

## Quality Trends in Indian Manufacturing Sector

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### INTRODUCTION

TQM is based on the principle that the quality of the products is the responsibility of everyone involved with the creation or consumption of the products or services offered by an organization including management, workforce, suppliers and customers, in order to meet or exceed customer expectations. Since last few years it has generated a growing interest in various sectors of economy such as manufacturing, services, government and education in different countries around the world.

In absence of required standards by the company the international business is impaired, preference is given to those who are following maximum standards and also implementing it wherein they tend to gain confidence of consumers in India & at international level. This problem insighted me to go for a short descriptive research study on 'Quality Trends in Indian Manufacturing sector. The study will help us to understand a co-relation of quality with success of business.

### OBJECTIVES OF THE STUDY

- To create awareness about quality and productivity for enhancing competitiveness
- To learn different quality techniques in Indian manufacturing sector
- To convey the importance, further scope & challenges before quality management
- To discuss the various government initiatives for enhancing quality trends in the country

### OVERVIEW OF INDIAN MANUFACTURING SECTOR

Manufacturing holds a key position in the Indian economy, accounting for nearly 16 per cent of real GDP in FY12 and employing about 12.0 per cent of India's labor force. Growth in the sector has been matching the strong pace in overall GDP growth over the past few years. For example, while real GDP expanded at a CAGR of 8.4 per cent over FY05-FY12, growth in the manufacturing sector was marginally higher at around 8.5 per cent over the same period. Consequently, its share in the economy has marginally increased during this time – to 15.4 per cent from 15.3 per cent. Growth however has remained below that of services, an issue that has not escaped the attention of policy makers in the country.

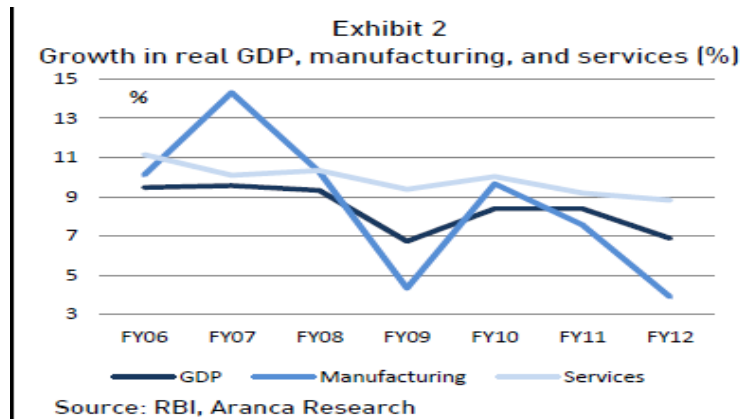
In the coming year, the sector's importance to the domestic and global economy is set to increase even further as a combination of supply-side advantages, policy initiatives, and private sector efforts set India on the path to a global manufacturing hub.

### A. GRAPH SHOWING SIZE OF INDIA'S MANUFACTURING SECTOR

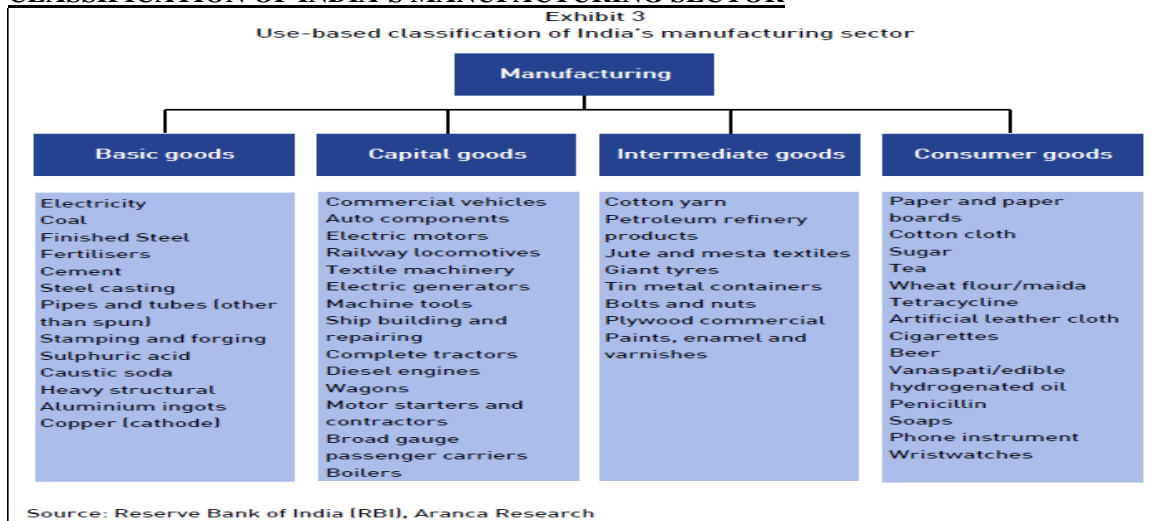


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## B. GRAPH SHOWING GROWTH IN INDIA'S GDP, MANUFACTURING & SERVICES SECTOR



## C. CLASSIFICATION OF INDIA'S MANUFACTURING SECTOR



### QUALITY STANDARDS IN INDIAN MANUFACTURING

Quality standards in Indian manufacturing have improved significantly and the sector is now well known globally for its high quality. Over the last decade, Indian manufacturers extensively adopted the total quality management (TQM) approach. As a result, the sector now enjoys cost advantage in the range of 15-20 per cent compared to the beginning of the decade. Ongoing and new best practices will continue to benefit the sector in the medium-term through their influence on both the top line and the bottom line.

Meanwhile, India is currently second only to Japan in hosting companies awarded for quality excellence. These include 21 companies who have been awarded the Deming excellence award and 153 companies with the total productive maintenance (TPM) excellence award by the Japan Institute of Plant Maintenance (JIPM). Also, of the 165 Indian companies that have been awarded with the CII Exim bank awards for business excellence, around 80 per cent are in the manufacturing sector. It is to be noted that this award is globally accepted as one equivalent to the European foundation of quality award.

### Following are some of the quality standards used in Indian manufacturing sector:

A Standard is a document that provides requirements, specifications, guidelines or characteristics that can be used consistently to ensure that materials, products, processes and services are fit for their purpose

## ISO STANDARDS

ISO International Standards ensure that products and services are safe, reliable and of good quality. For business, they are strategic tools that reduce costs by minimizing waste and errors, and increasing productivity.

In today's business environment, the conformation and application of standardized quality management system models such as ISO 9000 and TQM are vitally considered to be one of the most important phenomena in total quality management development and globalization (Dale et al., 2001; Ruzevicius et al., 2004)

TQM and quality management system implementation has had the highest positive impact on the quality improvement of companies' operations and products (Adomaitiene and Ruzevicius, 1999). In the light of this, it is vital for organizations to develop or adopt an effective quality management system such as ISO 9000, which combines also the main TQM principles (Rohitratana and Boon-Itt, 2001).

## LEAN MANUFACTURING

A systematic approach to identifying and eliminating waste through continuous improvement by flowing the product at the demand of the customer”.

Lean manufacturing is a systematic approach for achieving the shortest possible cycle time by eliminating the process waste through continuous improvement. Thus making the operation very efficient and only consisting of value adding steps from start to finish. In simple words lean is manufacturing without waste.

### 5s

Five (5s) an improvement process, originally summarized by five Japanese words beginning with s, to create a workplace that will meet the criteria of visual control and lean production ie. Seiri (sort), Seiton (set in order), Seiso (shine), Seiketsu (standardize) and Shitsuke (sustain)

### Seven Quality Control tools

check sheet or tally sheet	histogram
pareto chart	cause and effect diagram
process flow chart	control chart
scatter diagram	

### JIT (Just In Time)

Just in time (JIT) is a production strategy that strives to improve a business return on investment by reducing in-process inventory and associated carrying costs. Implemented correctly, JIT focuses on continuous improvement and can improve a manufacturing organization's return on investment, quality, and efficiency. To achieve continuous improvement key areas of focus could be flow, employee involvement and quality.

## KANBAN TOOLING

Kanban is one of most popular tools in lean manufacturing. This is a simple concept, but very effective. Kanban mainly focus on the reduction of overproduction. There are mainly two types of Kanbans. They are withdrawal kanban & production kanban.

### EXAMPLE:

Engineering sector: more than 2,500 firms in the engineering sector in India have the ISO 9000 accreditation

### GOVERNMENT SUPPORT FOR DEVELOPING A SKILLED WORKFORCE

India adds 500 PhDs, 200,000 engineers, 300,000 non-engineering postgraduates, and 2,100,000 other graduates to its workforce annually. This ensures the availability of a pool of skilled manpower to support the nation's industrial development. However, industry sources have often expressed concern regarding a potential shortage of talent, given the fast pace of economic growth in the country. There are also concerns pertaining to employability with a recent CII estimate putting the share of employable graduates in the country at 39.5 per cent. Taking cognizance of such concerns, the government has acted in a proactive manner. The number of technical institutes (including IITs and NITs) has been increased and foreign direct investment in education encouraged.

The government also launched the technical education quality improvement programme (TEQIP) towards making the technical education system more responsive to national as well as global

economic and technological developments. The TEQIP was outlined as a 10-12 year program to be implemented in 3 phases with the assistance of the World Bank. The central government has announced the launch of phase ii of the program with an investment worth usd519 million. This amounts to 26 per cent of total funding with the rest coming from the World Bank (72 per cent), state governments (27 per cent), and unaided institutions (1 per cent). The government has also set up a national skills development council to encourage private participation/ management of industrial training institutes.

#### **GOVERNMENT INITIATIVES**

The government has also launched a number of schemes for technology development in micro, small and medium enterprises (MSMEs). These include -

➤ **LEAN MANUFACTURING COMPETITIVENESS SCHEME:** implemented under the public private partnership (PPP) mode with 42 lean consultants, the project aims to reduce manufacturing waste, and increase productivity and competitiveness

➤ **DESIGN CLINIC SCHEME: THIS IS A PLATFORM TO ENABLE MSME'S TO AVAIL:** Expert advice and cost effective solutions to real-time design issues. The scheme includes two projects – design awareness and design project funding

➤ **MARKETING ASSISTANCE AND TECHNOLOGY UPGRADATION:** the scheme focuses to upgrade technology for increasing competitiveness in Marketing. Activities included in this scheme are technology up gradation for packaging, competition studies, and development of marketing techniques

➤ **TECHNOLOGY AND QUALITY UPGRADATION:** the scheme aims to encourage MSMEs to adopt global standards so as to improve the quality of goods

#### **IMPROVEMENTS SEEN AFTER APPLYING TQM TECHNIQUES**

Quality performance, fewer defects and rework (in house and at customer)	Fewer machine and process breakdowns
Lower levels of inventory	Greater levels of stock turnover
Less space required	Higher efficiencies, more output per man hour
Improved delivery performance	Faster development
Greater customer satisfaction	Improved employee morale and involvement
Improved supplier relations	Increased business & Higher profits!

#### **FURTHER SCOPE & CHALLENGES IN QUALITY IMPLEMENTATION**

- Sharing of experience to understand the means to get organizational performance through TQM.
- Grooming of local people being trained as facilitators of TQM/ISO 9000 of every organization willing to implement total quality management.
- Applying research and innovative practices in context of industry and academics; so as to improvise upon the education curriculum.
- ISO 9000 certification for small scale industries who are exporters or potential exporters.
- Implementing quality standards at point of source
- Environmental protection and safety by the industrial organizations through highly focused efforts on quality enhancement.

#### **CONCLUSION**

India has emerged as a global manufacturing hub due to its cost competitiveness, skilled workforce and favorable government policies.

Furthermore, the most fundamental factor fostering growth in the sector is the presence of strong market locally. India is one of the fastest growing economies. The evolving trends of manufacturing off-shoring in India, as seen in automobile sector, and the growth of manufactured exports illustrates the long-term sustainability of growth in this sector.

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