CHAPTER 1

INTRODUCTION

1.1 EMERGENCE OF THE NEED

A fast changing business environment is a characteristic of the 21st century. The rapid pace of globalisation and technological progress has dramatically changed market conditions and competitive strategies. The structures of international and domestic markets, production and business systems have all changed. Business potential now depends on speed, quality, technical superiority, service and product differentiation and most particularly customer orientation. Government policies such as economic liberalisation and deregulation are bringing about a closer integration of domestic and international markets.

As a result, Companies are facing increased competition in their export markets and in domestic markets as well. Further, imported products and services can now easily enter the home market. Technological progress in communications and information technology is also contributing to the rapid integration of domestic, regional and global markets.

This has resulted in a lot of manufacturing practices and confusion among competing companies in choosing the apt methodology
for business excellence. This was known in my personal experience of 35 years and worldwide exposure during the last 25 years by way of visits to 65 companies in 13 countries. Their experiences in the different manufacturing practices in relation to the respective objectives led to the justification of this research. The details of this unique experience and the knowledge gained there from are detailed in Appendix 1 as worldwide manufacturing knowledge acquired. This scenario entails a working model, which will influence the company's decision to scientifically choose an appropriate manufacturing practice for excellence based on its inherent characteristics. A research on this objective has led to the development of a model called Appropriate Methodology Selection Model supported by Computer Aided Practice Selection software.

1.2 CURRENT SCENARIO OF INDIAN AUTO COMPONENT INDUSTRY

Presently Indian Auto components industries produce the entire range of products required by the domestic automotive industries. While there are close to 400 players in the organised sector and 5000 players in the unorganised sector, the industry's business is less than one per cent of the global auto components industry's business. Characterised by low volumes and fragmented into various sectors, this sector, however, is changing and that too quite rapidly.

Entry of various transnational vehicle manufacturers in India has so far been accompanied by the simultaneous establishment of international manufacturing and procurement practices. With vehicle makers rationalising their supply chains and improving the logistics of
manufacture, a revolution is brewing in the Indian automotive components industry. Already, the signs of a major structural shift in the Indian components industry are evident.

With increasing globalisation, the components industry will get transformed from a low volume fragmented sector into a highly competitive sector with world class technology. This would follow the 'tiersation' that is already evident in the domestic components industry. Companies which have the foresight to make the necessary investments and establish connection with leading global players will emerge as the key players in the industry.

The Indian market clearly has many attractions for both vehicle manufacturers and components makers. It offers high growth rates, opportunities to export. More importantly, labour costs are quite low here which has led to decisions of many global firms sourcing their components from India.

Some of the recent examples of key sourcing decisions:

- General Motors and Caterpillar are sourcing radiator caps from Sundram Fasteners which has won General Motor's Best Supplier Award for three years;
- General Motor also sourcing many small components from Indian auto component industries;
- Volkswagen has tied up with Engine Valves to co-develop valves on a design-in basis for the new Volkswagen engine;
• Mitsubishi of Japan are sourcing front axle beams from Bharat Forge;
• Ford Motor is reportedly testing various components manufactured by the TVS Group;
• Sona Steering is supplying steering components to its collaborator Koyo Seiko in Japan which, in turn, is supplying to Japanese OEMs;
• Federal Mogul of the US is sourcing components from India through a tie-up with the Anand Group;
• Volkswagen has also studied and graded over 30 Indian suppliers and most of them are expected to supply components to VW's international operations.
• Bharat Forge in Pune has already started supplying to markets in USA/Europe and China for major auto vehicle manufacturers;
• Cummins International have started sourcing from Indian auto component manufacturers who are identified as global sources.

As part of the consolidation, collaboration with international component manufacturers continues to be the most common strategy for meeting the challenges facing the Indian automotive components industry.

As competition in the mature markets of North America, Japan and Europe intensifies and global players look for ways to enhance competitiveness, a presence in low-cost production countries would be crucial.
With the Indian automotive policy undergoing changes, following India's endorsement of the World Trade Organisation agreement, foreign companies have the opportunity to play a greater role in supporting Indian component suppliers in all aspects of their activities and in influencing the future development of the industry.

### 1.3 COMPETITIVENESS

Practising competitiveness is the most important method of achieving economic growth and sustainable social development. Further, it is associated with high quality and technical superiority, adaptability to high speed changing technology and product differentiation rather than cost. Four important factors, which are playing major role in National competitiveness, depends on many factors as detailed in table 1.01.

**Table 1.01 Competitive Factors**

<table>
<thead>
<tr>
<th>Factor conditions</th>
<th>Demand conditions</th>
<th>Related and supportive industries</th>
<th>Firm strategy, structure and rivalry</th>
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<tr>
<td>The availability of production factors such as skilled labour &amp; knowledge, physical resources, science &amp; technology and the physical infrastructure necessary to compete in a given industry.</td>
<td>Local demand for products and services, its composition, size, pattern of growth and buyer sophistication, market information flows, regulatory standards, etc.</td>
<td>The availability of suppliers and related industries that are internationally competitive.</td>
<td>The conditions for starting and managing a company, &amp; the nature of domestic rivalry which cover intellectual property protection, corruption, tariff liberalisation, hidden trade barriers, intensity &amp; local competition, antitrust policy and legal barriers to entry.</td>
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1.4 RATIONALE

In the rapidly changing global marketplace, all glory is fleeting. Isolated economies are becoming globally integrated economies. The digital revolution is rendering traditional business processes obsolete. To remain competitive in an environment dominated by these twin forces of change, global corporations must somehow augment a conventional drive for efficiency with a passion for entrepreneurship. As never before, they must create, grow, and profit from completely new approaches to business.

Economic globalisation results from and contributes to the increasing mobility of production factors. Since 1960, all the factors of production – Labour, Capital and Technology – have begun to move more rapidly and easily across national borders. Capital flows have accelerated through FDI, medium and long-term foreign private borrowing, short-term borrowing and domestic outflows, private grants and official bilateral and multinational financial aid.

Workers also move freely across borders or are transferred by their firms to work on large projects in foreign countries. Employment in multi national companies grew from 40 Million people in 1975 to 125 Million in early 2000. Managers also rotate among international Branches and Divisions.

The increased mobility of production factors tends level production capabilities around the world as nations attract or lose a competitive advantage. The increased mobility of production factors demands more agile business practices. Companies must organise and
operate in a more fluid manner, become more attuned to the changing and diverse needs of their customers and introduce flexibility in their systems of suppliers, distributors, workers and managers.

Manufacturing in India is being written off by the popular business press. The question that every one wants an answer is, how competitive are manufacturing firms in India? To answer the above question and to find meaningful solution, we need to understand the environment under which firms are operating. India has about 1.5 Crores firms under ‘Organised Sector’ and employs 20% of industrial workers in the country and contributes 74.6% of gross value added in the economy. The manufacturing environment faces the following challenges:

- Increased competition and entry of competitive firms from world over.
- Large scale product substitution and increased variety.
- High cost of capital and infrastructure / tightening of working capital.
- Diversified manufacturing.
- Negative effects of location policies of the past.
- Lack of focus on equipment and labour standards. Use of non-standard tools and methods of production have locked a large number of firms in a low-level quality equilibrium.
- Changing Tax regulations.
- Emergence of SMEs as drivers of growth in employment.
- A new retail environment. Retailing in the consumer goods segment is changing dramatically and is posing new requirements for operations management.
• Diminishing labour pressure. The labour union movement has also changed considerably over the last decade and militancy is on the decline.

The results further show that there is a need for a new manufacturing strategy, but rationale for choosing the appropriate practice is not readily available. The main objective of this work is to create a new model to enable a company to choose the appropriate practice. A set of 84 manufacturing practices have been suggested and tested.

This work brings out a working model for attaining excellence in extensive manufacturing strategy, which will help modern manufacturing companies to attain world class standards.