Abstract— worldwide, the small and medium enterprises (SMEs) have been accepted as the engine of economic growth and for promoting equitable development. The SMEs constitute over 90% of total enterprises in most of the economies and are credited with generating the highest rates of employment growth and account for a major share of industrial production and exports (www.msme.gov.in). In India too, the SMEs play a pivotal role in the overall industrial economy of the country. SMEs are playing significant role in supply chains of larger organizations. Singh, Garg, and Deshmukh (2004) opine that to sustain the importance and performances, SMEs are feeling more pressures to improve their competitiveness as compared to past protective markets. However, the potential of SMEs is often not realized because of problems commonly related to wide size, isolation, market opportunities, standards/quality, supply chains, logistics and technology, innovation, etc. In order to enable SMEs tide-over the problems of technological backwardness and enhance their access to new technologies, it is imperative to offer them a conducive environment, in the present context of globalization. Rodriguez, Dasgupta, Patwardhan, Mittal, Nagpal, Karunakaran and Saxena (2007) stressed the need to understand and assess the real needs of the SMEs and accordingly devised approaches that ensure their sustainable growth. This paper aims at review the present situation of SMEs in India, examine the global scenario of SMEs, and finally suggest ways to improve the quality and productivity in SMEs to impart them an edge to competitiveness in global market.

Index Terms—Competitiveness, Productivity, Quality, SME.

I. INTRODUCTION

Small and medium enterprises (SMEs) represent the largest proportion of the manufacturing sector in many countries & played a key role in the economies of major industrial countries. Being operating at moderate level of technology with low financial requirements, Idris and Rahman (2009) pointed out that SMEs always taken as platform for young entrepreneurs to start their business. According to Union Ministry in India, 95 % of industrial units are in small-scale sector with 40 % value addition in the manufacturing sector and 8 % contribution to the Indian GDP. This sector is the second largest employer after agriculture (Report by IIA & MCCIA) and employs an estimated 39.7 million person spread over 26.1 million enterprises. It is estimated that in terms of value, MSMEs sector accounts for about 45% of the manufacturing output, 40% of the total export (www.msme.gov.in). India has all resources and skills, still lags far behind developed countries. The major challenge for SMEs is to provide innovative and customized products using the best available process technologies. For business success, SMEs in all sectors need to develop effective strategies for providing higher added values to customers in terms of cost, quality and services at shortest possible time.

SMEs in the Global Scene:

Although SMEs make up the vast majority of companies around the world, but the fact remains that they constitute a sizeable chunk of enterprises.

The EU:

As reported by Rodriguez et.al. (2007), with some 23 million enterprises providing around 75 million jobs, representing 99 % of all enterprises, SMEs play a central role in the European economy.

The Developing World:

In most of the developing world, SMEs are the only realistic employment opportunity for millions of impoverished communities. As mentioned by Lozzi (2008), SMEs occupy the place of strategic importance in Jordanian economy due to their considerable contribution in terms of production, sales and development. It accounts for 50% of the total manufacturing sectors, has 20% share in export, provides 80% of employment in industrial sectors and contributes about 8.5% to the GDP (Lozzi, 2008). As stated by Christopher and Burjin (2003), more than 50% of industrial output in Tanzania originates from SMEs. In Malaysia, the SMEs have contribution of about 21% to GDP. Department of Statistics (DOS) has established in 2005 that, 96.5 % of the establishments in the manufacturing sector were SMEs. Even though SMEs are large in terms of number, their contribution to value added and value of fixed assets are far less than that of the large enterprises. For example, in 2005, SMEs value added comprised only 29.6 % of the total manufacturing value added and 26.7 % of fixed assets of this sector. In term of employment, SME’s contribution was 31.3 % (Jagri et al, 2009).

The OECD (Organization for Economic Cooperation and Development) countries:

Most OECD governments promote entrepreneurship and seek to support and develop SMEs through a myriad of policies and programs. These attempts to combat many of the common difficulties encountered by SMEs and offer solutions to problems in such areas like finance, technology, innovation, IT, management, internationalization etc (Rodriguez et.al. 2007).

United States:

In the United States, small business has benefited from direct cash injections. Procurement policy also seeks to
increase the participation of small businesses, veteran-owned small businesses, small / disadvantaged business, women-owned small businesses. The Small Business Act requires that each contract with an anticipated value of greater than US$2,500 but less than US$100,000 be reserved exclusively for small business concerns.

**Latin America:**

After focusing on large investments and wooing multinationals for years, Latin American politicians are beginning to realize that SMEs are the true job creators as well as important players in technology supply chains. Governments have vastly reduced red-tape to ensure SMEs’ needs are attended swiftly (Rodriguez et al. 2007).

**Asia:**

Some of the world’s best-performing economies, notably Taiwan and Hong Kong are very heavily based on small enterprises. In Hong Kong, in 2005, a total of almost 270,000 SMEs accounted for over 50 % of employment, providing job opportunities to almost 1.2 million people. The majority of enterprises were in the service sector, specifically import and export, and wholesale & retail trade. In Japan, where SMEs are defined as establishments employing between 4 and 299 employees with a turnover of less than 100 million yen, they represented 99.7 % of all enterprises. Korea, recognizing the importance of SMEs has introduced many measures that include tax breaks and reduced interest loans for those starting new businesses in rural areas.

**China:**

China is rapidly emerging as a powerhouse, not only in the region, but worldwide. Part of this success has been owing to the strong performance of SME with the active support of the Government. In China, urban and rural SMEs number is over 10 millions & accounts for 99% of china’s registered enterprise. Their products account for 60% of china’s industries gross output, generate 40% industrial profit, 73% of employment & 60% of exports (www.unescap.org).

**Indian Scenario:**

With the advent of planned economy from 1951 and the subsequent industrial policy followed by Government of India, both planners and Government earmarked a special role for small-scale industries and medium scale industries in the Indian economy. Due protection was accorded to both sectors, and particularly for small scale industries from 1951 to 1991, till the nation adopted a policy of liberalization and globalization. Certain products were reserved for small-scale units (Rodriguez et. al. 2007). 45 % - 50 % of the Indian exports are contributed by SSI Sector. SMEs always represented the model of socio-economic policies of Government of India which emphasized judicious use of foreign exchange for import of capital goods and inputs; labour intensive mode of production; employment generation; no concentration of economic power in the hands of few; discouraging monopolistic practices of production and marketing; and finally effective contribution to foreign exchange earning of the nation with low import-intensive operations. SMEs developed in a manner, which made it possible for them to achieve the following objectives (Rodriguez et.al. 2007) –

- Significant export earnings,
- Low investment requirements,
- Operational flexibility,
- Location wise mobility,
- Low intensive imports,
- Capacities to develop appropriate indigenous technology,
- Import substitution,
- Contribution towards defense production,
- Technology oriented industries,
- Competitiveness in domestic and export markets,
- High contribution to domestic production,

The SMEs have made significant contribution towards technological development, exports and have been established in almost all-major sectors in the Indian industry such as food processing, agricultural inputs, chemicals & pharmaceuticals, engineering, electrical, electronics, electro-medical equipment, textiles and garments, leather and leather goods, software etc.

**Classification of SME’s in India:**

According to newly enacted MSME Development Act 2006, which is effective from October 2, 2006; the enterprises are classified according to the following criteria (Rodriguez et.al. 2007) -

<table>
<thead>
<tr>
<th>Type of enterprise</th>
<th>Investment in plant and Machinery engaged in production of goods</th>
<th>Investment in equipment engaged in providing or rendering of services</th>
</tr>
</thead>
<tbody>
<tr>
<td>Micro enterprise</td>
<td>Does not exceed 25 Lakh rupees</td>
<td>Does not exceed 10 Lakh rupees</td>
</tr>
<tr>
<td>Small enterprise</td>
<td>More than 25 Lakh rupees, but does not exceed 5 Crore rupees</td>
<td>More than 10 Lakh rupees, but does not exceed 2 Crore rupees</td>
</tr>
<tr>
<td>Medium enterprise</td>
<td>More than 5 Crore rupees but does not exceed 10 Crore rupees</td>
<td>More than 2 Crore rupees but does not exceed 5 Crore rupees</td>
</tr>
</tbody>
</table>

Indonesia defines SME based on net assets and annual turnover. In Malaysia, a combination of employment and capital measurements defines SMEs, while in Thailand there is no common definition at all (www.unescap.org).

The India’s SME sector as per the new SMED Act 2006 is ranging from 7.8 million to 13 million in number; the share in GDP of SMEs is more than 80% and more than 90% of all the enterprises are SMEs. As per available statistics (4th Census of MSME Sector), this sector employs an estimated 59.7 million persons spread over 26.1 million enterprises. It is estimated that in terms of value, MSME sector accounts for
about 45% of the manufacturing output and around 40% of the total export of the country (Rodriguez et al. 2007).

**Challenges for SMEs in India:**

The SMEs in India, which constitute more than 90% of the total number of industrial enterprises, form the backbone of industrial development. But most of the SMEs have limited regional geographic presence or limited customer base with majority of them supplying to a few customers. This not only limits their ability in negotiations and bargaining but also hampers their growth perspective based on the conditions experienced by their limited customers. With the WTO regime of removing trade barriers and increased globalizations, today, SMEs will need to compete with their counterparts from other parts of the world. While Indian players have the cost advantages due to availability of cheap labor and government incentives for the sector, they will need to build their strengths on the technology front and management and marketing skills in order to survive in the global market. While we look into new approaches to strengthen SMEs and sustain economic growth, one has to understand the limitations, stated by Rahman, Zain, Nopiah, Ghani, Deros, Mohammad & Ismail (2009) (Rodriguez et al. 2007). –

- Lack of financial resources which can affect investment in new products or process.
- Owner not delegating, and trying to control every aspect of the business – can impede employees, motivation, teamwork and involvement.
- Improper and inadequate systems and procedures can affect efficiency and will result in dissatisfaction from employees.
- Lack of skills and knowledge which can affect staff development and training.
- Difficulty in accessing technology and maintaining competitiveness.

**Quality Scenario in SMEs:**

SMEs represent the largest proportion of the manufacturing sector in many countries. According to Jajri et al. (2009), even though with large number of establishments, SMEs contribution to output, value added and fixed asset is far below of that by the large scale industries. Though small and medium scale industries are considered backbone in economic growth in all country, not many companies seriously tries to make quality control program work. As demand increases manufacturer generally go for higher & higher production neglecting quality ultimately loosing customers. It is observed by Singh, Garg and Deshmukh (2006), that the SMEs are reluctant for changes due to fear of failure. In general, SMEs are slow to adopt technology & pay lower wages than larger firms. Therefore, smaller firms may be last in the queue for highly skilled labour. Consequently, SMEs may find themselves located towards the low end of a quality /productivity/wage/skill scale (Jajri et al. 2009). Rahman et al. (2009) have noticed that in most cases SMEs are not familiar with quality know-how, process thinking and management changing. The demand for quality is the quality consciousness or awareness that has gathered dust in the minds of company workforces (Stepanav & Laansoo, 2004). As competitive pressure has been steadily rising, manufacturing organizations need to improve quality while decreasing costs and increasing production volumes with fewer resources (Grewal & Gupta; 2005).

**Strategy to Enhance Quality & Productivity:**

As a result of globalization and liberalization, coupled with WTO regime, the SMEs have been passing through a transitional period. Report by IIA & MCCI mentions that, with slowing down of economy in India and abroad, particularly USA and European Union and enhanced competition from China and a few low cost centers of production from abroad, many units have been facing a tough time. It is imperative to give them a conducive environment, which in the present context of globalization, calls for redefining approaches with innovation, technology, advancements in ICT, managing talent, funding, human resources, network strategy, quality tools, etc (Morone et al. 2005 Rodriguez et al., 2007). Discussion of these factors and their effect on international competitiveness are as follows –

**Innovation:**

Innovation management practices are necessary in order to provide new solutions for their products, production, marketing and administration to cope with dynamics of the markets (Christopher et al. 2003). Innovation has been found to be critical in creating and sustaining competitive advantage in the global markets (Rajiv Kumar & Doren Chadee 2002). The innovation generation process requires a number of factors such as a high level of technological capabilities, strong R&D and a pool of multidisciplinary skills (Christopher et al. 2003). Innovation has been found to be critical in creating and sustaining competitive advantage in the global markets. It has been estimated that approximately two third of the productivity growth of the US since the 1930s depression can be directly or indirectly attributed to innovation. Today technology-based sectors generate more than 50% of US gross national product (GNP), about twice the level just a generation ago.

**Technology:**

Firm acquires process technology at early stages and then gradually gain control through incremental process change to improve firm productivity and product quality. The majority of Asian firms continue to be highly dependent on western advanced industrialized countries for their technology (Rajiv Kumar et al. 2002). A recent study by the Organization for Economic Cooperation and Development (OECD) revealed that most Asian firms would greatly benefit from inter-firm technology partnering to upgrade their technological capabilities, although evidence suggest that firms from developing countries are virtually locked out from...
inter-firm partnerships that concentrate on joint R&D and/or new core technologies such as ICT.

**Information and Communication Technology (ICT):**

The use of ICT allows the firm to respond rapidly to market and consumer demands by eliminating redundant activities and achieving a seamless flow of information, supply, and finished goods, thus, ICT can be a powerful source of competitiveness for firms in international markets. The extent to which Asian firms can use ICT to enhance their competitiveness depends on the following five factors (RajivKumar et al. 2002):

1. **Access to capital for investing in ICT** and for continuous upgrade of the stock of IT.
2. **Extent to which ICT is applied to traditional forms of technology (product, process, and management)** to enhance their productivity, efficiency, flexibility, and cost structure.
3. **Presence of a clearly defined ICT strategy.**
4. **Availability of employees with technical skills in ICT;** and
5. **Extent to which managerial ICT skills are developed.**

**Managing Talent:**

A skilled and educated workforce enhances the absorptive capability of a firm. This is because the human and knowledge capital within a firm determines the firm’s overall ability to gain sustained competitive advantage. SMEs are usually managed/run by entrepreneurs who lack formal management education due to which they are not able to leverage upon their existing strengths to take advantage of plethora of opportunities available worldwide. SMEs also find it difficult to match the wage rate, job security and career development opportunities, available in larger organizations and therefore find it difficult to hire and retain skilled and competent manpower. The trends consistently show that most of employees of firms in unorganized sector belong to a group which is predominantly uneducated and therefore unskilled. The labor productivity as measured by value added per worker is lower for SMEs than that for large firms (Report by IIA & MCCIA).

**Funding:**

The main identified sources of finance to SME units are Public Sector/Commercial banks, State Financial Corporations, Small Industries Development Bank of India and Informal sources. Out of these financial resources, banks are a preferred source of financing by virtue of their better reach and accessibility. Furthermore, SME sector has remained aloof in raising the finance from capital markets. There has been no separate active platform for providing trading facility for securities of SME sector players. Moreover, the Venture Capitalists (VCs) who showed enormous interest in financing of start-up ventures during the high-paced growth era, have become wary of investing in such ventures as an outcome of economic downturn across the Globe. All of these factors restrict the SME’s ability to increase the capacities and potential benefits that could be derived from possible expansion. Therefore almost two-thirds of SME’s have to rely on informal sources to meet their financial requirements.

**Organizational Structure:**

Firms with organizational designs that create greater flexibility and adaptability are likely to be more competitive than firms without such a structure. The literature suggests that flat organizations allow for more efficient information flows, faster communication, greater flexibility, greater adaptability, and reduced costs, and encourage innovative ideas to flourish. (RajivKumar, et al. 2002). In order to be flexible and adaptable, organizations need to be less formal and less centralized. Whether flexibility and adaptability can coexist with a high degree of centralized decision making, as appears to be the case in some Asian economies.

**Human Resources:**

In human resources development, the entrepreneur, the manager and the worker are the prime objects of attention. Although the entrepreneur is at the heart of the development of the SME, other human resources are needed to mobilize capital, harness resources, acquire and utilize technology effectively, exploit and create markets and carry on trade. Apart from marketing and technology support, the areas in which SME management is most vulnerable are project evaluation and financial management, including bookkeeping and budgeting. In the typical SME set-up, one usually observes two types of entrepreneurs. The first is the technocrat who has a technical idea of the product or has chosen his product after gaining experience while working in a large unit. The second type is the person who has some business background and adequate financial resources and is looking for new avenues for enterprise. Both types have their strengths and weaknesses, but it is the former who needs to be made aware of missing skills.

**Networking Strategy:**

Networking enables small firms to establish formal and informal co-operation, which may take many forms: a mere knowledge exchange or commercial relationships or a more articulated web of relations which might also involve different factors such as formal and informal institutional players. As acknowledged by the literature, a key role in such complex networks is played by universities, research centers, local institutions and several others, which provide external support in many stages of the production as well as in innovating activities.

**A. The main forms of linkages relevant for SME’s are the following (www.unescap.org)**

1. **Horizontal linkages:** SME-to-SME cooperation and joint ventures;
2. **Vertical linkages:** SMEs and large enterprises (LEs);
3. **Vertical linkages:** forward linkages between SMEs and LEs, including TNCs;
   - SMEs as buyers, franchises.
Quality Tools:

Quality Plays important role in many manufacturing and service organization in gaining competitive advantage. It is widely accepted that quality of product / service is generally thought of as ability to meet even exceed customer expectations. In order to achieve and maintain continuous improvement of product or service quality, organization should use strategy based on management involvement and commitment. Such strategy requires application of quality management principles to all the aspect of business, generally called as TQM. Almost 70 – 80 % MSMEs in US practice the TQM for managing quality. SPC is regarded as one of the important part of TQM in many organizations (Grewal & Gill, 2007). These SPC methods may be used on the enterprise level or on the technological process level. In many manufacturing enterprises there is a growing need for solutions which help to find resources for increasing quality and productivity. One possibility to assess the impact of various parameters on the efficiency of the production process is SPC. This is based upon statistical principals developed by Walter Shewhart (Timothy, Bond & Wiedenbeck 2007). SPC is a method of monitoring a process during its operation in order to control the quality of products while they are being produced allowing to identify cause of variation (Oded, 2003). Another approach of process control involves continuous statistical monitoring of all the process inputs and keeping within operating tolerances. It is observed at SKF manufacturing unit that SPC is an excellent tool for controlling manufacturing process. This in turn will make it feasible to predict the outcome of manufacturing process more accurately and thereby improve material flow, reduce work in progress and shorten lead-times. The use of SPC is a crucial step towards ‘just in time’ production. SPC can be used as quality control tool or it can contribute to increase the total volume of production (Sultana, Razive & Azeem, 2009)

II. CONCLUSION

From the above discussion, it is clear that there are several factors that affect the Quality and Productivity. Particularly SMEs need to have a more educated work force, and provide formal structured training to their workers. They have to adopt greater automation and quality control in production, and improve on the human resource management and compensation practices that emphasize job stability and skill acquisition. This is an important step to move to a greater efficiency level in their operation. Efficient firms have better access to new technology through know-how licensing agreement, joint-ventures with foreign partners, and export contacts with foreign buyers and suppliers. Consequently, SMEs will likely become an important source of growth and employment generation in the economy.

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