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J. Eng. Technol. Manage. 19 (2002) 167–201
Journal of ENGINEERING AND TECHNOLOGY MANAGEMENT JET-M
www.elsevier.com/locate/jengtecman

A technology management perspective on collaborations in the Indian automobile industry: a case study

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Abstract

A study was conducted to analyze technology management practices of firms in the automobile industry in India. The case studies of three firms which collaborated in post Indian independence (i.e. after 1947) period and after the economic reforms began (i.e. after 1985) have been presented. The cases were prepared using interviewing and observation techniques. Profitability, liquidity, and turnover ratio analyses have been carried out to assess the firms' financial health. Input from the questionnaire survey has been presented to compare the perception of the firm's performance compared to industry on select variables. The situation–actor–process–learning–action–performance (SAP-LAP) paradigm was used to analyze the cases. Learning issues have been synthesized.

Keywords: Collaboration; Transfer of technology; Technology strategy; Technology absorption; Automobile industry

1. Introduction

The Asia-Pacific region is considered by many scholars, practitioners, and investors to be one of dynamic and rapidly growing economic regions in the world. Countries included in this region are Japan, China, Taiwan, South Korea, North Korea, Hong Kong, Thailand, Malaysia, Indonesia, Singapore, Philippines, Vietnam and India. The region is a voracious importer of new technologies and an innovative user of existing technologies. Many of

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PII: S0923-4748(02)00008-5

these countries have undergone major economic reforms to be able to facilitate the domestic firms to compete in the global market. Many strategic alliances, joint ventures (JVs), and collaborations came into existence. Lately, many of these firms expanded their operations in other countries to evolve into multinational companies.

In India, the process of economic reforms started in 1983, which was followed by fierce liberalization in 1991. Indian market was opened up for foreign firms and Indian organizations were allowed to compete in the overseas markets with local and multinational organizations. In the wake of globalization of trade, commerce and industry, and liberalization of economies of the various countries of the world, it has become mandatory for all the players to have a sound technology base, without which accomplishing operational and strategic goals would become not only uneconomical but almost impossible. The increasingly demanding global business environment calls for a separate management function which looks after corporate interests on the technology front.

Many strategic alliances came into existence across a variety of industries to make Indian firms compete not only in domestic but also in international market. The industries which could attract direct foreign investments and maximum number of JVs include electronics, communication, information technology, and automobile. Several Indian organizations have acquired state-of-art technology from their foreign collaborators and JV partners. Though technology has been the basis for such emerging collaborations and JVs, the technology management function does not de-emphasize finance, marketing, personnel and other traditional functions of an organization.

At the global level, there are perceived advantages of technological collaborations that are taking place all over the world. Developed and developing countries stand to gain from legislative and economic reforms. Technology transfer is now taking place in India with organizations from many developed countries like US, Japan, UK, Germany, etc. Our discussion of a global scenario does not mean that India is only at the receiving end and technology has to flow only in one direction. There can be a market for the technologies which India has developed in many core areas in recent years.

Competitiveness of an organization can be assessed from various parameters, the most important of them being technological innovations and breakthroughs which the organizations realizes or has the potential to realize over a period of time. It may be difficult to measure the impact of adopting an innovation or rejecting the same, but over a period of time overall financial and marketing results can definitely help in drawing conclusions regarding technology-based decisions. Technological changes and decisions to adapt to changes in the environment can make or break an organization. Examples of the significant impact of commercializing a technology on the overall performance of the organization are numerous, from the invention of the steam engine to intelligent cars.

In the changing global scenario, those organizations that integrate technology related decisions into business strategies have considerably improved their chances of reaping benefits from technological innovations. There is always an element of risk associated with adoption of a new technology. This indicates that technological innovations cannot be adopted without prior analysis in context to a particular organization. Technology involves moderate to high investments, and it also has an effective lifetime, after which the same technology may not remain commercially viable and hence, needs either upgrading or total replacement. Under the circumstances, where total replacement is