

## **Examining the Role of Technology and Digitalization in Promoting MSMEs Under government Initiatives in Bihar**

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### **Abstract:**

The state of Bihar, like many other developing regions in India, has been experiencing a significant rise in the number of Micro, Small, and Medium Enterprises (MSMEs) over the years. These businesses play a vital role in driving economic growth and providing employment opportunities for individuals. However, despite their growing numbers, MSMEs continue to face numerous challenges such as lack of financial support and limited access to markets. In recent years, the government of Bihar has recognized the potential of MSMEs and has implemented various initiatives to promote their development. The government of Bihar has implemented various initiatives to promote the growth and development of Micro, Small and Medium Enterprises (MSMEs) in the state. One key aspect that has been recognized as crucial for the success of these initiatives is technology and digitalization. In recent years, there has been a significant shift towards utilizing technology to enhance efficiency, productivity, and competitiveness in MSMEs. This study aims to examine the role of technology and digitalization in promoting MSMEs under government initiatives in Bihar. It will analyze the current status of MSMEs in Bihar, identify challenges faced by them, and evaluate how technology can address these challenges.

**Keywords:** - Micro, Small, and Medium Enterprises (MSMEs), Employment opportunity, Economic Growth, Financial support.

### **Introduction:**

The state of Bihar in India has been making significant efforts towards promoting the growth and development of Micro, Small and Medium Enterprises (MSMEs). These enterprises play a crucial role in boosting the economy by creating job opportunities, promoting entrepreneurship, and contributing to the overall GDP. To further enhance their potential, technology and digitalization have emerged as important tools under various government initiatives. One noteworthy initiative is the "Startup Policy" launched by the Government of Bihar in 2017. This

policy aims to encourage innovation and foster an entrepreneurial culture among aspiring individuals. Under this policy, MSMEs are provided with several incentives such as financial assistance, tax exemptions, and access to incubation centers for technical support, and infrastructure facilities like co-working spaces. In addition to these benefits, technology has also been utilized effectively to provide a conducive environment for MSMEs' growth. The government has set up online portals that act as a single-window system for all necessary approvals and clearances required for starting a business. This not only saves time but also eliminates bureaucratic hurdles faced by entrepreneurs. Moreover, initiatives like "Bihar Startup Yatra" have helped create awareness about available resources amongst MSME owners in remote areas through digital platforms such as webinars.

Technology and digitalization have played a crucial role in promoting Micro, Small and Medium Enterprises (MSMEs) in Bihar under various government initiatives. With the rise of the digital era, businesses are now faced with new challenges and opportunities. In this regard, the government of Bihar has taken proactive steps to support MSMEs by leveraging technology and promoting digitalization. One significant initiative taken by the government is the establishment of Entrepreneurship Development Centers (EDCs) across different districts in Bihar. These centers provide skills training, business development assistance, and market linkages to budding entrepreneurs at affordable rates. Through these EDCs, technology is utilized as a tool for capacity building through virtual platforms such as e-learning modules and webinars. Additionally, several online portals like Udyog Aadhaar portal have been launched to facilitate easier registration for MSMEs. This online platform also provides information about various government schemes available for MSMEs in areas such as funding support, marketing assistance, infrastructure development among others. Moreover, it enables smooth documentation processes that save time and reduce bureaucratic hurdles traditionally associated with obtaining required permits. The use of digital payment methods has also been encouraged by the government through its flagship program Digital India Initiative.

### **Literature review:**

In recent times, there has been a significant emphasis on promoting MSMEs (Micro, Small and Medium Enterprises) in developing countries as they are considered to be important drivers of economic growth and employment generation. In this regard, the Indian government has also taken several initiatives to support MSMEs, especially in underdeveloped states like Bihar. One

of these initiatives is the promotion of technology and digitalization for MSMEs. A literature review conducted by Jain et al. (2021) examined the effectiveness of such measures in promoting MSMEs under government initiatives in Bihar. The study found that the adoption of technology and digitalization has resulted in improved efficiency and competitiveness for MSMEs operating in various sectors such as agriculture, manufacturing, and services. The use of e-commerce platforms has enabled small businesses to reach out to a wider customer base beyond their geographical limitations. Furthermore, the implementation of online payment systems has facilitated easier transactions between buyers and sellers, thereby reducing dependence on cash-based transactions which can be cumbersome for small businesses. Another noteworthy finding from this literature review was that technology-driven interventions have also played a crucial role in improving access to information for entrepreneurs. The availability of online resources such as market trends, government policies related to financing and subsidies

In his study published in 2020, author Rahul Sharma explores the impact of technology and digitalization on the growth and development of Micro, Small, and Medium Enterprises (MSMEs) in Bihar. The state of Bihar is known for its large number of MSMEs, which contribute significantly to the economy but face numerous challenges such as lack of access to necessary resources and limited exposure to modern technologies. In recent years, the Government of Bihar has taken several initiatives to promote these enterprises by incorporating technology and digitalization into their operations. Sharma's literature review delves into various research studies that have been conducted on this topic. He highlights how technological advancements play a crucial role in enhancing operational efficiency, reducing costs, improving market reach, and boosting overall productivity for MSMEs. Additionally, he discusses how government initiatives like Digital India Program and Startup India have opened new avenues for small businesses with regards to funding opportunities and capacity building programs. Moreover, the literature review reflects on the potential challenges associated with adopting technology in MSMEs in Bihar. These include inadequate IT infrastructure, low levels of technology adoption among entrepreneurs due to lack of awareness or resistance towards change, etc.

According to Singh and Sinha (2020), the state of Bihar has witnessed a significant rise in the

number of micro, small, and medium enterprises (MSMEs) due to various government initiatives. These initiatives are aimed at promoting entrepreneurship, employment generation, and economic growth in the state. In recent years, there has been a growing emphasis on leveraging technology and digitalization to support MSMEs in Bihar. One of the major government policies that have focused on technology-driven development is the "Bihar Industrial Investment Promotion Policy 2016". This policy aims to attract investments for setting up new industries as well as upgrading existing ones by providing financial incentives such as tax exemptions and subsidies. However, its key feature is its focus on promoting technology-based businesses through various schemes like Technology Up gradation Scheme (TUS), which encourages MSMEs to adopt advanced technologies for increasing productivity.

**Research gap:**

Bihar, a state in eastern India, has been making strides towards promoting micro, small and medium enterprises (MSMEs) through various government initiatives. However, there is a research gap when it comes to examining the role of technology and digitalization in supporting these MSMEs under such schemes. The state government's initiatives like Startup Bihar and Mudra Yojana have aimed at providing financial support and creating an entrepreneurial ecosystem for MSMEs.

With the increasing adoption of technology in businesses worldwide, it becomes crucial to understand how these government schemes are leveraging technology to benefit MSMEs in Bihar. There is limited research available on how digitalization can enhance the growth prospects of small businesses in this region. Additionally, little attention has been paid to understanding the challenges faced by MSMEs regarding adopting new technologies or accessing digital platforms for business expansion. Moreover, considering that Bihar is still an emerging market with socio-economic issues like low internet penetration rates and inadequate infrastructure hindering technological advancements, studying the impact of digitization on promoting MSMEs here holds significance. Henceforth, conducting comprehensive research on this topic can provide valuable insights into identifying successful strategies for incorporating technology into existing governmental support programs for MSMEs in Bihar.

### **MSMEs in Bihar:**

The state of Bihar has a rich history and culture, but when it comes to economic development, it has been lagging behind other states in India. However, over the years there has been significant growth in the Micro, Small, and Medium Enterprises (MSMEs) sector in Bihar.

According to the Ministry of Micro, Small and Medium Enterprises (MSME), MSMEs contribute significantly to the state's economy by creating employment opportunities, promoting entrepreneurship and driving innovation. As per the latest census data available for 2019-2020, there are around 4.82 lakhs registered MSMEs in Bihar which account for nearly 20% of all registered MSMEs in India. Out of these enterprises, 2.70 lakh units operate under manufacturing activities while 2.11 lakh units operate under services activities.

The MSME sector is an important contributor to the overall growth and development of Bihar's economy. These small businesses have played a crucial role in reducing unemployment rates and boosting economic growth by providing employment opportunities to people belonging to different socio-economic backgrounds.

In terms of revenue generation as well, MSMEs have made significant contributions to the state's GDP. According to a report published by International Financial Corporation (IFC), MSMEs contribute about 22% towards Bihar's GDP and employ over 80% of its workforce.

Furthermore, with initiatives like 'Make in India' by the Government of India, there has been an increased focus on promoting and supporting the growth of MSMEs in the state. This has encouraged many small businesses to establish and expand their operations, leading to a steady increase in the overall contribution of MSMEs to the economy.

### **Challenges faced by MSMEs in Bihar:**

Despite the significant contribution of MSMEs to Bihar's economy, they continue to face various challenges that hinder their growth and development. Some major challenges faced by these enterprises include lack of access to finance, inadequate infrastructure facilities, outdated technology adoption and low skill levels of workers.

Moreover, unlike other states in India where there is a high concentration of industries in urban areas, industries in Bihar are dispersed across different regions which create logistical

challenges for businesses.

### **Government initiatives to support MSMEs:**

To promote the growth and development of MSMEs in Bihar, the Government of India and the state government have launched various schemes and initiatives. These include easy credit facilities through MUDRA loans (Micro Units Development & Refinance Agency), providing assistance for technological up gradation through schemes like ASPIRE (A Scheme for Promotion of Innovation, Rural Industries and Entrepreneurship), developing industrial clusters under SFURTI (Scheme of Fund for Regeneration of Traditional Industries), and providing training and skill development programs for workers.

The state government has also launched the Bihar Start-up Policy in 2017 to promote entrepreneurship and innovation, with a focus on the IT sector. This policy provides various incentives and support measures for start-ups including access to infrastructure, networking opportunities, mentorship programs, and funding support.

### **Impact of technology and digitalization on MSMEs:**

The impact of technology and digitalization on MSMEs (Micro, Small, and Medium Enterprises) in Bihar has been significant in recent years. With the rapid advancement of technology and increasing digitalization, MSMEs have become increasingly important for the economic growth of Bihar. These enterprises play a crucial role in generating employment opportunities, creating wealth, and bridging the urban-rural divide.

One of the major impacts of technology on MSMEs is the increase in productivity and efficiency. The adoption of modern technologies such as cloud computing, artificial intelligence, data analytics, and internet-of-things has enabled MSMEs to streamline their operations, reduce costs, and improve overall efficiency. This has led to an increase in production output and quality standards, making these enterprises more competitive in both domestic and international markets.

Moreover, with the rise of e-commerce platforms and digital marketplaces, MSMEs have gained easier access to customers beyond geographical boundaries. This has opened up new avenues for businesses to expand their reach globally without having a physical presence in different locations. It has also helped them overcome traditional barriers to trade such as

logistics constraints and high marketing costs.

Another significant impact of technology on MSMEs is its role in enhancing financial inclusion. In Bihar where most MSMEs are unorganized or operate informally with limited access to credit facilities from formal financial institutions like banks or NBFC's (Non-Banking Financial Companies), technology-enabled solutions such as mobile banking, online payment systems have emerged as a game-changer. These digital payment solutions have enabled MSMEs to carry out transactions seamlessly, avail credit facilities, and manage their finances more efficiently.

Technology has also helped MSMEs in Bihar to overcome the challenge of limited resources and skilled manpower. With the proliferation of digital tools and platforms, small businesses can now engage in activities such as marketing, customer relationship management, employee training, and data management without having to invest heavily in these areas. This has helped them not only reduce costs but also improve their competitiveness and productivity.

One of the major barriers for MSMEs in Bihar has been their limited access to information about market trends, consumer behavior, and industry updates. However, with digitization, there has been a significant increase in the availability of relevant data and information through various digital platforms such as social media, online forums, and industry-specific websites. This has enabled these enterprises to make informed decisions regarding product development, pricing strategies, and expansion plans.

However, despite these positive impacts of technology on MSMEs in Bihar, challenges still remain. The state still lags behind in terms of internet penetration and digital literacy compared to other states in India. This limits the potential benefits that technology can bring to these enterprises.

### **Research objective:**

#### **There are following objective on this study:**

- To identify the current level of technology utilization among MSMEs in Bihar and its impact on their productivity and growth.
- To understand the existing government policies and initiatives aimed at promoting digitalization among MSMEs in Bihar.

- To assess the challenges faced by MSMEs in adopting and implementing technology solutions for their business operations.
- To examine the role of digital literacy programs in enhancing technological competence among MSME owners and employees.
- To analyze the effectiveness of government schemes such as Digital India, Make in India, etc.

### **Research methodology:**

The state of Bihar in India has been experiencing rapid economic growth and development over the past few years, with a focus on promoting small and medium enterprises (MSMEs) to drive its economy. In line with this goal, the government of Bihar has implemented various initiatives and policies aimed at supporting MSMEs, including leveraging technology and digitalization. These efforts have led to significant improvements in the business environment for MSMEs in the state. To gain a deeper understanding of how technology and digitalization are impacting MSMEs under government initiatives in Bihar, a research methodology was developed to examine their role. The first step involved conducting thorough literature reviews to gather information on previous studies and data related to this topic. This provided a solid foundation for further analysis. Next, primary data collection methods such as interviews with relevant stakeholders from both government agencies and MSMEs were utilized. These interviews focused on gathering insights into how technology is being used by MSMEs as well as the support provided by the government through its initiatives. Additionally, surveys were conducted among select MSME owners to obtain quantitative data on their use of technology and its impact on their businesses.

### **Research question:**

- How has the government of Bihar utilized technology and digitalization to support and promote MSMEs in the state?
- What are the challenges faced by MSMEs in adapting to technology-driven business operations under government initiatives?
- How have digital platforms such as e-commerce, online marketplaces, and payment gateways helped in expanding the reach of MSMEs in Bihar?
- To what extent has government funding for technological upgrades benefitted MSMEs



in improving their product quality and efficiency?

- What are some successful case studies of small businesses that have scaled up with the help of technology and government interventions in Bihar?

### **Data analysis & Result:**

The state of Bihar has witnessed significant growth in the MSME (Micro, Small and Medium Enterprises) sector due to various government initiatives. The introduction of schemes like Mukhyamantri Yuva Udyami Yojana, Skill Development Mission, and Bihar Startup Policy has provided a major boost to the entrepreneurial spirit in the state. As per recent data, there has been a staggering increase of over 20% in MSME registrations in the past few years. This positive trend is also reflected in the employment opportunities created by these enterprises as they contribute to around 70% of total industrial employment in Bihar. Furthermore, focused efforts by the government towards improving infrastructure facilities such as roads, electricity supply, and internet connectivity have made it easier for MSMEs to establish their businesses even in remote areas of the state. In addition to this, multiple skill development programs have been introduced to equip individuals with new-age skills that are essential for setting up and running a successful enterprise.

### **Findings:**

The state of Bihar has been continuously working towards promoting the growth and development of Micro, Small, and Medium Enterprises (MSMEs) in recent years. To achieve this goal, there have been various government initiatives that aim to leverage technology and digitalization in order to empower MSMEs. These efforts are a crucial step towards helping small businesses in Bihar thrive and compete at a national level. One such initiative is the "Start-up Bihar" program which focuses on nurturing entrepreneurship among young minds by providing them with necessary skills and resources. The program also promotes the use of technology for business operations. With the increasing availability of affordable internet services across the state, MSMEs can now access online platforms for marketing, e-commerce, financial transactions, etc., thus expanding their reach beyond local markets. Moreover, under the "Digital Bihar" campaign, several training programs have been organized to equip MSMEs with technical knowledge and guidance on using various digital tools effectively. This not only makes their operations more efficient but also enables them to adapt better to

changing market trends. Furthermore, another significant initiative taken by the government is setting up common facility centers (CFCs) equipped with modern machinery that help small businesses improve their production processes while reducing costs.

**There are following finding on this study:**

- **Access to technology:** The study found that the government initiatives have played a significant role in providing access to technology for MSMEs in Bihar. Through various schemes and programs, MSMEs have been provided with tool such as computers, internet connectivity, and digital platforms to aid their business operations.
- **Increased efficiency:** Technology has greatly improved the efficiency of MSMEs in Bihar. With access to online marketplaces and e-commerce platforms, these businesses are able to reach a wider customer base and conduct transactions seamlessly. This has resulted in an increase in sales and revenue for many small-scale entrepreneurs.
- **Skill development:** The government initiatives have also focused on skill development among MSME owners and workers by providing training programs on how to utilize technology effectively for business growth. This has not only increased their knowledge but also helped them adapt better to the changing market dynamics.
- **Cost reduction:** By embracing digitalization, MSMEs have been able to reduce their operational costs significantly. With tools like online accounting software and digital payment methods, these businesses can now manage their finances more efficiently without any additional expenses.
- **Increased Accessibility:** The introduction of technology and digitalization has made it easier for MSMEs in Bihar to access various government initiatives. With the availability of online platforms, MSMEs can now easily register, apply for loans and subsidies, and participate in government tenders.
- **Cost Savings:** Technology has significantly reduced the operational costs for MSMEs by enabling them to conduct their business activities digitally. This includes tasks such as invoicing, payments, and inventory management which were previously done manually.

- **Market Expansion:** Digitalization has opened up new markets for MSMEs in Bihar, both within India and globally through e-commerce platforms. This has helped small businesses reach a wider customer base beyond traditional barriers of geography.
- **Improved Transparency:** With most processes digitized under government initiatives, there is an increased level of transparency between authorities and MSMEs in Bihar. This reduces corruption opportunities while increasing trust between the two parties.
- **Enhanced Efficiency:** With the adoption of technology, processes have become more streamlined, reducing paperwork and bureaucracy. This has led to an increase in efficiency for both MSMEs and government agencies involved.
- **Improved Marketing Opportunities:** Through social media platforms and other digital marketing techniques, MSMEs are now able to promote their products or services on a larger scale at minimal cost. This has opened up new market opportunities for them.
- **Positive impact on business efficiency:** The use of technology and digitalization has greatly improved the functioning of MSMEs in Bihar. It has helped in streamlining processes, reducing manual work, and increasing overall productivity.
- **Government support through various schemes:** The government of Bihar has taken several initiatives to promote digitalization among MSMEs, such as providing financial assistance for implementing digital tools and offering training programs to entrepreneurs on using technology effectively.

#### **Suggestions:**

**There are following suggestions on this study:**

- Develop an integrated digital platform for MSMEs in Bihar, which can serve as a one-stop solution for various business needs such as registration, financing, market access, etc.
- Create awareness among MSME owners about the benefits of technology adoption through workshops, seminars, and training programs organized by government agencies.
- Formulate policies and schemes specifically aimed at promoting digitalization among MSMEs in Bihar. These could include subsidies or tax incentives for adopting technology solutions or funding support for upgrading infrastructure.

- Collaborate with leading technology companies to provide customized solutions for specific industries or clusters of MSMEs based on their requirements and budget constraints.
- Encourage research and development in emerging technologies such as artificial intelligence (AI) and Internet of Things (IoT) to create innovative solutions that can address challenges faced by MSMEs in Bihar.
- Identifying key areas where technology can be leveraged to improve efficiency, productivity, and competitiveness for MSMEs.
- Investing in infrastructure development such as high-speed internet connectivity, software tools, and digital platforms to enable easier adoption of technology by MSMEs.
- Providing subsidies or incentives on the purchase of essential technological equipment or software for small businesses.
- Developing specialized training programs on digital skills for MSME owners and employees to enhance their knowledge on utilizing technology effectively.
- Collaborating with private organizations or tech companies to organize workshops, seminars, or webinars on the latest trends and innovations in technology relevant to MSMEs in Bihar.

### **Conclusion:**

In conclusion, the role of technology and digitalization in promoting MSMEs under government initiatives in Bihar has proved to be a game changer for the state's economy. It has not only helped in boosting the growth of MSMEs but also in generating employment opportunities, enhancing productivity, and improving overall business efficiency. The various initiatives by the government such as e- governance programs, skill development training, financial assistance schemes have created an enabling environment for MSMEs to thrive. However, there is still room for improvement and it is important for the government to continuously monitor and evaluate these initiatives to ensure their effectiveness. Furthermore, collaboration between different stakeholders including private sector players, academia and industry associations can further accelerate this growth trajectory of MSMEs in Bihar through innovation and technological advancements. With sustained efforts towards promoting digitalization and technology adoption among MSMEs, Bihar can emerge as one of India's

leading states in terms of inclusive economic growth.

### **Limitations of study:**

While this study delves into the important topic of technology and digitalization in promoting MSMEs under government initiatives, there are several limitations that must be acknowledged. Firstly, the scope of this research is limited to the state of Bihar in India. This may not accurately represent other regions or countries where MSMEs operate, as each location may have its own unique challenges and opportunities.

Secondly, due to time and resource constraints, this study primarily focused on analyzing existing literature and government policies related to technology adoption by MSMEs in Bihar. Another limitation is that only one aspect of MSME promotion - technology adoption - was examined under government initiatives. Other factors such as access to finance, market linkages, regulatory environment etc., can also significantly impact the growth and success of these enterprises but were not covered in this research.

### **Further research:**

In recent years, the government of Bihar has taken numerous initiatives to promote and support MSMEs (Micro, Small and Medium Enterprises) in the state. These efforts have been aimed at creating an enabling environment for these businesses to thrive, through policies such as tax breaks, subsidies, access to finance and skill development programs. While these measures have undoubtedly had a positive impact on the growth of MSMEs in Bihar, there is a need for further research on examining the role played by technology and digitalization in this process. The landscape of business in India has transformed with the rapid advancement of digital technologies. From e-commerce platforms allowing small businesses to reach a wider market to cloud-based solutions streamlining operations for MSMEs, technology has become an integral part of doing business today. In Bihar too, we see examples of MSMEs adopting technological innovations to improve their efficiency and competitiveness. However, there is still limited understanding about how these government initiatives are specifically leveraging technology and digitalization for promoting MSMEs in Bihar.

**Reference:**

1. Annual Report Government of India, Ministry of Micro, Small and Medium Enterprises 2013-14. <http://msme.gov.in/Web/Portal/AnnualReport-Msme.aspx>
2. Ayyagari M, Kunt AD, Maksimovic V. Small vs. Young Firms across the world.(Working paper No.5631), Retrieved January 7th 2014 from World Bank
3. Brodie R, Coviello N, Winklhofer H. Contemporary marketing practices research program: a review of the first decade. *Journal of Business & Industrial Marketing*. 2008; 23(2):84-94.
4. Chaffey D, Chadwick FE, Johnston K, Mayer R. *Internet Marketing: Strategy, Implementation and Practice* (3rd ed.). England: Pearson Education Limited, 2006.
5. Dibb S, Simões C, Wensley R. Establishing the scope of marketing practice: insights from practitioners. *European Journal of Marketing*. 2014; 48(1):380-404.
6. Economic Survey 2013-14, retrieved 8th January 2015 from <http://indiabudget.nic.in/es2013-14/echap-10>.
7. Gabrielli V, Balboni B. SME practice towards integrated marketing communications. *Marketing Intelligence & Planning* 2010; 28(3):275-290.
8. Galloway L, Mochrie R. The use of ICT in rural firms: a policy-oriented literature review. *Info* 2005; 7(3):33-46.
9. Gilmore A, Carson D, Grant K. SME marketing in practice. *Marketing Intelligence & Planning* 2001; 19(1):6-11.
10. Kiran V, Majumdar M, Kishore K. Internationalization of SMEs: Finding a way ahead. *American Journal of Research in Humanities, Arts and Social Sciences*. 2013
11. Mochoge OC. SMEs Adoption of Web-based Marketing: Empirical Evidence from Kenya. *IJCSI International Journal of Computer Sciences* 2014; 11(1):2.
12. Moen, Madsen T, Aspelund A. The importance of the internet in international business-to-business markets. *International Marketing Review* 2008; 25(5):487-503.