

# Review on Role of Advance Modern Manufacturing Technology in Micro Small and Medium Enterprises (MSMEs)

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**Abstract** - MSME (Micro, Small and Medium Enterprises) are the heart of Indian manufacturing industry. The MSME sector is highly heterogeneous in terms of the size of the enterprises, variety of products and services, and levels of technology. MSMED Act 2006 facilitates the development of the enterprises and enhances their competitiveness. The Act provides legal framework for "enterprise" which includes the manufacturing and service entities MSME complement large industries as ancillary units and contribute enormously to the socioeconomic development of the country. The MSMEs of India would be the cradle for the "Make in India" vision. MSME space also is in a unique position to become global players attracting partners with technology and funds, looking forward for future growth MSME should grab opportunities through Globalization and be a messenger for Indian industrial growth as well as cultural heritage.

**Keywords**- MSMEs, Manufacturing, India, Micro, Small and Medium Enterprises.

## I. INTRODUCTION

Micro, Small and Medium Enterprises (MSME) sector has emerged as a highly vibrant and dynamic sector of the Indian economy over the last five decades. MSME's not only play crucial role in providing large employment opportunities at comparatively lower capital cost than large industries but also help in industrialization of rural & backward areas, thereby, reducing regional imbalances, assuring more equitable distribution of national income and wealth. MSMEs are complementary to large industries as ancillary units and this sector contributes enormously to the socio-economic development of the country. MSME's Annual Report for 2014-15, an estimated 29.8 million MSMEs in India manufacture more than 6,000 products, contribute 8 percent of gross domestic product (GDP), 45 percent of industrial output, 40 percent of exports, and employ nearly 106 million people. [1, 2] Among the MSMEs in India, the dispersed food products sector generates maximum employment (13.7% of total employment in the MSME sector), followed by non-metallic mineral products (10.9%) and metal products (10.2%). (fig1 & 2) In chemicals and chemical products, machinery parts except electrical parts, wood products, basic metal industries, paper products and printing, hosiery and garments, repair services, and rubber and plastic products, the contribution ranges from 9% to 5%. Although 94 percent of MSMEs are unregistered, the contribution of the sector to

India's GDP has been growing steadily at 11.5 percent annually, which is higher than the overall GDP growth of 8 percent.

Like other economies, the Indian MSME sector has the potential to increase its contribution to employment to over 50 percent over the next decade. In addition, as per an industry report 'NASSCOM Perspective 2020: Transform Business, Transform India,' the MSME segment has the potential to build 2,500 large-scale businesses. These businesses could clock in revenues of ₹.10 lakh crore (\$200 billion) – a significant contribution to GDP and creation of employment at the same time.

The Policy framework must encourage this. It will also help creating employment on a massive scale. [16,7] Description of MSMEs in India

Enterprises	Manufacturing sector	Services sector
Micro	₹. 25 lakh	₹. 10 lakh
Small	₹. 5 crore	₹. 2 crore
Medium	₹. 10 crore	₹. 5 crore

## II. DISCUSSION

Dr.K. Alamelu and R. Baskaran [1], The entrepreneurship has been radically changing, with the way of time, according to the changes in world's economic structure. The MSME sector in India is heterogeneous, dispersed, and mostly unorganized. It includes diverse types of production units ranging from traditional crafts to high-tech industries. Yet, it is often considered as large units among the SSIs which deal with high-tech industries or serve as ancillaries to large industries. Segments such as power-looms, handlooms, handicrafts, food processing, coir, sericulture, khadi, village industries, and wool, which are mostly unorganized, are fragmented across various ministries and often seen only as rural livelihoods.

Devendra Kumar Devgan [2], The study identifies enablers for promotion of innovation in the Indian manufacturing sector. The study & analyse the impact of innovation enablers (IEs) to enhance the manufacturing competitiveness and categories into three phases firstly, identification of innovation enablers, secondly, qualitative analysis of enablers and final quantitative analysis of the innovation enablers. Interpretive Structural Modeling (ISM) has been used to analyse the relationships.

Amit Chandra & Vrinda Pareek [3], This paper identifies the growth prospects of MSMEs. MSMEs coupled with globalization and international competitive pressures, as per the FICCI report, share of innovating firms in India rested at an only 19 percent. India is ranked 62nd on the Global Innovation Index and 8th in its income group, following China, Moldova, Jordan, Thailand, Vietnam, Ukraine and Guyana. The necessity of an R & D wing is underestimated by most MSME owners, presumably driven by the financial crunch they are constantly faced with. The educated and sufficiently skilled prefer the higher wages and job security offered by larger enterprises. Labor retention is, in itself, an added challenge.

Dr. Mukund Chandra Mehta [4], The MSMEs are important sector and plays a critical role in the Indian economy. MSMEs will continue to play a very important and vital role in our economy where the twin problems of unemployment and poverty constitute a major development challenge. There are several challenges in the sector of MSMEs. If the Government, Bank and Financial Institutions will take proper initiatives in the sector of MSME and they will take pride while servicing the MSMEs, these challenges can be solved and the economic growth rate of India will be 8-10% for the next decades.

Shashank Mehta [5], MSMEs need to be vitalized for competitiveness and sustainable growth in today's globalised environment. Design can help MSMEs increase the value and competitiveness of their products and services. Design Clinic Scheme is one such unique and ambitious design intervention scheme developed for the country's large micro, small and medium enterprises sector, where the conventional model of design consultancy and training is not often affordable. This model helps to bring design solutions directly to industrial clusters, thus facilitating design improvement, evaluation, analysis, and opportunities for consultancy and design intervention.

Khrystyna Kushnir, Melina Laura Mirmulstein, and Rita Ramalho [6], This paper is an overview of data on MSMEs Country Indicators for 132 economies. There are 125 million formal MSMEs in this set of economies, including 89 million in emerging markets. Descriptive statistical analysis is presented on the relationship between formal MSME density i.e. number of formally registered MSMEs per 1,000 people and key obstacles for MSMEs, such as access to finance and informality. This analysis shows that formal MSMEs are more common in high-income economies, but that in low and middle-income economies. This means MSME density is rising at a faster pace. Second, although there is significant variance in the countries' definitions of MSMEs, around a third of the countries covered define MSMEs as having up to 250 employees. Third, formal MSMEs employ more than one-third of the world's labor force, but the percentage drops significantly with income level. Fourth, MSMEs are more likely to identify access to finance as their biggest obstacle than are large firms. Measures of barriers to firm entry and exit, such as the minimum capital requirement and the recovery rate in case of bankruptcy, are also associated with lower formal MSME density.

Report: International Finance Corporation (World Bank Group) [7], An overview of the MSMEs spread across the country: The MSMEs current monitoring process requires considerable amount of human intervention to supplement the technology platform; in many cases, (i) the process of product and service design is closely linked with understanding the market. Most financial institutions identify enterprises in the vicinity of branches and use rule-of-thumb to address the financial needs of micro and small enterprises. (ii) The screening stage mainly involves broad assessment of the enterprise's investment-worthiness, based on parameters such as, entrepreneur's profile and track record, management profile and fit with the investment philosophy of the investor. (iii) Low literacy also plays a significant role in explaining the gap. Because of low literacy levels, entrepreneurs of micro and small enterprises are not aware of formal sources of finance, and prefer self-financing or informal source of finance. The three main pillars of the enabling environment that the study has analyzed are: a) legal and regulatory framework b) government support c) financial infrastructure support. (iv) MSME sector is adoption of new technology, which impacts the sector's competitiveness. In order to encourage enterprises to invest in technology, the government also provides Credit-Linked Capital Subsidies (CLCS) for technology investments. The government leverages the credit infrastructure of the public sector banking network to make the subsidy available to MSMEs. (v) A Skill development is support the growth of technology-based enterprises, the government plans to set up 100 incubators under the auspices of engineering and technology- institutions by 2015. There is also a proposal to expand the services of MSME Development Institutes and technology incubators to provide hand-holding and advisory support to enterprises. This would provide confidence to financial institutions about the viability of an enterprise. (vi) A cluster develops for location-based agglomeration of micro, small and medium enterprises that are faced with similar opportunities and challenges. Clusters tend to provide an ecosystem support. Drawing lessons from the success of clusters in the past, the government has identified cluster development as one of the key approaches to make MSMEs more competitive. In a cluster approach, government provides support for skill development, market-linkage, technology improvement and access to finance for specific clusters. The current financing gap in the MSME market presents a huge potential opportunity for formal financial institutions to expand their market reach. But achieve this; both the financial institutions and enterprises require substantial support from government and private sector.

Er. Supratim Pratihar & Er. Avaya K. Swain [8], The authors focus on innovations and the challenges & constraints in the MSME sector. Key factors contributing to the growth of MSMEs are cluster development, adaption of organizational culture and better understanding of financial aspects of the business. The MSMEs are credited with generating the highest rates of employment growth and account for a major share of industrial production and exports. Technology improvement, skill improvement and access to capital and access to market are crucial factors. Healthy competition from global player and signing WTO's treaty opening local will drive innovation to

this sector. Design driven strategic planning will help MSMEs in future to complete globally. Design plays a strategic role in overall economy and will bring bright future in the coming years.

Dr. A. S. Shiralashetti [9], The MSMEs have grown around three times in a span of ten years. But, they grow consistently till 2005-06 but in 2006-07 growth rate was unimaginable (i.e. 111.18 per cent) and thereafter the growth rate has been around 4.5 per cent till 2009-10 as compared to their respective previous years. The fixed investments in these industries have gone up from Rs.154349 crores in 2001-02 to Rs.693835 crores in 2009-10. The fixed investments in these industries have increased by more than four times in 10 years. The fixed investment in these industries after 2006-07 till 2009-10 has grown consistently around 11.50 per cent. This indicates that lot of investment has been made in MSMEs to increase their development in the interest of nation. The production from these industries has gone by around four times from 2001-02 to 2009-10 these industries also contributed lot in earning foreign exchange to India.

### III. RESULTS

Literature shows innovation is the key to enhance the competitiveness of the manufacturing sector. The new ideas to be turned into new products and services that create growth, highly skilled value adding jobs, and help global societal challenges to sustain the competitiveness in the global marketplace; they need to engage in a continuous improvement of technologies as well as innovation. Advanced manufacturing systems have a critical role in making key enabling technologies and new products competitive, affordable and accessible so as to multiply their societal and economic benefits. MSMEs in India is still lacking when it comes to competitiveness, quality, innovation and growth. This is due to challenges in accessing finance, technology, skilled workers and markets. MSMEs can be revitalized by providing competitive finance, relevant world class technology, the sustained supply of skilled workers and access to markets.

Manufacturing organizations especially MSMEs need to focus on important enablers of innovation to sustain global competition and identifying important variables of technological innovation in the context of Indian MSMEs. Government policies are most important enablers to contributing significantly towards technological development of MSMEs. The most promising application of Government of India launched various initiatives schemes such as 'Make in India', 'Start-Up India, Stand-Up India', 'Skill India' and 'Smart Cities', to generated good scope to MSMEs for better performance in manufacturing sector. MSMEs play authoritative role in Indian manufacturing sector. But there are various problems faced by these enterprises due to which the growth of the enterprises is affected, Hence the researcher a need to study the problems faced by MSMEs.

- Investment in Innovation & Technology
- Innovative Process, Product Quality, Enhanced Production
- Inducting periodical deployment of workers training and upgraded technological Education
- Government promotions and regulation

- Infrastructure development for viable Air, Rail and Road Connectivity
- Deployment of E-Technology in Manufacturing Sector.

### IV. CONCLUSION

MSMEs not only plays a crucial role in providing large-scale employment opportunities at comparatively lower capital cost, but also helps in industrialization of rural & backward areas, thereby reducing regional imbalances, assuring more equitable distribution of income and wealth. The eco-friendly products of traditional industries have great potential for growth in production and export developing role products for domestic and export markets. It is necessary to develop a new design philosophy for both organizational and technological systems, a philosophy that will ensure that systems are able rapidly to respond to unpredictable changes in their environments with a view to maintaining or improving their performance. Digital information and communication technologies have reached the level of development which enables designers to achieve this objective. The massive use of modern advance technology is assured by its continuous improvement in manufacturing performance or price ratio.

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