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IMPACT OF TECHNOLOGY ON MSME SECTOR IN INDIA

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ABSTRACT

Small and Medium Enterprises have been playing a key role in the 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 have a very important role in the growth of employment opportunities and increased income. That role in the growth of employment opportunities is very strategic, in line with the efforts of the government to reduce unemployment. Improving the quality and up grading the technology are the two vital parameters that have emerged in the recent past. They are 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 present paper attempts to explore various barriers to technology development among Indian MSMEs. The researcher tries to analyze the role of technology in enhancing the production capability 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 fledge use in manufacturing process.

KEYWORDS: Technology, MSME, Technology Up gradation

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 innovative approaches in the recent years, this sector has

shown a commendable endurance to survive the effects of recession. MSMEs are a fundamental part of the economic fabric in developing countries, and they play a crucial role in furthering growth, innovation and prosperity. This sector is the nursery of entrepreneurship and has been recognised as the engine of growth.

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 have a very important role in the growth of employment opportunities and increased income. That role in the growth of employment opportunities is very strategic, in line with the efforts of the government to reduce unemployment. Another strategic role of MSME is to increase income, where MSME play a role in the government's efforts to fight poverty. MSME Sector makes a contribution of 40% in our exports and 45% in total manufacturing output of India. The MSMEs also have a vital role in the dispersal of industries and generation of employment opportunities. The main advantage of this sector is that it provides a large employment at a low capital cost. Till 2005, the term SSIs and MSMEs were used interchangeably but in the year 2006, MSME Act was implemented to have a greater clarity in defining this sector. Today, MSMEs are present across sectors (manufacturing, trade and services) in India, thereby constituting a formidable component of the country's outstanding economic growth. While a key achievement of MSMEs over time has been their talent in utilising available domestic resources to deliver quality products and services, these firms have made their presence felt across India's key sectors as well as in prominent export markets.

Improving the quality and up grading the technology are the two vital parameters that have emerged in the recent past. They are essential for enhancing competitiveness of the MSME sector. Large industries have surplus funds which enables them to have access to adequate information as well as information about the global markets. Access to this information helps them in formulating sound strategies for up gradation of technology and improvement of quality. Whereas, MSMEs have shortage of funds and limited access to relevant information. They give more weightage to present as compared to future. They try to reduce cost by minimizing the capital expenditure. This has made the Indian MSME Sector a bit dormant when it comes to the use of latest technology and knowledge of the global markets. On a global level, they are losing the competition and becoming uncompetitive.

Energy cost is a very vital component of the overall cost structure for any manufacturing process. Thus, it is evident that, if one needs to reduce the production cost and wants to remain competitive in the market, they need to focus on making prudent use of energy. Government of India has taken major steps to conserve crucial energy resources by implementing Energy Conservation Act in the year 2001. The Act tends to bring each sector of the economy under the purview of energy conservation and its prudent usage. The large industries are the major consumers of energy and this Act has made it mandatory for the large companies to report the extent of conservation of energy in their annual reports. The MSME sector in India doesn't have any such type of mandate to follow as of now. By reducing the usage of energy, the companies not only reduce their overall cost structure, but also they contribute towards reduction in global warming. It has been found that, around 90% of the energy consumption comes from the fossil fuels. Burning of fossil fuels generates huge quantity of Green House Gases, which leads to global warming.

REVIEW OF LITERATURE

Davish & Olson (1985) defined information technology adoption is like the use of hardware and software applications to support the operations, management and decision making in business. The definition was very simple and very easy to understand. The definition does not only apply in the business world alone, but in all dimensions of life including the MSME sector as well.

Raghavendra & Subrahmanya (2006) outlined a methodology that used quantitative measurement, validation and analytical tools for measuring technological capability and provided a useful means for testing the relationships between technological capability and the various technological learning mechanisms. Important conclusion that emerged out of the data analysis was that it supported the central assertion made in the capability literature that 'technological efforts' made by firms to acquire and assimilate technology are important for the acquisition of technological capability. The variables such as, external technological and information channels, multilateral horizontal and vertical cooperation, and formal technical education were significant in the regressions. Firm size came out as a significant variable in regressions and it also remarkably improved the explanatory power of the equations. Non-tiny firms exhibited much stronger inter-firm linkages with firms/agencies, both within the cluster and outside.

Ravi (2009) focused on entrepreneurship development within the Micro, Small and Medium Enterprise (MSME) sector in India. He overviewed this sector in India and looked at some recent trends which highlighted the development and significance of this sector with respect to the Indian economy. He also studied about specific government policy interventions on the growth of entrepreneurship in the MSME sector in India. His studies revealed that while specific policies that were aimed at the MSME sector had a limited influence on the growth of MSME sector. He highlighted that the general policies and not the specific policies drafted for MSMEs had a significant positive impact on the growth of MSME sector in India. His results suggested that perhaps the government should play a facilitator role and improve access to finance by encouraging more banks and other financial institutions to enter the local market, instead of becoming an active player itself. The results also suggested the core competence of the government in certain roles, example creating a facilitating environment such as improved connectivity by roads, railways and airways, improved availability of electricity and water supply.

Romijn (2010) analyzed the major approaches in technology development for micro, small and medium enterprises in the developing nations since the year 1970. He concluded that the earlier programmes suffered from a number of weaknesses. The major ones being limited conceptualization of technology and an inadequate understanding of the role of micro, small and medium enterprises in the overall industrial development. He highlighted that, there was lack in expertise while projects were implemented but gradually things have changed and many advancements had been made on all these fronts over the years.

Das & Das (2012) attempted to establish the relationship between MSMEs competitiveness and Information Technology Comprehensiveness. Their study examined the Information Technology Adoption of Micro, Small and Medium Enterprises (MSME) in North India. The data was collected through personal inquiry and semi structured questionnaire, thereafter responses of 36 successful MSMEs were analyzed. According to empirical surveys, information requirement, intensity of competition, and support and incentives, size and age influence the Information Technology Adoption. Their study proved that there is a relationship between environmental factors and the adoption of technology. Information Technology Adoption increases with increasing information requirements. Highly competitive environments drive enterprises to adopt the IT to acquire first mover advantages, or to avoid being driven out of markets. MSMEs in highly competitive industries have no choice but to follow their competitors in adopting information technology. Government Support and incentives from the external environment also lead enterprises to pursue Information Technology Adoption. It should come as no surprise to learn that the government is the greatest champion of the business use of the Internet

Beley & Bhatarkar (2013) revealed that technology has a very deep impact on bulk of the industries. It also influences the state of the economy. Usage of technology in the manufacturing

sector has changed the rules of business. It is hard to think of the modern businesses without the use of information technology, which is having a significant impact on the operations of Micro Small and Medium scale Enterprises It is claimed to be essential for the survival and growth of economies in general. MSME is drawing attention in developed and developing countries as well as in transition countries. It is generally recognized that MSME play a vital role in the revitalization and development of national economy in many countries and particular in the context of India. It is encouraging the development of MSME and the role that MSME sector can play in promoting economic and social development by creating opportunities for employment.

Paramasivan (2013) analyzed the impact of Technological Capability on the Performance of MSMEs. His study made a major contribution to the existing literature by providing further insights into the effect of Technological Capability of MSMEs on their export performance. The results showed that entrepreneurial orientation and absorptive capability have significant impact on Technological Capability on the aspects of technological operating and technological upgrading. In addition, different levels of Technological Capability are positively correlated to export intensity and growth in exports. His study suggested that innovation in processes and products plays a crucial role in the success of MSMEs in international markets. Thus, it is evident from his study that micro, small and medium enterprises need to assemble technological knowledge from internal as well as external sources and should develop distinctive level of technologies for performance improvement in the Indian economy.

OBJECTIVES

- To highlight the technology up gradation and innovative schemes for the MSME sector
- To identify the barriers to Technology development among Indian MSMEs

METHODOLOGY

The study is primarily based on qualitative literature survey method. It facilitates in depth analysis of the issues related to MSMEs, Impact of technology on MSMEs and various technology up gradation schemes for MSME Sector. Extensive review of the literature provided useful insight about the impact of technology on MSME sector. The present study is exclusively based on secondary data which has been collected from the various issues of Annual Reports on MSMEs and Handbook of Statistics on the Indian Economy published by Ministry of MSMEs and Reserve Bank of India (RBI) respectively.

TECHNOLOGY UP GRADATION AND INNOVATIVE SCHEMES FOR THE MSME SECTOR

(i) Scheme for Promotion of Information and Communication Technology (ICT) in MSME Sector: The main objective of the scheme is to carry out diagnostic mapping of potential clusters and motivate them to adopt the ICT tools and applications for their production & business processes, with a view to improve their competitiveness in national & international market. The developmental outputs expected from the scheme will be:-

1) Large number of MSMEs across the country (about 5,000) will reap the benefits from the scheme.
2) ICT interventions will improve competitiveness of MSME sector resulting in enhanced export of these MSMEs and increased share in domestic and international markets.

(ii) Technology Up gradation Programme: In general, MSMEs lack access to technology due to poor consultancy support/service for access to technology related information, scarcity of skilled and trained manpower, lack of awareness & lack of knowledge among the MSME entrepreneurs regarding the production and production costs, lack of managers with good managerial skills and poor adoptability to change trade trends. For technology up gradation DIC provide capital subsidy and other assistance to strengthen MSME Sector.

(iii) Lean Manufacturing Competitiveness Scheme: The Lean Manufacturing Competitiveness scheme, launched in 2009, aims to reduce manufacturing waste, thereby, increasing competitiveness and productivity of the MSMEs.

Under Lean Manufacturing, simple techniques are applied which identify and eliminate waste and streamline the manufacturing system. The scheme is implemented under the Public Private Partnership mode. Initially, the lean manufacturing techniques have been introduced in 100 mini clusters on a pilot basis. It is expected that 1000 MSME units will be benefited for the pilot. Over 70 Special Purpose Vehicles have been formed by MSME units in various industry clusters and 42 Lean Consultants have been selected as part of the scheme implementation.

(iv) The Design Clinic Scheme: The Design Clinic Scheme brings design experts in MSMEs on a common platform to enable the MSMEs to access expert advice and cost effective solutions for their real- time design problems. The scheme introduced in the year 2010 comprises of two major parts - Design Awareness and Design Project Funding. The Design Awareness stage comprises various activities like seminars, workshops and diagnostic studies of the clusters. In Design Project Funding, projects of students, consultants/designers and consulting organizations are assisted by providing 60% of the project cost by way of Government grant. The scheme will initially be implemented in 200 MSME clusters. So far 43 seminars have been organized in 99 MSME approved clusters and 15 design projects have been approved.

(v) Tolling and Training Centres: The Setting up of Mini Tool Room and Training Centres scheme envisages setting up of 15 New Mini Tool Rooms under PPP Mode, for creating tooling and training facilities in private sector. Entrepreneurs and Associations would be selected through competitive bidding to setup Mini Tool Rooms. The Government support is restricted to Rs.9.00 Cr. on Viability Gap Funding basis up to 40% of the project cost. The scheme with a total cost of Rs.210.00 crores (with Government contribution of Rs.135.00 crores) was approved. The objective of the scheme is to develop more tool room facilities i.e. technological support to MSMEs, by creating capacities in the private sector for designing and manufacturing quality tools and also to provide training facilities in the related areas. The scheme will be implemented in three models in order of preference, viz. Private Partner i.e. an individual, firm, company, association, NGO or society (Central PPP Model), SPVs set up by the States in partnership with private partners (State PPP Model) and State Government or State Agencies other than NGOs (Centre-State model).

BARRIERS TO TECHNOLOGY DEVELOPMENT AMONG INDIAN MSMES

(i) Cost: Cost is the top barrier. Micro and small businesses are not yet convinced about the return on investment in technology adoption.

(ii) Low awareness about technology up gradation schemes: Government and other institutional schemes are benefitting small businesses, but there is a broad lack of awareness of existing resources: Businesses who utilised the numerous government and other stakeholder schemes benefited extremely well from them. At the same time, there appears to be a very low awareness of these programmes among small businesses.

(iii) Lack of skilled manpower: There is a dearth of skilled manpower in the field of Information technology. People are not willing to be associated with MSMEs on the aspect of use of information technology. It's hard to convince the IT professionals to work with micro, small and medium enterprises.

(iv) Security and Privacy issues: Confidentiality of data is another major issue which hinders the use of technology in MSME sector. Most of the owners believe that the use of IT services might leak some of its confidential information such as financials and list of suppliers.

(v) Poor Infrastructure: Most of the MSME units have poor infrastructure to support IT services. Even if they think of using Information Technology services for facilitating the manufacturing process but the inadequate infrastructure turns out to be the biggest bottleneck.

CONCLUSION

Information requirement, intensity of competition, and support and incentives, size and age influence the Information Technology Adoption.

Highly competitive environments drive enterprises to adopt the IT to acquire first mover advantages, or to avoid being driven out of markets. MSMEs in highly competitive industries have no choice but to follow their competitors in adopting information technology. Government Support and incentives from the external environment also lead enterprises to pursue Information Technology Adoption.

MSMEs in India tend to give more weightage to present as compared to future. They form short term strategies to meet the liquidity needs. Generally, they don't invest in technological front and their attitude is driving them out in the global market. MSMEs have shortage of funds and limited access to relevant information. They try to reduce cost by minimizing the capital expenditure. This has made the Indian MSME Sector a bit dormant when it comes to the use of latest technology and knowledge of the global markets. On a global level, they are losing the competition and becoming uncompetitive.

The Small and Medium enterprises play a vital role in the Indian economic structure due to its significant contribution in terms of output, exports and employment. But still most of MSMEs in India lacks in their technological infrastructure and are technically backward. In order to enable MSMEs tide-over the problems of technological backwardness and enhance their access to new technologies, it is imperative to offer them a conducive environment, which in the present context of globalization, calls for approach with knowledge playing a predominant role. There is a need to understand and assess the real needs of the MSMEs and accordingly devise approaches that ensure their sustainable growth. The need today is also to leverage on modern technologies to harness human capabilities through the process of increased communication, cooperation and linkages, both within the enterprise as well as across enterprises and knowledge-producing organizations.

REFERENCES

1. *Beley, S.D. & Bhatarkar, P.S. (2013). Financing Micro, Small and Medium Enterprises (MSMES) In India during Post Liberalization Period: A Study on Traditional and Unconventional Approaches of Financing. Indian Streams Research Journal, 2(8), 121-129.*
2. *Das, S. & Das, K.K. (2012). Small Factors Influencing the Information Technology Adoption of Micro, Small and Medium Enterprises (MSME): An Empirical Study. International Journal of Engineering Research, 2(3), 112-119.*
3. *MSME Annual Report, (2012).*
4. *Paramasivan, C. (2013). Progress and Performance of Micro, Small and Medium Enterprises in India. 2(4), 11-22.*
5. *Raghavendra, N.V. & Balasubrahmanya, M.H. (2006). Development of a measure for technological capability in small firms. International Journal of Innovation and Learning, 3(1).*
6. *Ravi, S. (2006). Entrepreneurship Development in the Micro Small and Medium Enterprise Sector in India. Indian Journal of Business, 1(1), 55-57.*
7. *Romijn, H. (2010). Small-industry clusters, accumulation of technological capabilities, and development: A conceptual framework. Journal of Development Economics, 16(1), 101-128.*