

IMPACT OF IT INNOVATIONS ON MSME SECTOR IN INDIA

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Abstract

Small and Medium Enterprises have been playing a vital role in the growth economy of any country. Micro, small and medium enterprises (MSME) have an important role in economic development both in developing countries and in developed countries. In developing countries, MSMEs provides an aid in the growth of employment opportunities and leads increased national income. That role in the growth of employment opportunities is very strategic, in line with the efforts of the government to reduce unemployment. MSME in order to compete with large players and to success. The quality of output and technology are the two vital parameters that have emerged in the recent past. They are highly essential for enhancing competitiveness of the MSME sector. The paper focuses on the impact of technology on the MSME sector in India. It highlights the various technologies up gradation schemes exclusively drafted for the MSME sector. The research paper attempts to explore various advantages as well as hurdles to technology development among Indian MSMEs in India the researcher tries to analyse the role of technology in enhancing the production efficiency for the MSME sector. This paper is based on extensive review of literature on impact of technology on MSME sector. The review showed that though technology has a positive impact on MSMEs but still MSMEs are bit reluctant in making its full fledged use in manufacturing process.

Keywords: Digital Transformations, MSME, Technology

Introduction

MSMEs are considered as a driving force of innovation and employment, and thus they are an important factor in fostering general economic performance. Micro, Small and Medium Enterprises (MSMEs) in India have evolved considerably since independence. From being referred to merely as the Small-Scale Industries (SSI) sector in the 60s and 70s, the MSME sector has progressed in scale and in the scope of business activities over the years. In the last few years, the MSME sector has reflected a higher growth compared to the overall industrial sector. With its quick responsiveness, adaptability and innovation approaches in the recent years.

MSMEs i.e. Micro, Small and Medium Enterprises. THE MICRO, SMALL AND MEDIUM ENTERPRISES DEVELOPMENT ACT 2006, was passed by the Indian parliament on 16th June, 2006 the objective behind framing the act was to boost the growth, and development, of MSMEs' competitiveness and address issues related thereto or incidental there to (MSMED2006act, n.d.). Enterprises are the pillar the Indian economy, generating employment, promoting innovation, driving industrial development, and driving economic growth. (INDIA A GROWTH OPPORTUNITIES FOR MSME, n.d.). The government has implemented various programs and regulations to support and promote businesses, including the framed several schemes like PMEGP, credit support, technology upgrades, and market access assistance (Metal, n.d.). The Indian government's Make in India and economic recovery measures have led to MSMEs' expansion. This

article focuses on implementation processes, challenges, and potential opportunities for MSMEs in their digital transformation journey (Martínez Peláez et al., 2023)

Understanding Indian MSMEs': The MSME sector in India, with a network of 30 million units and 70 million employees, significantly contributes to the country's growth. It accounts for 45% of manufacturing output and 40% of exports, contributing over 30% to the GDP (Kumar, 2014). The Indian coir industry is a prime example (Mukherjee, 2018).

Digital Transformation: Digital transformation involves integrating digital technology into various business areas, fundamentally altering how organizations operate and value their customers (Tang, 2021). Digital technologies like cloud computing, data analytics, artificial intelligence, and IoT are being extensively used to transform business processes, enhance customer experience, and improve decision-making (Ali et al., 2020). **MSMEs in the Digital Age - Small Yet Mighty:** This study investigates the implementation of digital transformation in MSMEs, focusing on improving productivity, competitiveness, and overall growth (Buteau, 2021). The purpose of this study is to investigate the implementation of digital transformation in MSMEs (Kraus et al., 2021). Digital transformation enhances business operations, marketing, sales, customer service, and internal processes, but can be challenging to implement. MSMEs strive to remain competitive and relevant in the market, requiring strategic use of technological advances (Kraus et al., 2022).

Industry 4.0 in Action: The Dynamic Face of Digital Transformation in Today's Industries: Industry 4.0 has significantly transformed enterprises, utilizing AI, IoT, blockchain, cloud computing, and big data. This digitization offers opportunities for business model innovation, collaboration, and addressing evolving challenges in traditional industries, transforming the industrial landscape (Huang et al., 2023). Statement of the Problem This study explores the challenges faced by MSMEs in India, particularly in integrating digital technology, despite the growing demand for digital transformation. Financial constraints and financial constraints hinder their ability to invest in digitization. By identifying these obstacles, the study provides insights on government agencies, industry players, and MSMEs, paving the way for a more efficient digital journey.

Objectives of the Study

- 1.To understand the initiatives of digital transformation of MSMEs in India. The digital transformation programs are diverse and intended to tackle several facets of their business operations.
- 2.To know the benefits and challenges of digital transformation in MSMEs.
- 3.To enumerate the solutions for digital transformation in MSMEs.

Need of the Study

India has a lower number of referenced articles on digital transformation in MSMEs compared to other countries, possibly due to prioritization, resource allocation, and industry unawareness. Research on this topic is crucial for identifying obstacles, encouraging innovation, guiding policy, and promoting sustainable economic growth

Review of Literature

Existing Status of MSME Registration (As on 1/04/2025) :

Registration based on Enterprise category		
Micro	Small	Medium
6,15,96,152	4,70,454	34,734

Registration based on Gender		
Male	Female	other
3,69,69,438	2,48,87,667	2.30,101

Registration based on Special focus group			
SC	ST	OBC	Divyanjan
65,27,962	20,86,319	1,93,94,983	5,33,802

Registration based on Activity		
Manufacturing	Service	Trading
1,29,61,504	2,16,52,568	2,74,87,268

Employment Generated : 26,55,02,701

Source:<https://dashboard.msme.gov.in/dashboard.a.spx>

Current scenario of use of digital technologies in MSMEs:

MSMEs have started successfully adopting digital technologies to transform their business and improve their competitiveness, while many others are still in the early stages of digital transformation (GOVERNMENT OF INDIA GUIDELINES Technology and Quality Upgradation Support to Micro, Small and Medium Enterprises A Component of National Manufacturing Competitiveness Programme, n.d.).

This literature review aims to highlight the key findings and perspectives on the adoption of digital transformation in MSMEs.

Primary drivers - MSMEs adopt digital transformation to stay competitive, meet customer expectations, and adapt to market conditions(Omrani et al., 2022). Affordable technologies and cost savings are key motivators, along with the need for adaptability.

Secondary drivers - The literature identifies these for digital transformation adoption in MSMEs, such as lack of digital skills, limited financial resources, and concerns about data security and privacy(Khan & Uddin, 2023a). Resistance to change and lack of awareness about digital technologies are also significant barriers. Government policies and support programs, such as financial incentives, training programs, and technical assistance, can help overcome these obstacles(Shankar Yadav et al., 2022). Digital transformation positively impacts MSMEs by understanding challenges and developing supportive policies. Understanding these strategies helps overcome barriers and leverage digital technologies for growth(Dey et al., 2018). The unique strategies and approaches of MSMEs must be carefully examined to enhance agility, efficiency, and competitiveness in the digitalization world.

Benefits of Digital Transformation in MSMEs' in India:

MSMEs can enhance operational effectiveness, decision-making, and resource deployment through digital adoption, artificial intelligence, and efficient use of procedures(Khan & Uddin, 2023b). • **Enhanced Efficiency:** Digital transformation makes MSMEs more productive by automating laborious tasks, streamlining workflows, and reducing the amount of manual labor required. (BinSaeed et al., 2023).

• **Cost savings:** Cloud solutions eliminate the need for physical infrastructure, digital tools minimize office and meeting expenses, and job automation optimizes resource allocation to save labor costs (Kulkarni, 2020).

- **Commercial Expansion:** MSMEs can boost revenue by utilizing e-commerce platforms and digital marketing strategies like SEO and social media ads to reach new and niche customers beyond their geographical boundaries (Kaur et al., 2020).
- **Data-driven Decision Making:** MSMEs utilize analytics in product development, pricing, and inventory management, utilizing digital technology to make data-driven decisions based on consumer behavior, market trends, and operational success (Dangmei & Singh, 2022).

- **Agility and Adaptability:** Digital solutions enhance MSMEs' flexibility by streamlining supply chains and providing real-time performance tracking, enabling them to quickly adapt to changing customer demands and market conditions (Putritamara et al., 2023).

- **Better Customer Experience:** MSMEs enhance customer experience through personalized product recommendations, chatbot support, and interactions, enhancing satisfaction and retention through analytics and CRM technologies (Kaur et al., 2020).

Challenges of Digital Transformation in MSMEs' in India: MSMEs in India face challenges in digitalization due to limited resources, technical expertise, market dynamics, and resistance to change (Mukherjee, 2018), which reduces the probability that firms will adopt and implement digital transformation strategies (Cairns et al., 2004).

- **Limited Resources:** MSMEs struggling with digital technology implementation may explore government grants, IT collaborations, and cost-effective solutions as potential resources (Costa Melo et al., 2023).

- **Digital Skills Gap:** MSMEs can enhance their digital skills by investing in upskilling, training programs, and collaborations with qualified individuals or organizations, including online workshops and courses for employees (Anitha K, n.d.).

- **Security Concerns:** Prioritizing cybersecurity with tools like encryption, secure data storage, and staff training is essential for MSMEs navigating the digital transformation. Their security posture against cyber-attacks is further improved by using regular software updates and cloud-based security solutions (Kaushal & Karki, n.d.).

Regulatory Compliance: MSMEs should seek professional counsel or legal assistance if they are having trouble adhering to applicable laws and regulations in areas like data security and customer privacy (Ahamed, n.d.).

Resistance to Change: MSMEs struggling with digital technology adoption can foster a creative

culture by involving employees in decision-making, addressing job displacement concerns, and boosting buy-in (Yikilmaz & Kör, 2023).

Road Ahead for Digital Transformation MSMEs' in India:

Indian MSMEs are embracing digital transformation for efficiency and competitiveness, requiring customized, affordable digital solutions and education and assistance programs (Miguel, 2023). The transition to a digital economy could boost global competitiveness, job creation, and economic growth. MSMEs in India can prosper in this changing environment through government-sponsored initiatives for financial support, advice, and training. These programs, facilitated by government agencies, industry groups, and technology providers, provide equitable opportunities (*View of Digital Transformations Theoretical Investigation On the Basis of Smart Government Initiatives*, n.d.). Bridging this gap is essential to ensure that all MSMEs have equal opportunities to leverage digital technologies for their businesses.

Awareness and Education: Implement awareness campaigns and training programs to educate MSMEs about digital transformation benefits and collaborate with industry experts and technology providers for practical integration (Jha et al., n.d.). Example: 'Udyam Registration portal' provided by the Government of India provides information regarding start-ups of MSMEs.

Access to Capital and Resources: Create a dedicated fund or financial support mechanism to help MSMEs invest in digital infrastructure and technologies. Encourage partnerships between financial institutions and technology providers to develop affordable financing options for MSMEs (Venkatesh & Lavanya Kumari, 2018).

Bridging the Digital Divide: Improve internet connectivity and digital infrastructure in rural and remote areas through public and private sector collaboration. Provide subsidies or incentives for MSMEs in underserved areas to access and implement digital technologies (Azmeah & Foster, 2018).

Customized Digital Solutions: Develop and promote user-friendly, cost-effective digital tools designed specifically for MSMEs, considering their unique operational needs. (Klimuk, n.d.)

Government Initiatives and Industry Collaboration: The proposal suggests fostering public-private partnerships to drive digital transformation initiatives for MSMEs and establishing a dedicated government body to oversee and support these initiatives (*GOVERNMENT OF INDIA GUIDELINES*

Technology and Quality Upgradation Support to Micro, Small and Medium Enterprises A Component of National Manufacturing Competitiveness Programme, n.d.).

Evaluation and Feedback Mechanisms:

Implement a system to monitor digital transformation's impact on MSMEs, gather feedback on support programs' effectiveness, and use insights to refine and improve support mechanisms (Wiliandri, 2020).

Conclusion

Digitization is a blessing for transformation of Industrial Scenarios. MSME are no more exception for the same. MSME are opened up to adopt the digital technologies to streamline the business processes and focus on quality aspects. This is helping MAME to compete equally with large scale players and even in ensuring sustainability in long turn. Challenges can be paused in their way of adoption of technology but there is hope that training to adopt technology and cost reduction can be a solution over these problems and it can be overcome in coming days.

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