Measures to accelerate the sustainable growth of small sectors: a literature review

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ABSTRACT. This is evident that nation’s economic and social development is well supported by small manufacturing sectors that comprises of Micro, Small and Medium Enterprises. Worldwide, these contribute in the growth of country’s gross domestic production, employment and export in a significant manner. These small sectors need to improve their performance and competitiveness so as to ensure their survival and prosperity in this agile world. In this paper, a literature review is presented that focuses on the key areas that need sincere attention for improvement and thus, a research / study can be planned so as to suggest the measures to be taken to ensure sustainable growth of an enterprise.

KEYWORDS. Micro, small and medium enterprises; MSMEs; Small and Medium Enterprises; SMEs; Sustainable Growth, Performance Improvement.

1. INTRODUCTION
Small sectors, comprising of Micro, Small and Medium Enterprises (MSMEs) contribute a lot in the development of nation’s economy as these offer appreciable improvement in Gross Domestic Product (GDP), total manufacturing production and exports. MSMEs’ growth is also important for developing nations as these offer employment at a lower capital cost to larger population, as compared to large enterprises. Small sectors further help in industrialization of the rural and backward areas. In this way, MSMEs help in maintaining regional balance through equitable distribution of national wealth and income.

Significant contribution of small sectors towards nation’s economic and social growth has been reported by many researchers. According to [1], SMEs have played tremendous role in manufacturing globally as MSMEs are producing products for sale to customer, raw materials for large enterprises and offering services. However, some of the existing manufacturing problems like high rejection rate, high inventory, low machine utilization, low labour productivity, high labour absenteeism and high cost of production may be reduced by introduction of suitable Advance Manufacturing Technologies (AMT) [2]. This is well supported by [3] that state that to increase productivity and competitiveness of small sectors, one alternative is the use of AMT. Thus, in small sectors, AMT can help in improving the quality and flexibility [4]. In addition to these, the motivating forces for AMT adoptions may not be limited to countering skill deficiency, obtaining financial benefits and enhancing enterprise image [5]. Including workforce skills, capabilities and participation in marketing and manufacturing, larger effect on enterprise performance can be obtained [6]. Further, SMEs can expand their business into foreign market through introduction of Information and Communication Technology Tools (ICT) [7].

In India’s, the yearly rate of GDP growth is about 8%. In this context, this can be said that through introduction of innovation in small manufacturing sectors (i.e. MSMEs), improvement in India’s competitiveness and GDP may be achieved. Keeping this in mind, this research is planned which is...
focused on the study of key areas that need to be addressed so as to ensure sustainable growth of manufacturing MSMEs.

2. REVIEW OF LITERATURE

2.1 Performance of MSMEs

Worldwide, small enterprises contribute significantly in nation’s economy. SMEs, which are around 99% of total enterprises of Singapore’s economy, employ two-thirds of entire workforce and contribute for about half of Singapore’s GDP [8]. In Malaysia, the SMEs are about 98.5% of the total business establishments and these contribute about 36.6% in nation’s GDP [9]. Further in the Japanese economy, SMEs play an important role as these accounted for 70% of national employment and generate nearly 50% of national value added [10].

According to the China Statistical Yearbook, in 2015, Chinese’s SMEs were about 97.9% of all registered enterprises whose revenue was about 62% of the total and the profits was about 64.3% of the total. These contributed nearly 58% in GDP and 68% in exports. The number of employees in SMEs was about 82% of total employees. Further, these are responsible for approximately 75% of new jobs every year [11]. Further, in the EU-28 non-financial business sector, SMEs were nearly 99.8% of total operated enterprises in 2016. These SMEs employed around 93 million people that accounted for about 67% of total employment and generated about 57% of value added. Out of these SMEs, almost all (93%) were micro SMEs that employed less than 10 persons [12]. In the same line, US SMEs (having employees less than 500) consists of about 99% of all enterprises and employ nearly 50% of private sector employees. These generate about 65% of net new private sector jobs in US economy. These SMEs represent about 98% of all exporters and nearly 34% of export revenue [13].

The contribution of small sectors (MSMEs) in India’s GDP is about 28.77% in 2015-16. During the last five years, these manufacturing MSMEs contributed nearly 33% in the country’s total Manufacturing GVO (Gross Value of Output) at current prices. Approximately 31% MSMEs were engaged in manufacturing activities, while about 36% were engaged in trade and nearly 33% MSMEs were doing other services. About 51.25% MSMEs were in rural area and nearly 48.75% were in the urban areas of India that reflect the regional balance. In India, nearly 99% of total estimated MSMEs were micro, nearly 0.52% were small and about 0.01% were of medium enterprises. MSMEs were creating about 11.10 crore jobs in rural and urban areas of the India [14]. In the country’s Gross Value Added (GVA), the share of MSME sectors is approximately 32% [15].

2.2 Measures to improve performance of MSMEs

The key areas or measures that need to be addressed for performance improvement are presented hereunder.

2.2.1 Order Winning Criteria

Each manufacturing enterprise needs order to remain in business and more orders are to be grabbed over competitors. For this, order winning criterions are to be addressed. Major order winning criterions which are to be considered are presented below [16-20]:

a) Attractive Packaging
b) Early Development of New Products
c) Product Cost
d) Product Design
e) Product Durability
2.2.2 Competitive Priorities and Business Objectives
An enterprise should pay sincere attention towards the suggested competitive priorities and business objectives so as to win the orders and to compete with rivals. Referring studies of [21-27], these may be:

a) Improvement in Product Design Quality
b) Improvement in Product Durability
c) Improvement in Product Reliability
d) Improvement in the ability to produce Product Mix
e) Improvement in the ability to change Production Volume
f) Compliance of Customer Due Dates
g) Compliance of Production Plan Schedules
h) Offering effective After-sale Services to Customers
i) Rapid Delivery / Reduction in Production Lead Time
j) Reduction in Product Cost
k) Reduction in Time taken for Introduction of New Product

2.2.3 Advance Manufacturing Technologies
Once orders are obtained, the need arises to produce quality products that suit the requirement of customers at global level. In this respect, technology adoption is essentially required. Out of available advance manufacturing technologies, as mentioned below, suitable technologies are to be adopted by enterprise so as to attain set competitive priorities and business objectives [25, 28-38].

a) Direct Technologies covering
   (i) Automated / Numerical Control Machines
   (ii) Automated Guided Vehicles
   (iii) Automated Material Handling Systems
   (iv) Automated Storage and Retrieval Systems
   (v) Computer / Direct Numerical Control Machines
   (vi) Flexible Manufacturing Systems
   (vii) Robotics

b) Indirect Technologies covering
   (i) Bar Coding
   (ii) Computer Aided Design
   (iii) Inspection and Testing as per Global Standards
   (iv) Materials Requirement Planning
   (v) Manufacturing Resource Planning
   (vi) Statistical Process Control
   (vii) Total Quality Management

c) Administrative Technologies covering
   (i) Inventory reduction techniques
   (ii) Just-in-time
   (iii) Office Automation
   (iv) Recycling
   (v) Bill of Materials
   (vi) Supply Chain Management
2.2.4 Benefits offered by Successful Adoption of AMT

Through successful adoption of suitable type of technologies, an enterprise can get various benefits that are summarized below [2, 29-31, 39-50]:

a) Cost Competitiveness, Reduction in Product and Labour Cost
b) Faster Product Innovation
c) Reduction in Product Development, Setup and Lead Time
d) Improvement in Capability to widen Product Range
e) Improvement in Communication
f) Improvement in Factory Utilization
g) Better Integration of Business Activity
h) Improvement in Management Control
i) Improvement in Productivity
j) Improvement in Return on Investment
k) Improvement in Sales Growth
l) Better Enterprise’s Image
m) Increase in Efficiency
n) Increase in Market Share
o) Improved Reliability
p) Increase in Throughput
q) Meeting of Organizational Goals
r) Better Layout and better utilization of Machinery
s) Obtaining Competitive Advantage
t) Quality Improvement
u) Reduction in Floor Space Requirement
v) Improved Flexibility
w) Inventory Reduction
x) Reduction in Waste

2.2.5 Risks in Adoption of AMT

There are many associated risks during adoption of suitable type of AMTs that are summarized hereunder. These risks may hinder the technology adoption process and thus, should be taken care properly [5, 31, 40, 46, 51-53].

a) Adverse Effect on Workflow
b) AMT Skill Deficiencies
c) Disruptions during Implementation
d) Effect on the Production Process and Bottlenecks
e) Failure to achieve Financial Targets
f) Inadequate Training of Workers in AMT
g) Poor Integration of Management Information System
h) Poor Integration of the System into a Production Planning and Control System
i) Obsolescence of Technology
j) Opposition by Staff / Management
k) Opposition by Workforce
l) Poor Integration Across Functions
m) Problem with Interconnection of Equipment
n) Production Interruptions during Installation of the AMT
o) Production Management Skill Deficiencies
2.2.6 Human Factors
Employees are the key for functioning and growth of every enterprise. Enterprise must do all needful for well being of all the employees. Key areas that should be considered for betterment are suggested below [28, 49, 53-71]:

a. Welfare facilities including facility of first aid and hospitalization, training / re-training, transportation, canteen, lunch / snacks, retirement benefits, accommodation, recreation, education of employees’ children, paid leaves, loan etc.

b. Employees participation in record keeping, communicating the problems, housekeeping, cleaning of self work places, ideas for new products, better utilization of resources and problem solving etc.

c. Ergonomic working conditions that included good condition of stair cases, floor, working temperature, height of platform, ventilation, light at workplace and availability of rest etc.

2.2.7 Information Technology Tools
Nowadays, ICT became an essential part of adoption in enterprises. These tools are beneficial for increasing customer base, market places, overall sales and ultimately the growth. The factors that need to be addressed in this respect are summarized below [26, 72-89]:

a. Availability of computers, printers, scanners etc.

b. Availability of website, its updating and its usages in communicating with customers, vendors and receiving of the orders

c. Areas of application of ICT for various areas of enterprises like billing, payroll, suppliers’ information, research and development, advertisement, order receiving and dispatching, market research, sales and distribution, logistics / transportation, after sales services, complaints and record keeping of documents etc.

2.2.8 Enterprise’s Performance Evaluation
The performance of an enterprise should be evaluated regularly as the evaluation provides an opportunity to know the areas that are performing poorly. The poor performing areas are to be considered as areas for improvement and addressing these, the growth of enterprise can be assured. So, the suggested parameters to evaluate enterprise’s performance may be as per following [42, 85, 90-97]:

a) Annual Sales Turn-Over

b) Export

c) Market Share

d) Sales Growth

2.2.9 Improvement in Productivity
Productivity needs to be improved continuously. Considering studies of [29, 98, 99], the parameters or ways to access improvement in productivity are not limited to Benchmarking Areas (process, product, simplification, technical machine and equipments, technology usages, employee welfare etc.) and Benchmarking Objectives (learning from organizations, continuous improvement, search of performance gap, measurement via comparison etc.).

2.2.10 Justification of Adoption of AMT
There are huge investment for MSMEs in technology adoption and thus, suitable measures or parameters needs to be considered (that may include the following) to justify the adoption of suitable type of technology and investments made [5, 33, 37, 95, 96, 100-104].

a. Benefits (tangible and intangible) Obtained
b. Improvement in Performance Parameters and Brand Establishment

c. Human Resources related affairs

3. METHODOLOGY
Methodology will cover the detailed procedure for entire research that will include:

a. Selection of population and sample size
b. Framing of Questionnaire on a five point Likert scale
c. Data collection through survey (online / postal)
d. Statistical Analysis using SPSS
   i. Descriptive Statistics (mean, standard deviation and frequency distribution)
   ii. Computation of Cronbach’s Alpha for checking of validity and reliability
   iii. Validating and testing of generated hypotheses by employing one-way ANOVA and t-test
   iv. Employing factor analysis and correlation analysis to establish relationship (or to know the impact) of few identified variables with performance parameters

All the findings and outcomes are to be documented. These findings are to be examined and discussed with the help of finding of other researchers and for better representation and understanding; tables and figures are to be employed at suitable places. Nature and characteristics of MSMEs surveyed are to be presented in the demographic profile.

4. DISCUSSION
The presented review of literature reflects the significant contribution made by small sectors in the economy and in economic and social development of the country. The performance of MSMEs may be improved by introducing suitable technologies that are available under AMT. Thus, technology adoption can be considered as a catalyst that will help in sustainable growth of economy of India. Almost all the stakeholders that majorly comprising of Government of India (GOI) and leaders of small sectors and technology advocate for sustainable growth of MSMEs by reducing problems related to infrastructure, technology and labour skills.

In India, at present, most of the MSMEs are not well equipped to manufacture quality products. These manufactured products are not at par with global standards that reduces export potential. Rejection rate is significant. For MSMEs to grow, more order, new market places and more demanding customers are needed. Simultaneously, to satisfy customer, high quality, reliable and cost effective products need to be offered. Such product mix should be offered for sale in a shorter lead time. Poor power supply is hindering the functioning of MSMEs that affect the production quantity. This also hampers product quality and cost of produced products. Further, fluctuating markets are affecting raw materials cost.

Through adoption of suitable AMT, manufacturing MSMEs can explore benefits that comprises of improvement in product quality, performance and reliability. In addition to these, rejection, inventory and production cost can be reduced. Further, IT tools will enable MSMEs to expand their marketplaces, ultimately to achieve their accelerated growth.

5. CONCLUSION
In this paper, a literature review is presented that covers major areas and significant factors that needs to be addressed properly so as to ensure sustainable improvement in the performance of manufacturing small sectors all over the globe. The GOI is aware of many problems which are being faced by these MSMEs. However, GOI is also taking all suitable measures, just to improve the performance of these MSMEs. In this respect, the research can be planned and be conducted so that the outcome can support the literature and can help in identifying critical areas that needs to be addressed. Further researches may assist the
manufacturers, policy planners and researchers to identify and suggest some additional measures to improve MSMEs performance that may be considered as an ongoing practice.

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