

Trends and Perspectives

A Comparative Study of Implementation of Manufacturing Strategies in Thai and Indian Automotive Manufacturing Companies

T. Laosirihongthong, Industrial Engineering Dept., Faculty of Engineering, Thammasat University, Pathumtanee, Thailand. *E-mail*: tritos36@yahoo.com

G.S. Dangayach, Mechanical Engineering Dept., Malaviya National Institute of Technology, Jaipur, India. *E-mail*: dangayach17@rediffmail.com

Abstract

Companies must develop and maintain a high degree of coherence among competitive priorities, order-winning criteria, and improvement activities due to the competitive market and customer pressures. This paper presents findings of an empirical survey on manufacturing strategies implementation in new industrialized countries (NICs). Data were obtained from 68 and 54 automotive manufacturing companies in India and Thailand with 21.7% and 21.8% response rates, respectively, and analyzed through the inferential statistics. The results indicate that the focused competitive priorities of companies in both countries are improving product and process-related quality and on-time delivery. In addition, this study found that companies are trying to enhance the competitive priorities by implementing one of two *infrastructural* manufacturing strategies from among total quality management (TQM), just-in-time (JIT) production, statistical process control (SPC), and material requirements planning (MRP). Finally, conformance quality and manufacturing efficiency are considered the most important order-winning criteria in this industry in both countries.

Keywords: *Manufacturing Strategy, Global Competitiveness, Indian Automotive Manufacturing, Thai Automotive Manufacturing, Improvement Activities*

Introduction

Manufacturing companies are under increasingly diverse and mounting pressure due to more sophisticated markets, changing customer choice, and global competition. With globalization broadening the marketplace and increasing competition, customers are placing greater demands on manufacturers to increase quality and flexibility while maintaining or decreasing costs (Dangayach and Deshmukh 2003). Manufacturing is no more concentrated in one country, but rather spread over distant locations across the globe. In such a competitive scenario, compa-

nies have to search for new processes, materials, suppliers/vendors, manufacturing facilities locations, and delivery channels for their products and services at a competitive price.

Advances in computer and communications technologies have contributed to an explosive growth in automated approaches for the implementation of manufacturing strategies within companies. The advanced/new manufacturing technologies have harnessed a wide range of benefits, including reduced costs, increased productivity, greater flexibility, and higher quality, enabling companies to improve their competitive position. By adopting an appropriate manufacturing strategy, companies can achieve world-class manufacturing status and compete effectively in global markets.

This paper presents findings of an empirical survey on the implementation of manufacturing strategies in two developing countries—India and Thailand.

Automotive Industry in India and Thailand

The global automotive industry is an important component of industrial and economic progress, and its development has characterized global competitiveness of leading industrialized economies. This industry is a fairly developed one and involves huge investments in research and development and technology. It is also seen as an indicator of the economic progress of a country. An understanding of the automotive industry in some of the developed countries enables one to study the emerging trends in those countries (Choudhary and Goyal 1997).

India

Since the introduction of economic reforms in 1991, companies in India have faced a very different competitive scenario compared with the past. The abolition of license regimes meant an end of protection and control measures. Manufacturing in India is at a critical juncture. Generally, the Indian perspective on manufacturing was that it was a support activity for marketing and finance, and therefore, it got little top-management attention. Most companies are still very far from world-class practices. Meanwhile, international competitors are continuously working on improving manufacturing, bringing in new products, and making manufacturing more proactive and responsive (Chandra and Sastry 1998). Indian industry is facing competition both from imports and from multinational companies in the domestic markets. The new competition is in terms of reduced cost, improved quality, products with higher performance, a wider range of products, and better service—all delivered simultaneously. The automotive industry is no exception to this. Here the term “automotive industry” is used to include two-wheel, four-wheel (passenger car), and automotive component manufacturers.

In addition, the Indian automotive industry has witnessed the entry of global players such as Ford, General Motors, Suzuki, Honda, Mercedes, Daewoo, and Santro into the four-wheel segment, and Piaggio, Suzuki, Honda, Yamaha, and Kawasaki in the two-wheel segment. The Indian market for two-wheelers is the second largest in the world after China. Scooters represented 45% of these unit sales, motorbikes 37%, and mopeds 18% (Kumar 1998). The two-wheel industry today has a significant role in the Indian economy. With an annual turnover of \$US 155 billion and a compounded average growth rate of 10% in recent years, it is one of the few industrial sectors in the growth phase today (Kumar 1998).

Thailand

In Thailand, the automotive industry has become one of the most important in the manufacturing sector, contributing significantly to employment, gross domestic product (GDP), and exports (TDRI 1999; Bank of Thailand 2000; FTI 2000). There are three levels of manufacturers in this industry: passenger and commercial vehicle assemblers, component manufacturers, and supporting/equipment manufac-

turers (Board of Investment 1995; JICA 1995). These manufacturers have been dominated by 18 assemblers, including the Japanese Big Five (Toyota, Isuzu, Mitsubishi, Nissan, Honda) and the U.S. Big Three (Ford, General Motors, DaimlerChrysler) and their associated suppliers through direct investment, joint venture, and technical licensing arrangements. Presently, there are 1,164 parts and component manufacturers, 850 of which manufacture parts and components in Thailand. Among these manufacturers, 358 are first-tier suppliers, 272 are second-tier, and 220 are third-tier (TAI 2000). The total production capacity has reached 8,500,000 vehicles per year (FTI 2000). The development of this industry has also led to development in upstream industries such as petrochemicals and plastics, automotive parts/components, and metal and machinery.

Thailand is developing as a major offshore base for international automotive manufacturers, especially Japanese and American. The automobile industry has been selected as one of the major strategic industries in Thailand's drive toward modern competitive manufacturing (Laosirihongthong and Dangayach 2005). However, the regional competitive situation in automotive manufacture and export is precarious. To respond to increasing demand from global customers and to attract more foreign investment, it is essential that the Thai automotive industry improve cost, quality, and time performance compared with the automotive industry in other countries in the region. Most companies in the sector have implemented certain order-qualifier criteria (such as ISO 9001: 2000; QS-9000: 1996; ISO/TS16949: 2002) and structural and infrastructural issues in manufacturing strategy, such as new/advanced manufacturing technology, just-in-time production systems, and total quality management (Paul and Laosirihongthong 1998; Laosirihongthong, Paul, and Speece 2003; Laosirihongthong and Paul 2004).

Both Indian and Thai automotive manufacturing companies have quite often followed an opportunistic approach to growth as opposed to a capability-driven approach, and they have paid very little strategic attention to their shop floors in the last few decades. This has resulted in low competitiveness and little integration of various functions such as marketing, sales, finance, human resources, production, and so on. In this light, a manufacturing strategy is needed for developing countries to:

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