic review. In order to reduce biases and eliminate outdated or substandard findings, the review approach was also well-developed. The proper development of the research topic comes first in systematic analysis, then a process is put into practice. When using a systematic review technique, it is further required to carry out a thorough and impartial literature review. As a consequence, all findings will be available to everyone, especially those that are particularly important to our work. Therefore, a systematic review must be thorough, accurate, and repeatable; these qualities set it apart from original research.

**Results and Discussion**

The conceptual paper was developed using a systematic review of academic publications, proceedings, conferences, and book pertinent to the keywords and research topic. The

following theoretical framework was constructed based on the scope of the literature review and the research disagreement as shown in Figure 2.

**Study Implication**

This paper provides an opportunity for manufacturing SMEs and the Indian government to place a renewed emphasis on firm performance. Based on the findings of prior research, the empirical evidence reveals that this research is essential for policymakers in India in order to develop appropriate policies for strengthening digital supply chain management, business performance, and human capital skills. Thus, according to this conceptual paper, digital capability is an implementing those ideas of firm performance. The conceptual framework has not been empirically investigated. Future research may have included more impacting variables, such as manufacturing capability and social capital. Furthermore, future research and experiments might investigate and assess other independent variable, such as networking capabilities, and mediating variables, such as innovation capability, that could be used to enhance the theoretical model presented in this paper. In the future, a comparative study of SMEs' digital competence on environmental concerns such as environmental performance could be conducted.

**Conclusion**

This conceptual paper evaluated the importance of digital capabilities and their impact on firm performance. Digital capabilities investment in Indian SMEs will inspire other enterprises to make efficient use of the firm's resources. This conceptual paper described how digital capabilities can be used to improve performance. Businesses must correctly utilize their resources in order to achieve excellent performance. As a result of rapidly changing trends and a competitive market, SMEs must implement a number of methods to gain a competitive advantage and meet the demands of their consumers with superior products or services. This article would encourage manufacturing SME owner/managers and the Indian government to provide more and renewed attention to the areas of firm performance and its influencing factors. Present paper may claim, that digital capability is the key antecedent of corporate performance.

In spite of its contributions and consequences, the study has limitations. There are several restrictions noted here. First, the article examined the conceptual influence of digital capabilities on firm performance, which has not previously been explored. Future scholars can utilize the framework presented in this publication. Second, the work was confined to a specific area of Indian SMEs; future research might examine other sectors, such as the service sector. Thirdly, future studies can improve the approach by analysing further variables like manufacturing capability and the mediating role of innovation capability.

**References**

Allamraju, A., Jain, P., & Asrani, C. (2020). MSMEs and Competition Law in India: Victoms or Perpetrators. *Review of Socio-Economic Perspectives Allamraju*, *5*(1), 1. https://doi.org/10.19275/RSEP074

Arias-Perez, J., Velez-Ocampo, J., & Cepeda-Cardona, J. (2020). Strategic orientation toward digitalization to improve innovation capability: why knowledge acquisition and exploitation through external embeddedness matter. *Journal of Knowledge Management*, *25*(5), 1319–1335. https://doi.org/10.1108/JKM-03-2020-0231

Avlonitis, G. J., & Karayanni, D. A. (2000). The impact of internet use on business-to-business marketing: examples from American and European companies. *Industrial marketing management, 29(5),* 441-459.https://doi.org/10.1016/S0019-8501(99)00071-1

Awasthi, D., & Shah, A. (2021). Growth Performance, Competitiveness and Employment in MSMEs. *Industrialisation for Employment and Growth in India: Lessons from Small Firm Clusters and Beyond, 223.*

Bagale, G., Vandadi, V. R., Singh, D., Sharma, D. K., Garlapati, D. V. K., Bommisetti, R. K., Gupta, R., Setsiawan, R., Manogaran, G., & Sengan, S. (2021). Small and medium-sized enterprises' contribution in digital technology. *Annals of Operations Research*. https://doi.org/10.1007/s10479-021-04235-5

Bardhan, S., & Sharma, R. (2022). *Sectoral Growth and Sectoral Credit: Panel Evidence from Indian States*. 121–147. https://doi.org/10.1007/978-981-16-7668-0_7

Battistella, C., De Toni, A., De Zan, G., & Pessot, E. (2017). Cultivating business model agility through focused capabilities: A multiple case study. *Journal of Business Research, 73*, 65–82. https://doi.org/10.1016/j.jbusres.2016.12.007

Beemabai, K., & Krishnakumar, K. (2019). Impact of goods and service tax (GST) on MSMEs in India. *International Journal of Innovative Technology and Exploring Engineering*, *8*(9 Special Issue 3), 1235–1240. https://doi.org/10.35940/ijitee.i3273.0789s319

Biswas, A., & Singh, K. (2020). A region-wise analysis of export performance of msme sector in India and its determinants. *Journal of Critical Reviews*, *7*(11), 521–530. https://doi.org/10.31838/jcr.07.11.94

Bouwman, H., Nikou, S., & De Reuver, M. (2019). Digitalization, business models, and SMEs: How do business model innovation practices improve performance of digitalizing SMEs? *Telecommunications Policy, 43(9),* 101828. https://doi.org/10.1016/j.telpol.2019.101828

Boyd, D. E., & Koles, B. (2019). Virtual reality and its impact on B2B marketing: A value-in-use perspective. *Journal of Business Research, 100*, 590–598. https://doi.org/10.1016/j.jbusres.2018.06.007

Cenamor, J., Parida, V., & Wincent, J. (2019). How entrepreneurial SMEs compete through digital platforms: The roles of digital platform capability, network capability and ambidexterity. *Journal of Business Research, 100*, 196–206. https://doi.org/10.1016/j.jbusres.2019.03.035

Chakraborty, D., Chaisse, J., & Pahari, S. (2020). Global auto industry and product standards: A critical review of India's economic and regulatory experience. *Journal of International Trade Law and Policy*, *19*(1), 8–35. https://doi.org/10.1108/JITLP-10-2019-0063/FULL/HTML

Chandrashekar, D., Subrahmanya, M. H. B., Joshi, K., & Priyadarshi, T. (2019). Effect of Innovation on Firm Performance-The Case of a Technology Intensive Manufacturing Cluster in India. *International Journal of Innovation and Technology Management*, *16*(7). https://doi.org/10.1142/S0219877019500524

Chatterjee, M., & Bhattacharjee, T. (2020). Ownership concentration, innovation and firm performance: empirical study in Indian technology SME context. *South Asian Journal of Business Studies*, *10*(2), 149–170. https://doi.org/10.1108/SAJBS-10-2019-0185

Chatterjee, S., Chaudhuri, R., Vrontis, D., & Basile, G. (2021). Digital transformation and entrepreneurship process in SMEs of India: a moderating role of adoption of AI-CRM capability and strategic planning. *Journal of Strategy and Management*. https://doi.org/10.1108/JSMA-02-2021-0049

Chen, C.-L., Lin, Y.-C., Chen, W.-H., Chao, C.-F., & Pandia, H. (2021). *Role of Government to Enhance Digital Transformation in Small Service Business*. https://doi.org/10.3390/su13031028

Chung, H. F. L., Ding, Z., & Ma, X. (2019). Organisational learning and export performance of emerging market entrepreneurial firms: The roles of RBV mechanism and decision-making approach. *European Journal of Marketing*, *53*(2), 257–278. https://doi.org/10.1108/EJM-08-2017-0496

Ciampi, F., Faraoni, M., Ballerini, J., & Meli, F. (2022). The co-evolutionary relationship between digitalization and organizational agility: Ongoing debates, theoretical developments and future research perspectives. *Technological Forecasting and Social Change, 176*, 121383. https://doi.org/10.1016/j.techfore.2021.121383

Ciffolilli, A., & Muscio, A. (2018). Industry 4.0: national and regional comparative advantages in key enabling technologies. *European Planning Studies*, *26*(12), 2323–2343. https://doi.org/10.1080/09654313.2018.1529145

Cifone, F. D., Hoberg, K., Holweg, M., & Staudacher, A. P. (2021). 'Lean 4.0': How can digital technologies support lean practices? *International Journal of Production Economics, 241*, 108258. https://doi.org/10.1016/j.ijpe.2021.108258

Das, M., Rangarajan, K., & Dutta, G. (2020). Corporate sustainability in SMEs: an Asian perspective. In *Journal of Asia Business Studies* (Vol. 14, Issue 1, pp. 109–138). Emerald Group Holdings Ltd. https://doi.org/10.1108/JABS-10-2017-0176

Dethine, B., Enjolras, M., & Monticolo, D. (2020). Digitalization and SMEs' Export Management: Impacts on Resources and Capabilities. *Technology Innovation Management Review, 10*(4), 18–34. https://doi.org/10.22215/timreview/1344

Donkor, J., Donkor, G. N. A., Kankam-Kwarteng, C., & Aidoo, E. (2018). Innovative capability, strategic goals and financial performance of SMEs in Ghana. *Asia Pacific Journal of Innovation and Entrepreneurship, 12*(2), 238–254. https://doi.org/10.1108/apjie-10-2017-0033

Drechsler, K., Gregory, R. W., Wagner, H., & Tumbas, S. (2020). At the Crossroads between Digital Innovation and Digital Transformation. *Communications of the Association for Information Systems, 47*, 521–538. https://doi.org/10.17705/1cais.04723

El-Haddadeh, R. (2020). Digital Innovation Dynamics Influence on Organisational Adoption: The Case of Cloud Computing Services. *Information Systems Frontiers*, *22*(4), 985–999. https://doi.org/10.1007/S10796-019-09912-2

Ferreira, J., Coelho, A., & Moutinho, L. (2020). Dynamic capabilities, creativity and innovation capability and their impact on competitive advantage and firm performance: The moderating role of entrepreneurial orientation. *Technovation, 92–93*, 102061. https://doi.org/10.1016/j.technovation.2018.11.004

Ferreira, J. J. M., Fernandes, C. I., & Ferreira, F. A. F. (2019). To be or not to be digital, that is the question: Firm innovation and performance. *Journal of Business Research*, *101*, 583–590. https://doi.org/10.1016/J.JBUSRES.2018.11.013

Frank, A. G., Dalenogare, L. S., & Ayala, N. F. (2019). Industry 4.0 technologies: Implementation patterns in manufacturing companies. *International Journal of Production Economics, 210*, 15–26. https://doi.org/10.1016/j.ijpe.2019.01.004

Freeman, R. R., Phillips, R. A., & Sisodia, R. S. (2020). Tensions in Stakeholder Theory. *Business & Society, 59*(2), 213–231. https://doi.org/10.1177/0007650318773750

Gahlawat, N., & Kundu, S. C. (2019). Progressive human resource management and firm performance: Empirical evidence from Indian context. *International Journal of Organizational Analysis*, *27*(3), 471–493. https://doi.org/10.1108/IJOA-05-2017-1159

Gandhi, N. S., Thanki, S. J., & Thakkar, J. J. (2018). Ranking of drivers for integrated lean-green manufacturing for Indian manufacturing SMEs. *Journal of Cleaner Production*, *171*, 675–689. https://doi.org/10.1016/j.jclepro.2017.10.041

Garg, P., Gupta, B., Dzever, S., Sivarajah, U., & Kumar, V. (2020). Examining the Relationship between Social Media Analytics Practices and Business Performance in the Indian Retail and IT Industries: The Mediation Role of Customer Engagement. *International Journal of Information Management*, *52*. https://doi.org/10.1016/j.ijinfomgt.2020.102069

Ghosh, M. (2019). Determinants of green procurement implementation and its impact on firm performance. *Journal of Manufacturing Technology Management*, *30*(2), 462–482. https://doi.org/10.1108/JMTM-06-2018-0168

Gillani, F., Chatha, K. A., Jajja, M. S. S., & Farooq, S. (2020). Implementation of digital manufacturing technologies: Antecedents and consequences. *International Journal of Production Economics, 229*, 107748. https://doi.org/10.1016/j.ijpe.2020.107748

Gobble, M. A. M. (2018). Digital Strategy and Digital Transformation. *Research Technology Management*, *61*(5), 66–71. https://doi.org/10.1080/08956308.2018.1495969

Gordini, N., & Veglio, V. (2017). Customers churn prediction and marketing retention strategies. An application of support vector machines based on the AUC parameter-selection technique in B2B e-commerce industry. *Industrial Marketing Management, 62*, 100–107. https://doi.org/10.1016/j.indmarman.2016.08.003

Grewal, R., & Tansuhaj, P. (2001). Building organizational capabilities for managing economic crisis: The role of market orientation and strategic flexibility. *Journal of Marketing*, *65*(2), 67–80. https://doi.org/10.1509/JMKG.65.2.67.18259

Guo, L., Sustainability, L. X.-, & 2021, undefined. (2021). The effects of digital transformation on firm performance: evidence from China's manufacturing sector. *Mdpi.Com*. https://doi.org/10.3390/su132212844

Hardwick, J., & Anderson, A. R. (2019). Supplier-customer engagement for collaborative innovation using video conferencing: A study of SMEs. *Industrial Marketing Management, 80*, 43–57. https://doi.org/10.1016/j.indmarman.2019.02.013

Hattiambire, D. T., & Harkal, P. (2022). Challenges and Future Prospects for the Indian MSME Sector: A Literature Review. *Journal of Management & Entrepreneurship, 16*(1), 2022.

Heredia, J. D., Castillo-Vergara, M., Geldes, C., Gamarra, F. M. C., Flores, A. N., & 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

Iheanachor, N., Umukoro, I. O., & David-West, O. (2021). The role of product development practices on new product performance: Evidence from Nigeria's financial services providers. *Technological Forecasting and Social Change, 164*, 120470. https://doi.org/10.1016/j.techfore.2020.120470

Jalil, M. F., Ali, A., & Kamarulzaman, R. (2021). Does innovation capability improve SME performance in Malaysia? The mediating effect of technology adoption. *International Journal of Entrepreneurship and Innovation*. https://doi.org/10.1177/14657503211048967

Jepsen, M., & Drahokoupil, J. (2017). The digital economy and its implications for labour. 2. The consequences of digitalisation for the labour market. *Transfer*, *23*(3), 249–252. https://doi.org/10.1177/1024258917714659

Joensuu-Salo, S., Sorama, K., Viljamaa, A., & Varamäki, E. (2018). Firm performance among internationalized smes: The interplay of market orientation, marketing capability and digitalization. *Administrative Sciences*, *8*(3). https://doi.org/10.3390/admsci8030031

Karimi, J., & Walter, Z. (2015). The Role of Dynamic Capabilities in Responding to Digital Disruption: A Factor-Based Study of the Newspaper Industry. *Journal of Management Information Systems, 32*(1), 39–81. https://doi.org/10.1080/07421222.2015.1029380

Khin, S., & Ho, T. C. (2019). Digital technology, digital capability and organizational performance. *International Journal of Innovation Science, 11*(2), 177–195. https://doi.org/10.1108/ijis-08-2018-0083

Khlystova, O., Kalyuzhnova, Y., & Belitski, M. (2022). The impact of the COVID-19 pandemic on the creative industries: A literature review and future research agenda. *Journal of Business Research, 139*, 1192–1210. https://doi.org/10.1016/j.jbusres.2021.09.062

Kim, K. (2021). The interplay between the social and economic human resource management systems on innovation capability and performance. *International Journal of Innovation Management*, *25*(7). https://doi.org/10.1142/S1363919621500742

Kim, M., Park, J., & Paik, J. H. (2018). Factors influencing innovation capability of small and medium-sized enterprises in Korean manufacturing sector: facilitators, barriers and moderators. *International Journal of Technology Management, 76*(3/4), 214. https://doi.org/10.1504/ijtm.2018.091286

Kin, F., Itoh, K., Fujisawa, A., Kosuga, Y., Sasaki, M., Yamada, T., Inagaki, S., Itoh, S. I., Kobayashi, T., Nagashima, Y., Kasuya, N., Arakawa, H., Yamasaki, K., & Hasamada, K. (2018). Extraction of nonlinear waveform in turbulent plasma. *Physics of Plasmas*, *25*(6). https://doi.org/10.1063/1.5027124

Kiran, T. S., & Reddy, A. V. (2019). Critical success factors of ERP implementation in SMEs. *Journal of Project Management*, 267–280. https://doi.org/10.5267/j.jpm.2019.6.001

Kohtamäki, M., Henneberg, S. C., Martinez, V., Kimita, K., Gebauer, H., & KohtamäkiKohtam, M. (2019). A configurational approach to servitization: review and research directions. *Pubsonline.Informs.Org*, *11*(3), 213–240. https://doi.org/10.1287/serv.2019.0245

Kumar, A., & Ayedee, N. (2021). An interconnection between COVID-19 and climate change problem. *Journal of Statistics and Management Systems*, *24*(2), 281–300. https://doi.org/10.1080/09720510.2021.1875568

Kumar, V., Sindhwani, R., Behl, A., Kaur, A., & Pereira, V. (2023). Modelling and analysing the enablers of digital resilience for small and medium enterprises. *Journal of Enterprise Information Management.* https://doi/10.1108/JEIM-01-2023-0002/full/html

Kuusisto, M. (2017). Organizational effects of digitalization: A literature review. *International Journal of Organization Theory and Behavior*, *20*(3), 341–362. https://doi.org/10.1108/IJOTB-20-03-2017-B003/FULL/HTML

Lee, K. L., Ain, N., Azmi, N., Hanaysha, J. R., Alzoubi, H. M., & Alshurideh, M. T. (2022). The effect of digital supply chain on organizational performance: An empirical study in Malaysia manufacturing industry. *Research.Skylineuniversity.Ac.Ae*, *10*, 495–510. https://doi.org/10.5267/j.uscm.2021.12.002

Lee, S. Y., & Trimi, S. (2016). Innovation for creating a smart future. *Journal of Innovation & Knowledge, 3(*1), 1–8. https://doi.org/10.1016/j.jik.2016.11.001

Lee, S.-C. (2017). An Empirical Analysis on the Performance of the Port Logistics Industry and Cluster: A Focus on Jiangsu Coastal Areas*. *Journal of International Trade & Commerce (J. Int. Trade Commer*, *13*(5), 67–91. https://doi.org/10.16980/jitc.13.5.201710.67

Lin, T. C., Sheng, M. L., & Jeng Wang, K. (2020). Dynamic capabilities for smart manufacturing transformation by manufacturing enterprises. *Asian Journal of Technology Innovation*, *28*(3), 403–426. https://doi.org/10.1080/19761597.2020.1769486

Loureiro, R., Ferreira, J. J., & Simões, J. (2021). Approaches to measuring dynamic capabilities: Theoretical insights and the research agenda. *Journal of Engineering and Technology Management, 62*, 101657. https://doi.org/10.1016/j.jengtecman.2021.101657

Luthra, S., Kumar, A., Sharma, M., Arturo Garza-Reyes, J., & Kumar, V. (2022). An analysis of operational behavioural factors and circular economy practices in SMEs: An emerging economy perspective. *Journal of Business Research*, *141*, 321–336. https://doi.org/10.1016/j.jbusres.2021.12.014

Lyytinen, K., & Rose, G. M. (2003). The Disruptive Nature of Information Technology Innovations: The Case of Internet Computing in Systems Development Organizations. *Management Information Systems Quarterly, 27*(4), 557. https://doi.org/10.2307/30036549

Lyytinen, K., Yoo, Y., & Boland, R. J. (2016). Digital product innovation within four classes of innovation networks. *Information Systems Journal*, *26*(1), 47–75. https://doi.org/10.1111/ISJ.12093

Martínez-Costa, M., Jiménez-Jiménez, D., & Dine Rabeh, H. A. (2019). The effect of organisational learning on interorganisational collaborations in innovation: an empirical study in SMEs. *Knowledge Management Research & Practice*, *17*(2), 137–150.

Matarazzo, M., Penco, L., Profumo, G., & Quaglia, R. (2021). Digital transformation and customer value creation in Made in Italy SMEs: A dynamic capabilities perspective. *Journal of Business Research, 123*, 642–656. https://doi.org/10.1016/j.jbusres.2020.10.033

Mosteanu, N. R., & Faccia, A. (2020). Digital Systems and New Challenges of Financial Management – FinTech, XBRL, Blockchain and Cryptocurrencies. *Quality – Access to Success, 21*(174), 159–166.

*MSME*. (2021). www.ibef.org

Mukherjee, S. (2018). Challenges to Indian micro small scale and medium enterprises in the era of globalization. *Journal of Global Entrepreneurship Research*, *8*(1). https://doi.org/10.1186/s40497-018-0115-5

Nasiri, M., Saunila, M., Ukko, J., Rantala, T., & Rantanen, H. (2020). Shaping Digital Innovation Via Digital-related Capabilities. *Information Systems Frontiers*. https://doi.org/10.1007/s10796-020-10089-2

Nasiri, M., Saunila, M., Ukko, J., Rantala, T., & Rantanen, H. (2020). Shaping Digital Innovation Via Digital-related Capabilities. Information Systems Frontiers, 2(12), 10089–10108. https://doi.org/10.1007/s10796-020-10089-2

Nasiri, M., Ukko, J., Saunila, M., Rantala, T., & Rantanen, H. (2020). Digital-related capabilities and financial performance: the mediating effect of performance measurement systems. *Technology Analysis & Strategic Management*, *32*(12), 1393-1406. https://doi.org/10.1080/09537325.2020.1772966

Ong, B., Zhe, M., & Hamid, N. A. (2021). The Impact of Digital Technology, Digital Capability and Digital Innovation on Small Business Performance. *Research in Management of Technology and Business*, *2*(1), 499–509. https://doi.org/10.30880/rmtb

Palaniappan, G. (2017). Determinants of corporate financial performance relating to board characteristics of corporate governance in Indian manufacturing industry: An empirical study. *European Journal of Management and Business Economics*, *26*(1), 67–85. https://doi.org/10.1108/EJMBE-07-2017-005

Pan, X., Oh, K., Sustainability, M. W.-, & 2021, undefined. (2022). Strategic Orientation, Digital Capabilities, and New Product Development in Emerging Market Firms: The Moderating Role of Corporate Social Responsibility. *Mdpi.Com*, *13*(7). https://doi.org/10.3390/info13070323

Pawar, A., & Sangvikar, B. V. (2019, October). Understanding the SME: role and distribution in India. *In The 1 International Conference on Innovation of Small Medium-sized Enterprise (ICIS) 2019* (Vol. 1, No. 1, pp. 53-62).

Pramanik, H. S., Kirtania, M., & Pani, A. K. (2019). Essence of digital transformation—Manifestations at large financial institutions from North America. *Future Generation Computer Systems, 95*, 323–343. https://doi.org/10.1016/j.future.2018.12.003

Rehman, S., Mohamed, R., & Ayoup, H. (2019). The mediating role of organizational capabilities between organizational performance and its determinants. *Journal of Global Entrepreneurship Research*, *9*(1). https://doi.org/10.1186/S40497-019-0155-5

Sahoo, S., & Yadav, S. (2018). Lean implementation in small- and medium-sized enterprises: An empirical study of Indian manufacturing firms. *Benchmarking*, *25*(4), 1121–1147. https://doi.org/10.1108/BIJ-02-2017-0033

Sandu, N., Gide, E., & Karim, S. (2020). A comprehensive analysis of cloud-based big data challenges and opportunities for SMEs in India. *Global Journal of Information Technology, 10*(1), 35–44. https://doi.org/10.18844/gjit.v10i1.4745

Sangvikar, B., Pawar, A., & Pahurkar, R. (2019). Survival from the balance of payment crisis: implications from the challenges faced by India. *International Journal of Recent Technology and Engineering, 8*(2S11), 3769-3775. https://doi.org/10.35940/ijrte.B1489.0982S1119

Sanu, M. S., & Anjum, S. (2021). Constraints to the development of MSMEs in Assam, India: do owner-managers' background characteristics and firm-specific characteristics matter? *Journal of Economic and Administrative Sciences*. https://doi.org/10.1108/jeas-08-2021-0159

Saputra, N., Sasanti, N., Alamsjah, F., & Sadeli, F. (2021). Strategic role of digital capability on business agility during COVID-19 era. *Procedia Computer Science*, *197*, 326–335. https://doi.org/10.1016/j.procs.2021.12.147

Sarfraz, M., Ivascu, L., Artene, A. E., Bobitan, N., Dumitrescu, D., Bogdan, O., & Burca, V. (2023). The relationship between firms' financial performance and performance measures of circular economy sustainability: an investigation of the G7 countries. *Economic Research-Ekonomska Istraživanja, 36*(1), 2545-2572. https://doi/abs/10.1080/1331677X.2022.2101019

Sarwar, Z., Khan, M. A., Yang, Z., Khan, A., Haseeb, M., & Sarwar, A. (2021). An Investigation of Entrepreneurial SMEs' Network Capability and Social Capital to Accomplish Innovativeness: A Dynamic Capability Perspective. *SAGE Open*, *11*(3). https://doi.org/10.1177/21582440211036089

Sen, S., Savitskie, K., Mahto, R. v., Kumar, S., & Khanine, D. (2022). If it ain't broke, don't fix it? Indian manufacturing SMEs' quest for strategic flexibility. *Journal of Business Research*, *143*, 27–35. https://doi.org/10.1016/j.jbusres.2022.01.048

Sharma, C., & Paramati, S. R. (2021). Does economic policy uncertainty dampen imports? Commodity-level evidence from India. *Economic Modelling*, *94*, 139–149. https://doi.org/10.1016/j.econmod.2020.09.019

Sharma, M., Raut, R. D., Sehrawat, R., & Ishizaka, A. (2023). Digitalisation of manufacturing operations: The influential role of organisational, social, environmental, and technological impediments. *Expert Systems with Applications, 211*, 11850. https://doi.org/10.1016/j.eswa.2022.118501

Sharma, P., Shah, J., & Patel, R. (2022). Artificial intelligence framework for MSME sectors with focus on design and manufacturing industries. *Materials Today: Proceedings*. https://doi.org/10.1016/j.matpr.2021.12.360

Singh, R. K., & Kumar, R. (2020). Strategic issues in supply chain management of Indian SMEs due to globalization: an empirical study. *Benchmarking*, *27*(3), 913–932. https://doi.org/10.1108/BIJ-09-2019-0429

Singh Sodhi, H., Jit Singh Maharishi Markandeshwar, B., Singh, D., & Jit Singh, B. (2019). An empirical analysis of critical success factors of Lean Six Sigma in Indian SMEs. *World Journal of Science, Technology and Sustainable Development 17(1):20-32.* https://doi.org/10.1108/WJSTSD-10-2019-0073

Sinha, M., Vision, L. F.-, & 2021, undefined. (n.d.). Factors Affecting Digital Visibility of Small and Medium Enterprises in India. *Journals.Sagepub.Com*. Retrieved October 11, 2022, from https://journals.sagepub.com/doi/abs/10.1177/09722629211060564

Soluk, J., Information, N. K.-E. J. of, & 2021, undefined. (2020). Digital transformation in family-owned Mittelstand firms: A dynamic capabilities perspective. *Taylor & Francis*, *30*(6), 676–711. https://doi.org/10.1080/0960085X.2020.1857666

Subhash, P. (n.d.). Study on Formation and Performance of SME Alliances with Special Reference to Indian Manufacturing Firms. *Shodhganga.Inflibnet.Ac.In*. Retrieved July 5, 2022, from https://shodhganga.inflibnet.ac.in/handle/10603/251984

Sundaram, M., & Neelakanta, N. T. (2022). Challenges and prospects of micro, small and medium enterprises (msmes) in Indiaat post covid-19. *ACADEMICIA: An International Multidisciplinary Research Journal, 12*(4), 256-264. http://dx.doi.org/10.5958/2249-7137.2022.00271.3

Sutherland, W. J., & Jarrahi, M. H. (2018). The sharing economy and digital platforms: A review and research agenda. *International Journal of Information Management, 43*, 328–341. https://doi.org/10.1016/j.ijinfomgt.2018.07.00

Tanaka, M., Bloom, N., David, J. M., & Koga, M. (2020). Firm performance and macro forecast accuracy. Journal of Monetary Economics, 114(3), 26–41.

Teece, D. J., Pisano, G., & Shuen, A. (1997). DYNAMIC CAPABILITIES AND STRATEGIC MANAGEMENT. *Strategic Management Journal*, *18*, 509–533. https://doi.org/10.1002/(SICI)1097-0266(199708)18:7

Tripathi, V., Chattopadhyaya, S., Mukhopadhyay, A. K., Sharma, S., Singh, J., Pimenov, D. Y., & Giasin, K. (2021). An innovative agile model of smart lean–green approach for sustainability enhancement in industry 4.0. *Journal of Open Innovation: Technology, Market, and Complexity*, *7*(4). https://doi.org/10.3390/joitmc7040215

Tripathy, S., & Shaik, A. G. (2020). Leverage and firm performance: Empirical evidence from Indian food processing industry. *Management Science Letters,* 1233–1240. https://doi.org/10.5267/j.msl.2019.11.035

Usai, A., Fiano, F., Petruzzelli, A. M., Paoloni, P., Briamonte, M. F., & Orlando, B. (2021). Unveiling the impact of the adoption of digital technologies on firms' innovation

performance. *Journal of Business Research, 133*, 327–336. https://doi.org/10.1016/j.jbusres.2021.04.035

Verhoef, P. C., & Bijmolt, T. H. A. (2019). Marketing perspectives on digital business models: A framework and overview of the special issue. *International Journal of Research in Marketing, 36*(3), 341–349. https://doi.org/10.1016/j.ijresmar.2019.08.001

Viswanathan, R., & Telukdarie, A. (2021). A systems dynamics approach to SME digitalization. *Procedia Computer Science*, *180*, 816–824. https://doi.org/10.1016/j.procs.2021.01.331

Wang, C. L., & Ahmed, P. K. (2007). Dynamic capabilities: A review and research agenda. *International Journal of Management Reviews, 9*(1), 31–51. https://doi.org/10.1111/j.1468-2370.2007.00201.x

Warner, K. S., & Wager, M. (2019). Building dynamic capabilities for digital transformation: An ongoing process of strategic renewal. *Long Range Planning, 52*(3), 326–349. https://doi.org/10.1016/j.lrp.2018.12.001

Weaven, S. K. W., Quach, S., Thaichon, P., Frazer, L., Billot, K., & Grace, D. A. (2021). Surviving an economic downturn: Dynamic capabilities of SMEs. Journal of Business Research, 128, 109–123. https://doi.org/10.1016/j.jbusres.2021.02.009

Wielgos, D. M., Homburg, C., & Kuehnl, C. (2021). Digital business capability: its impact on firm and customer performance. *Journal of the Academy of Marketing Science*, *49*(4), 762–789. https://doi.org/10.1007/S11747-021-00771-5

Yoo, Y., Boland, R. J., 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

Zhang, H., Yan, Q., & Wen, Z. (2020). Information modeling for cyber-physical production system based on digital twin and AutomationML. *International Journal of Advanced Manufacturing Technology*, *107*(3–4), 1927–1945. https://doi.org/10.1007/S00170-020-05056-9

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 (Switzerland)*, *13*(2), 1–15. https://doi.org/10.3390/su13020720