International Journal of Business, Arts and Scientific Study (IJBASS)
ISSN: 2709-0825 (Print), ISSN: 3078-2775 (Online), Volume-05, Issue-01, November, 2024
A multidisciplinary journal of Bangladesh Center for Research and Planning (BCRP)

Technology Development in MSME's with Special Reference to North Karnataka Raichur Region

Bhagyalakshmi.G[1]
Asst. Professor, Department of Management Studies,
H. K. E. Society's Sir. M. V. College of Engineering, Raichur

Dr. Shaheeda Banu S[2]
Professor, Department of Management Studies,
Ballari Institute of Technology and Management, Ballari, Karnataka, India

Keywords:

MSME,

Technology

flexibility,Capital,

financial Support,

Production growth

Abstract: Technology significantly affected every element of society, including the economy, commerce, and enterprises. Technology is currently playing a significant role in the fundamental restructuring of the global economy. The majority of industries and all aspects of the economy are significantly impacted by technology, and firms and enterprises continue to go through significant transformation. These technologies are reinventing how business is done, which is changing how businesses are structured. Without the aid of technology, modern businesses are not possible. It is asserted that it is crucial to the survival and expansion of MSME. But, in order to thrive in this cutthroat economic environment, we must incorporate the newest technology that will enhance our business. However, for the industry its unable to update technology as frequently as the market requires due to insufficient financial support and a lack of competent labour in the state. To improve product quality and meet market demand, attention must be paid to increasing investment in both technology and labour. To improve the working condition,training and labour welfare schemes can help in improving labour employability and productivity, while technological up-gradation and innovation and availability of cheap credit/finance facilities can help in increasing production and efficient utilization of capital. However, it needs to be borne in mind that the use of capital should be such that it complements the labour.

INTRODUCTION

The Micro Small and Medium enterprises (MSME) sector is widely regarded as the engine for the growth in the industrial development sector and this sector contribute significant to the Employment generation, economical and regional development of the country. However, in the globalise market they need to produce quality product at low price to produce at a low price. They have to promote their new product with the modern technology to survive in the Global market. Industry needs to concentrate technical superior method of production for the growth and the development of small-scale industries. Karnataka has a thriving export ecosystem and was ranked 3rd in the recently released NITI Aayog's Export Preparedness Index (EPI) Report 2021 state rankings. This has also reflected in the state's export successes – it exported merchandise goods worth USD 25.9 bn (INR 1,93,064 Cr) in FY 2021-22, accounting for 6.1 percent of India's total exports.

Karnataka is a leader in the country's services export with its contribution of 41% in the national share valued at USD 102 bn in FY 2021-2022.

Meaning of Technological Flexibility

Technological flexibility is need of the hour for the growth and development of small-scale industries. Meaning of technological Flexibility. Technological flexibility is adjustment and adoption of technology according to change in the product demand.

Definition of MSME

The Government of India has enacted the Micro, Small and Medium Enterprises Development (MSMED) Act, 2006 in terms of which the definition of micro, small and medium enterprises is as under:

Enterprises engaged in the manufacture or production, processing or preservation of goods as specified below:

- A micro enterprise is an enterprise where investment in plant and machinery does not exceed Rs. 25 lakhs.
- A small enterprise is an enterprise where the investment in plant and machinery is more than Rs. 25 lakhs but does not exceed Rs. 5 crores.
- A medium enterprise is an enterprise where the investment in plant and machinery is more than Rs.5 crore but does not exceed Rs.10 crore. In case of the above enterprises, investment in plant and machinery is the original cost excluding land and building and the items specified by the Ministry of Small Scale Industries vide its notification No.S.O.1722(E) dated October 5, 2006 .

Enterprises engaged in providing or rendering of services and whose investment in equipment (original cost excluding land and building and furniture, fittings and other items not directly related to the service rendered or as may be notified under the MSMED Act, 2006 are specified below.

- A micro enterprise is an enterprise where the investment in equipment does not exceed Rs. 10 lakhs.
- A small enterprise is an enterprise where the investment in equipment is more than Rs.10 lakh but does not exceed Rs. 2 crores.
- A medium enterprise is an enterprise where the investment in equipment is more than Rs. 2 crores but does not exceed Rs. 5 crores.

Revised Classification applicable w.e.f 1st July 2020
Composite Criteria: Investment in Plant & Machinery/equipment and Annual Turnover

Classification	Micro	Small	Medium
Manufacturing Enterprises and Enterprises rendering Services	Investment in Plant and Machinery or Equipment: Not more than Rs. 1 crore and Annual	Investment in Plant and Machinery or Equipment: Not more than Rs.10 crore and Annual	Investment in Plant and Machinery or Equipment: Not more than Rs. 50 crore and Annual

	Turnover; not more than Rs. 5 crores	Turnover; not more than Rs. 50 crores	Turnovers; not more than Rs. 250 crores

TECHNOLOGY AND INNOVATION IN MSMEs

There are several technologies that can be used by MSMEs (Micro, Small, and Medium Enterprises) to improve their business operations and increase efficiency. Some of these technologies include:

1. Cloud Computing: MSMEs can use cloud-based platforms such as Google Drive, Dropbox, and Microsoft OneDrive to store and access their data from anywhere, anytime.
2. Customer Relationship Management (CRM) Software: MSMEs can use CRM software to manage their customer interactions and keep track of sales and marketing activities.
3. Accounting Software: MSMEs can use accounting software such as QuickBooks or Xero to manage their finances and track expenses, invoices, and payments.
4. Point-of-Sale (POS) Systems: MSMEs can use POS systems to process transactions, manage inventory, and generate sales reports.
5. Social Media: MSMEs can use social media platforms such as Facebook, Instagram, and Twitter to promote their products or services, engage with customers, and increase brand awareness.
6. Website Development: MSMEs can create their own websites using website builders such as Wix, Squarespace, or WordPress to showcase their products or services, provide information about their business, and allow customers to purchase products or services online.
7. Mobile Apps: MSMEs can create mobile apps to enhance their customer experience and provide additional services such as loyalty programs, push notifications, and in-app purchases.

Overall, technology can help MSMEs to streamline their operations, reduce costs, and reach a wider audience, leading to increased profitability and growth.

Technology and innovation play a critical role in the growth and success of Micro, Small, and Medium Enterprises (MSMEs). MSMEs are an essential component of the economy in many countries, providing jobs and contributing to economic growth. With the rapid pace of technological advancement and innovation, it is crucial for MSMEs to embrace technology to remain competitive in the market.

Here are some ways in which technology and innovation can benefit MSMEs:

1. **Improved productivity**: Technology can help MSMEs streamline their processes, reduce manual labour, and increase productivity. For example, automation can help save time and reduce errors in manufacturing processes, while software can simplify accounting and bookkeeping tasks.
2. **Cost savings**: Technology can also help MSMEs save costs by reducing wastage, optimizing resource utilization, and minimizing errors. For example, the use of cloud computing can help MSMEs save on hardware and maintenance costs while increasing efficiency.

3. **Enhanced customer engagement**: Technology can help MSMEs reach out to their customers more effectively and engage with them in innovative ways. For example, social media can be used to connect with customers, build brand awareness, and even drive sales.
4. **Access to new markets**: Technology can help MSMEs reach new markets, both domestically and globally. E-commerce platforms and digital marketing can help MSMEs expand their customer base and increase sales.
5. **Innovation**: Technology can help MSMEs innovate and develop new products or services that meet changing customer needs. For example, the use of artificial intelligence and data analytics can help MSMEs better understand customer preferences and behaviour, leading to the development of more targeted and personalized products or services.

However, it is important to note that the adoption of technology and innovation requires significant investment in terms of time, resources, and expertise. MSMEs may face challenges such as lack of access to capital, inadequate infrastructure, and limited technical expertise. Governments and other stakeholders can play a critical role in supporting MSMEs by providing access to finance, training and capacity building, and infrastructure development.

LITERATURE REVIEW

Dibrell, C., Davis, P. S., & Craig, J. (2008) their study gives the mediating effect of information technology on the relationship between product and process innovations and firm performance. They used the SEM model to show that technology adoption will lead to improved products, processes, and management of the firm‟s performance.

Mishra, P.(2019) study emphasizes that the digital transformation of MSMEs will be a one-stop solution to all challenges faced by them. The Launch of „Digital MSME‟ was an Initiative by Government to overcome hurdles in digital transformation.

Mohan, V., & Ali, S. (2019) study revealed that lack of adequate awareness and skills, financial constraints and budgeting restrictions, Quality of product and services, lack of adequate technical resources and security concerns are some of the major challenges faced by MSMEs in digitalizing

Romijn (2010) reviews approaches towards technology support for small-scale manufacturing enterprises in developing countries since the early 1970s. Early programmes tended to suffer from a number of weaknesses, emanating from a limited conceptualization of technology and an inadequate understanding of the role of the small-scale sector in industrial development more broadly. There was also a lack of practical experience with project implementation. However, in recent years important advancements have been made on all these fronts. Four features of recent technology assistance programmes that have tended to be associated with success are discussed and illustrated with evidence from three projects.

Asghar, Nawaser, Paghaleh and Khaksar (2011) evaluates the government policies with respect to the MSMEs and the performance of these enterprises in relation to these policies

and assistance and also concentrates on the growth of entrepreneurship within the Micro, Small and Medium-sized enterprises in India. In addition, they also consider the contribution of MSMEs towards country's employment generation.

A study aims to evaluate the factors affecting the intention to use digital banking in Vietnam using multivariate data analysis **(Nguyen, 2020**). Nevertheless, a study proposed a structural model by re-examining the impact of variables namely perceived usefulness, perceived ease of use, perceived enjoyment, security, trust, Social Influence, Self-Efficacy, Facilitating Conditions, Attitude on Intention to adopt mobile wallet by the consumers in India using Partial Least Square.

A study based on a survey on modern M-Banking and five different categories of M-banking services are determined, and the functionalities, advantages, disadvantages, security issues of it are listed out (**Vishnuvardhan et al., 2020).**

RESEARCH GAP

As per the literature with respect Indian MSMEs adopting innovation, and it is very difficult toidentify a firm adopting innovations as a variable to improve the performance. It is difficult to find such studies with respect to an adoption of technology in North Karnataka region. Hence this paper is an attempt to fill the identified gap that exists in Indian MSMEs under technology flexibility.

OBJECTIVE OF THE STUDY

- The objective of the study is to know about the technology flexibility of MSME in North Karnataka region.
- To establish the effect of innovations on MSMEs.
- To formulate a research framework using the constructs of innovation and performance.

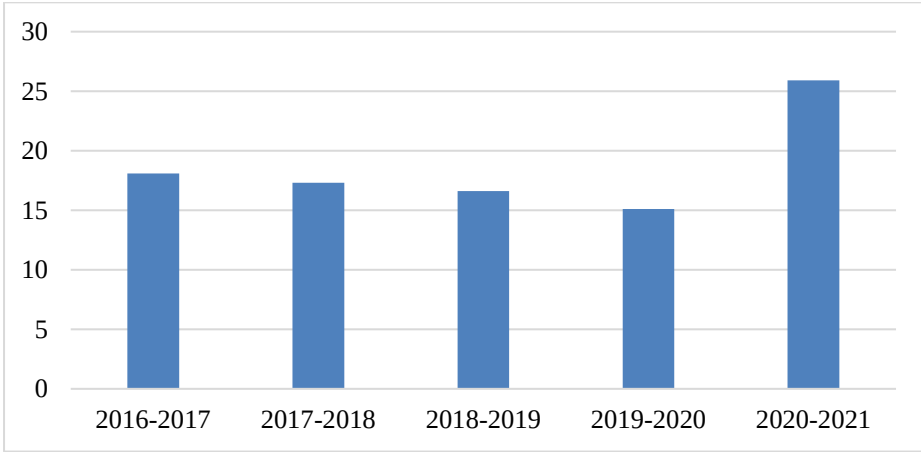
METHODOLOGY

The methodology used in gathering the information was both primary data and secondary data, pilot study was conducted and questionnaires was framed with small entrepreneurs. About 50 entrepreneurs were contacted at the time of filed visit. And secondary data was gathered from different research paper, diaries and magazines, yearly report of the Ministry of MSME, different registration report led by the Ministry of MSME and other related sites to this issue.

Export Scenario- Raichur

Karnataka's Exports Karnataka is one of the top exporting states in India and is ranked 3rd in the recently released NITI Aayog's Export Preparedness Index (EPI) Report 2021. For the FY 2021- 2022, the state is ranked 4th in Merchandise exports and 1st in Services exports. During FY 2021-22, Karnataka exported goods worth USD 25.9 bn (INR 1,93,064

Cr), accounting for a 6.1 percent share of India's exports. Karnataka's merchandise exports have shown a tremendous growth of 71.5% in 2021-22 as compared to 2020-21.



Source: Karnataka Udyog Mitra, https://kum.karnataka.gov.in/IndustryDetails.aspx 96.6 149.3 0 0 0 2016-2017 2017-2018 2018-2019 2019-2020 2020-2021

Export Performance - Raichur

The total exports from Raichur during April 2021 – March 2022 amounted to USD 133 Mn (INR 991.8 Cr). The top export commodities from Raichur are as mentioned below:

Sl	HS Code	Commodity description	Exports by Value	
			(In USD Mn.)	(In INR Lacs)
1.	2198	Carboxylic Acids with Additional Oxygen Function and their Anhydrides, Halides, Peroxides and Phenoxyacids.	67.90	50604.1
2	1006	RICE	14.36	10701.8
3	2942	Other organic compounds	13.29	9938.9
4	5201	Cotton, not carded or combed	13.28	9915.8
5	2933	Heterocyclic compounds with nitrogen	8.45	6310.7
6	2922	Oxygen-function amino-compounds	4.87	3643.2
7	2516	Granite, porphyry, basalt, sandstone and other monumental or building stone, whether or not roughly trimmed or merely cut	3.30	2454.5
8	1202	Ground-nuts, not roasted or otherwise cooked, whether or not shelled or broken	2.69	1997.4
9	2941	Antibiotics	1.69	1264.3
10	1404	Vegetable materials of a kind used primarily for plaiting	0.85	635.2

Schemes offered by Ministry of MSME for Digital up-gradation

1. Financial assistance for MSMEs is provided under the ZED Certification Scheme
2. Subsidy for Credit-Linked Capital for Technological Upgrades
3. Assistance for MSMEs' Quality and Technological Upgrades
4. Using QMS and QTT to make the manufacturing sector competitive.

Apart from the above-mentioned schemes, there are other technology development schemes operated by the Ministry of MSME under the Ministry of Communication and Information Technology and Ministry of Science and technology

FINDINGS AND SUGGESTIONS

Among MSME's micro industries are increasing year by year as it requires less investment, compared small and medium enterprises.There is a good improvement in the number of MSME coming up every year.The concentration of MSME's is more in the Bangalore Urban area as compared to any other parts of Karnataka which has to be taken care by the government so that rural parts can also be benefited. The increase in sector has added to the GDP of the country. MSME has contributes around 30% of the GDP and 50% of the country's exports. Karnataka is home to more than 8.5 lakh MSMEs, which provide employment to over 55 lakh people.

It is important to focus on improving Karnataka as a whole. Bangalore Urban is attracting major MSME's because of good infrastructure and facilities available. The spread of knowledge about the sector should be made in other regions so that MSMEs can be opted by other parts of Karnataka. In order to accomplish regional development, the training programmes should be implemented everywhere. The growth of this industry will also help rural residents find new employment opportunities. This will help in achieving the rural as well as urban areas development in the state.

Most entrepreneurs do not utilise cutting-edge technology for the growth of their businesses because many of them are unaware of technologies such as

- Precision Agriculture like GPS-guided tractors, drones, and soil sensors are being deployed. These technologies give farmers the possibility to lower expenses, boost yields, and improve sustainability.
- Biotechnology: Cotton types with features like insect resistance and herbicide tolerance have been created using biotechnology.
- Digital Farming: Digital farming technologies such as farm management software, satellite imagery, and weather sensors are being used to enable farmers to make better decisions about crop management, improve productivity, and reduce costs.
- IoT-based Monitoring: Real-time monitoring of soil moisture, temperature, and nutrient levels is done using IoT-based monitoring devices. With the use of these devices, farmers can improve crop management techniques including fertilisation and irrigation.

- Textile Manufacturing Technologies: New goods are being produced and waste is being reduced by using advanced textile manufacturing technologies like 3D printing, digital textile printing, and sophisticated weaving techniques. These technologies allow producers to make premium textiles more effectively and sustainably.

CONCLUSION

According to the study's findings, the industry has made a significant contribution to the growth of employment possibilities in the North Karnataka region, which has boosted GDP and regional development. The research demonstrates that MSMEs are a reliable sector for the state's further development. An growth in MSME has helped create many employment generations.But it is also true that under the changing economic and technical condition MSMEs are facing problems as well as challenges.However, for the sector to utilize its potential it is necessary for the entrepreneurs to be trained to take necessary steps. It is evidenced in the study that further nurturing of the sector can add to the further development.

REFERENCES

1. Ghatak, Shambhu. "Micro, small and medium enterprises (MSMEs) in India: an appraisal." Journal of technology management & innovation 6.1 (2010): 66-76.
2. District export action plan Raichur, Karnataka
3. Source: DGCIS 2021
4. International Journal of Application or Innovation in Engineering & Management (IJAIEM)
5. Biswas, A. (2015). Impact of Technology on the MSME sector in India. EPRA International Journal of Economic and Business Review, 3(2), 129–134.
6. Dr. Giridhari Mohanta[1], Dr.Sathya Swaroop Debasish[2], Dr. Sudipta Kishore Nanda3 1Lecturer, P.G. Department of Business Management, Fakir Mohan University, Vyasa Vihar, Balasore, 3Reader, PG Department of Business Administration, Utkal University, Bhubaneswar, 3Lecturer, Ravenshaw University, Cuttack.
7. International Journal of Interdisciplinary and Multidisciplinary Studies (IJIMS), 2017, Vol 4, No.2,187-191. 187
8. Indian Journal of Science and Technology, Vol 10(11), DOI: 10.17485/ijst/2017 /v10i11/106136, March 2017
9. Innovation the Key to Success: A Literature Review on Indian MSME's C. P. Lohith1*, R. Srinivasan2 , Rajeshwar S. Kadadevaramath3 and S. Shrisha Indian Journal of Science and Technology Vol 10 (11) | March 2017 | www.indjst.org
10. International Journal of Application or Innovation in Engineering & Management (IJAIEM) Web Site: www.ijaiem.org.
11. The impact of digital banking on the growth of micro, small and medium enterprises (msmes) in india: a case study.
12. https://www.igi-global.com/dictionary/it-strategy-follows-digitalization/7748
13. https://en.wikipedia.org/wiki/Agenda_21

14. https://en.wikipedia.org/wiki/Earth_Summit
15. https://en.wikipedia.org/wiki/Sustainable_Development_Goals
16. https://tnsdg.tn.gov.in/#
17. https://economictimes.indiatimes.com/small-biz/sme-sector/made-in-india-m ade-for-india-version-of-industry-4-0-needed-unidos-ren-van-berkel/articlesh ow/69852491.cms?from=mdr