

Supplier development in Indian auto industry : Case of Maruti Suzuki India Limited

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Abstract

The purpose of this paper is to discuss the supplier development activity in Indian automobile industry. This research has taken Maruti Suzuki India Limited (MSIL), a joint venture between Suzuki Motor Corporation and Government of India, as case study.

The research is based on secondary data acquired from various sources.

Keywords: Supplier development, Automobile industry, MSIL

I . Introduction

Supplier development is an important aspect for any industry. For automobile industry, it is of a paramount importance, as the production of a passenger car requires more than 20000 components. Purchasing component from component maker is a condition that no automakers can run from and no automakers are capable of manufacturing all the components by themselves. In automobile industry, purchased goods account for about 80% of the cost of vehicles sold.

In today's competitive world economy, automakers are facing new market realities which has drove them to continuous effort to cut production cost as well as innovate faster. So focusing on core competencies; improving the supply chain execution and leveraging the supplier base has become more important than ever. So, they need suppliers who can provide them quality components. The quality of the final product is also the replica of the quality of the product supplied by the suppliers.

As the growth and quality improvement in the automobile industry necessitates a corresponding growth in the auto component sector as well. So automobile makers have to involve in the development of the supplier base. Suppliers play crucial role in the in achieving the objectives of supply chain. In the automotive industry, selection of suppliers and evaluation has become a critical aspect as it is going through highly competitive environment. Auto makers

depend on their suppliers to survive augmenting market pressures in terms of price and quality. And the number of components and systems that are outsourced by automobile makers is increasing continuously. Thus suppliers (automotive component manufacturers) have to comply with a continuously increasing demand for high quality, reliability and innovation. As there is also a trend towards error-free delivery at all times, the challenge is not only to reach the demanded targets, but to achieve them in the shortest time possible and to maintain such performance over the long term. To achieve this, auto makers have to support suppliers to develop required capabilities.

2. Literature review.

Supplier development is a formal operation undertaken to elevate supplier performance and capabilities ((Hahn, Watts and Kim, 1990); Hines, 1994; Hartley and Choi, 1996). According to Krause (1999), supplier development broadly refers to any effort by a buying firm to improve a supplier's performance and/or capabilities to meet the buying firm's short- and/or long-term supply needs. Sundtoft Hald and Ellegaard, (2011) (2011) in their study of Supplier evaluation processes found that there should be shaping and reshaping of supplier performance to raise quality and to remain competitive.

The importance of supply chain coordination among the partners has been stressed by many authors in the recent past (Cachon, 2003 and Dudek, 2004). Kadir, Tam and Hassan (2011) found that supplier development programs support the development of a supplier's capabilities usually with the assistance of a buyer.

Supplier development activities vary widely, and include supplier evaluation, feedback of supplier performance, educating and training for supplier personnel, and direct capital investments by the buying firm in the suppliers' firm. Cooperative relations between buying firms and supplier can be characterized by information sharing, long-term contracts, and collaboration for mutual advantages. (Heide and John 1990; Tully 1995).

In automobile industry, quality, cost and on-time delivery were considered as most important in the research conducted by C Muralidharan, A Anantharaman, S.G. Deshmukh in 2002. At Toyota and many other Japanese firms, all the suppliers are considered for supplier development activities irrespective of what they supplied (Shrimali, 2010) .

Watts, Kim and Hahn (1992) proposed that purchasing has the primary responsibility of linking suppliers' capabilities with the internal requirements specified by corporate and manufacturing strategies. Supplier development represents an initiative by customer firms to

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increase the performance and/or capabilities of their suppliers. Supplier development is described as an integral part of many relationships between Japanese manufacturers and their suppliers (Hines, 1994).

In order to compete effectively in the world market, a company must have a network of competent suppliers. A supplier development program, then, can be defined as any systematic organizational effort to create and maintain a network of competent suppliers which in turn will help the organization to remain competitive.

Empirical research generally supports the notion that supplier development plays a critical role in driving performance and/or capabilities improvement on the part of the supplier and contributes strategically to strengthen the manufacturer's competitiveness.

3. Research Methodology

For research purpose, researcher has used a variety of complementary sources to assess the nature of supplier development process adapted by MSIL. Research has been based on secondary data. Research papers, news articles and related books, and websites has been used as source of information. Conclusion has been drawn, observing the activities of Japanese automakers in Indian market.

4. Indian automobile industry

Indian automobile industry started its new journey in 1991 with the initiation of liberalization. Many big automakers entered the Indian market during this period. GM, Ford, Mercedes Benz, Honda, Fiat, Toyota, Skoda are big names which entered the Indian automobile industry.

This increase in the investment activities furthered the development process of the industry. Deregulation continued in the industry and subsequently government opened up the auto industry for 100% foreign direct investment through automatic route in 2002.

At the present time the automotive industry in India is the seventh largest in the world. Automobile industry accounts for 7 percent of total GDP, 7 to 8 percent of total employment of India as of 2013(AT Kearney).

Table 1 Annual Automobile Production in India

Year	Numbers
2000	801,360
2001	814,611
2002	894,796
2003	1,161,523
2004	1,511,157
2005	1,638,674
2006	2,019,808
2007	2,253,729
2008	2,332,328
2009	2,641,550
2010	3,557,073
2011	3,927,411
2012	4,174,713
2013	3,898,425
2014	3,844,857
2015	4,125,744

Source: OICA

5. Supplier development practices

With the influx of several world class auto assemblers into India and the fact that planned production capacity exceeds the estimated demand, competition is getting increasingly intense. All assemblers are attempting to implement lean production techniques to cut costs, improve quality, and enhance their responsiveness to demand.

For that reason reliable and capable suppliers are of paramount significance.

6. Maruti

Maruti Suzuki India Limited is a subsidiary of Suzuki Motor Corporation, Japan and is India's leading passenger car manufacturer, accounting for nearly 45 percent of the total industry sales. The company has two manufacturing facilities in Manesar and Gurgaon, India. Maruti

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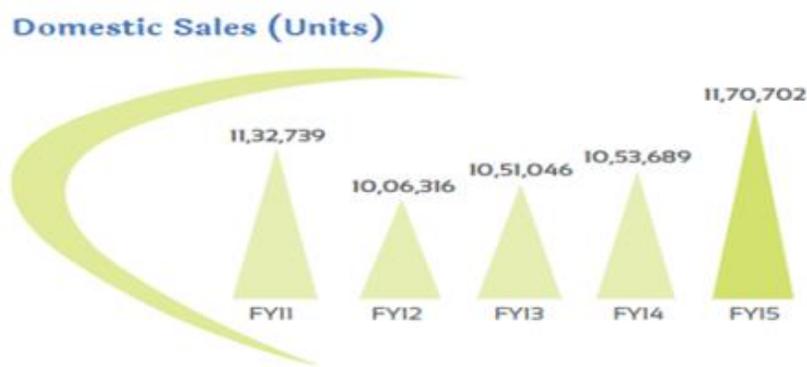
Udyog Limited is renamed as Marut Suzuki India Limited in 2007.

The Indian government invited Suzuki Motor Corporation, Japan for JV. Suzuki entered India in 1982 as a minor partner with equity of 26% (Bhargava, 2010; pg 49). Then, Indian market was heavily regulated and only 3 domestic automakers were active in the market.

According to the report published by Mckinsey (2001), output growth before 1983 was around 3 percent a year. But it rose to 17 percent a year after Suzuki's entry. It introduced the Indian market and Indian auto makers with the competition that they were unaware of. Maruti Suzuki introduced new production and management system in India.

In the recent years Maruti has annual sales of vehicle above 1 million which no other companies in India has been able to achieve.

Fig 1



Source: Maruti Suzuki Annual Report 2015-16

1 . Market Share of Maruti Suzuki

Since Maruti started the production, it has been the market leader in India. In 1997, Maruti Suzuki's market share was 82% and it dipped down to 38.4% in 2011-12 (Raj, 2015). Despite the entry of several new automobile makers, after the liberalization of economy, Maruti Suzuki is still the largest automaker in India, with a 46.5% market share in 2015, and is ranked as the market leader both in terms of volume and revenue.

Table 2 Market Share of Maruti Suzuki

Market share (%)	Year	Percentage change
45.3	2011	0.3
38.4	2012	-7.9
39.1	2013	0.7
42.1	2014	3
46.5	2015	4.4

Source: Maruti Suzuki Annual reports

7. Supplier Development practice of Maruti

1. Component Makers before Maruti Suzuki

Before Maruti, there were three automakers and combined volume of production was around 40,000. And this volume was split between two or even more suppliers for each part. This was too small for suppliers to adopt good manufacturing systems and buy high quality tools. Also, automobile makers didn't demand high quality products until then. They didn't considered getting involved with components makers to improve their production system. Before Maruti, the use of local components was dictated by their availability ? or rather lack of it.

Government started Phased Manufacturing Program (PMP), the purpose of which was to ensure that technology was transferred and absorbed in India, and also to limit the outflow of scarce foreign currency. The government believed that once the components were manufactured in India, technology transfer would have taken place and the capacity to make further improvements and design better components would have developed. However, nothing of this sort happened and this policy and other policies which prevented competition led all the products gradually become obsolete. At the time, vendors were not keen to increase their investment costs as the volume of the production of the components and turnover were at levels that didn't make investments in developing capabilities viable.

The absence of competition, lower volume and quality of production and low priority given to cars in the economic policy of Indian government led to absence of any incentives and opportunities to upgrade technology for component makers.

2. Maruti Suzuki's Initiative

At the time when Suzuki entered in India, the critical obstacle to better performance was low quality of sub-suppliers to the industry. For that reason, Suzuki helped Indian auto component

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makers to upgrade their technology. Located on a Greenfield site away from the traditional auto producing areas, MUL set about creating a supplier network which would be capable of sustaining an operation which bought a high proportion of the value of its cars from its suppliers.

Maruti offered much higher volumes to vendors and promised production of 100,000 units per year. The involvement of Suzuki with Maruti and the adoption of Japanese standards of quality meant that there was demand of quality products and no vendors' component could be accepted unless it met a minimum standard.

With Suzuki's entrance in India, Maruti helped suppliers realize that the key to quality lay in consistence of following the approved procedure for manufacture. When Maruti started production, very few suppliers were convinced that Maruti could achieve the production volume of 100,000 within 5 years. They were skeptical about the project and worried about their own losses if it didn't succeed. Maruti had to make special effort with companies such as Chloride India and MRF so that there could be some Indian components in the first cars (Bhargava, 2010; pg 191).

Maruti was successful in promoting the Indian automobile industry, setting a standard for other domestic firms to follow, and developing small-scale firms by creating linkages with them as suppliers (Okada 1998).

Table 3 Maruti Suzuki's Related Companies in NCR (1997)

Geographical Distribution: # of Firms		Firm Size:				
City	State			Large	Medium	Small
		% Distribution				
Faridabad*	Haryana	77	19.1	12	36	29
New Delhi *	Delhi	71	17.6	29	22	20
Gurgaon *	Haryana	63	15.6	17	19	27
Chennai	Tamil Nadu	28	6.9	17	4	7
Mumbai	Maharashtra	23	5.7	11	4	8
NOIDA *	U.P.	16	4.0	5	2	9
Pune	Maharashtra	16	4.0	10	6	0
Bangalore	Karnataka	15	3.7	7	7	1
Coimbatore	Tamil Nadu	8	2.0	4	3	1
Old Delhi *	Delhi	7	1.7	3	2	2

Ludhiana	Punjab	6	1.5	2	4	0
Ghaziabad *	U.P.	6	1.5	1	2	3
Calcutta	West Bengal	5	1.2	4	1	0
Other Locations		63	15.6	32	23	8
Total		404	100	154	135	115

Source: Okada & Siddharthan, 2008

Also, at the time the maximum foreign investment allowed was up to 40 percent and so the question of Japanese part makers setting up their own subsidiary in India didn't arise. Maruti management treated vendors as important partners jointly working and followed the policy of interdependence.

In the beginning years, Maruti faced many different problems related to the suppliers. One of them was inability of suppliers to supply required quantity of component in time. As Maruti increased its production, most of the component makers were not able to respond to meet the demand in short time. Maruti, then, decided to get even more involved with its vendors, forming joint ventures to manufacture components that were critical to the quality of the vehicles, or were bulky to transport, or required high technology and large investment (Bhargava, 2010; pg 223).

In Japan, Suzuki also had an equity stake in several of its component suppliers. The idea of forming joint ventures came from the experience of Suzuki. Suzuki decided that, in addition to Maruti, it would also have equity participation in those joint ventures where Japanese technology were needed. These joint ventures greatly helped in achieving the PMP targets.

Table 4 Name of JV Companies

Company name	Component	Date of JV	Stake of Maruti (percentage)
Bharat seats	Seats	1986	14
Indian Auto Safety Glass (Now Asahi India Glass)	Glass	1984	na
Machino Plastics	Plastics	na	na
Sona Steering Systems (Now Sona Koyo Steering Systems)	Steering components	1986	10
Mark Auto (Sat Krishan Hanuman Metals)	Sheet metal parts	na	50
Sona Car seats (now Krishna Maruti)	Seats	1994	na
Jay Bharat Maruti	Sheet metal	1987	na
Caparo Maruti	Sheet metal.	na	na

Source: Compiled by author (based on various resources)

The lower wage and manufacturing costs in India also provided compelling logic for increasing indigenization and development of component suppliers. So, forty joint venture and technical agreements between Indian and Japanese component manufacturers were signed in a short period of time. Since inception, Maruti Suzuki has laid stress on local suppliers and placed great focus on local sourcing of parts. As Maruti Suzuki introduced JIT (Just In Time) system in India, it gave preference to locally based suppliers to achieve JIT completely in material supplies. It also facilitated relocation of vendors within a 100 km radius of its plants. Both the Gurgaon and Manesar plants have adjacent Suppliers' Parks where selected suppliers have established the suppliers of bulky components such as instrument panels, fuel tanks, bumpers, seats, etc. Nearly 78% of the supplier base by value is located within a 100 km radius of the company. Maruti Suzuki, during 1990s, created a base in the North, and auto component companies like Delphi, Denso India, Lumax, Minda, Sona Koyo, Shriram Pistons etc., setup a hub in the central North (Borgave and Chaudhari, 2010).

(1) Economy of Scale at Reduced Price

Maruti Suzuki was mandated to produce “people’s car”, cheaper in cost and better in quality. Maruti Suzuki realized that it will not be possible to produce cheaper car if it couldn’t get quality components from the local suppliers.

One of the first steps that Maruti Suzuki took was to set a high target of production. In 1982, most of the spare parts suppliers had deep skepticism about the ability of the company to produce 100,000 units within five years. Their skepticism stemmed from the belief that in the previous state dominated regime, the major automakers of that time, even together, produced only 40,000 units annually. But Maruti Suzuki believed that what the company needed was economy of scale. High volumes are needed to lower the cost of production and enhance quality. In the third year itself, the company set a record by producing 100,000 cars.

(2) Quality Improvement

Maruti helped its suppliers to improve their quality by following the prescribed process with consistency and taught them to build the quality within the process of manufacturing. Later on, Maruti introduced a vendor rating system to evaluate companies on quality, number of rejections, timeliness of delivery and general attitude. They were also assessed periodically on steps being taken to improve productivity, upgrade technology and reduce cost of production.

For further quality improvement, Maruti is still supporting its tier-I local component suppliers in implementation of ISO 14001. As on March, 2014, 85% of the local component suppliers’ plant were ISO 14001 certified (Maruti Suzuki, 2015). Also Maruti has taken zero defect policy moving from PPM (parts per million). It will stop offering contracts to suppliers that fail to meet its zero- defect policy.

(3) Others

Maruti Suzuki helps its supplier in other matters as well. For example, in 2012, Maruti bought forex cover of Rs 5000 crore from the Reserve Bank of India on behalf of its suppliers who accounted for the most imports from Japan that went into its vehicles (Ghosh, 2012).

The carmaker also buys raw material for suppliers in bulk to help companies get a better price; it arranges low-cost funding for suppliers. For a small fee, payments are also fast-tracked, with just a nine-day cycle from the date of invoice submission (Kumar, 2013).

8. Reasons for Supplier Development

Various factors can be taken as reasons for Maruti Suzuki's massive investment in its supplier development program. Maruti Suzuki has strived to develop stable and close relations with its first-tier suppliers, has equity participation in key suppliers and promoted technical collaboration between its suppliers with Suzuki's suppliers in Japan. Following factors are the main reason for supplier development and agglomerate in NCR region.

1. Phased Manufacturing Program

Under the import substitution industrialization regime, the government required, through its PMP, both foreign and domestic producers to achieve a high level of localization of raw materials and components. PMP mandated foreign firms to promote localization. When Suzuki signed MOU, it included Suzuki's commitment to achieve 50% local content within first three years of production and 70% by the fifth year (Okada, 2000; pg47). Maruti Suzuki's initial focus on domestic markets rather than on exports, allowed it to compromise on the quality of the component products produced by local supplier, which it could not afford if it were exporting its products. The PMP was abolished in 1992 (Okada, 2000; pg47).

2. Poor Quality of Auto Component

One of the most important reasons for Maruti Suzuki to develop local component maker was quality of the components. When Suzuki entered in India, its market was stagnated. There was zero competition. So, auto component makers neither felt the need nor had incentive of growth to upgrade technology. The quality of the component being produced was almost obsolete. However, Maruti Suzuki had to maintain its quality while producing cheaper car. Also, importing the component from Japan would have been expensive resulting in the higher cost of the manufacturing automobile. Quality of locally produced components was poor and Maruti Suzuki needed to increase the local content under localization. This was major factor along with the policy of localization for Maruti to get involved in development of domestic component makers.

3. Foreign Exchange Rate

The appreciation of the yen against United States Dollar (USD), in the early 1980s, made imported components from Japan extremely expensive. Also, there was high customs duty ((110%

until 1991) imposed on complete knock-down units of vehicle(CKD¹) (Okada, 2000; pg 64). Maruti Suzuki knew that if depended on imports from Japan for components and CKD units, it could not compete with other domestic producers. So Maruti Suzuki had to invest in the development of the capabilities of its suppliers.

4. Just in Time (JIT) System

Maruti Suzuki was the first firm to introduce JIT system in India. JIT necessitates all the suppliers to be competent enough to meet the demand of the manufacturer in time. This required Maruti Suzuki to have its main suppliers to be located near the assembly plant to allow frequent and on time delivery of components. Also, the quality of the delivered components needed to be dependable. This would lessen the need of detailed on-site inspection and quality testing done by Maruti Suzuki. This reason led Maruti Suzuki to encourage its suppliers to establish their plants near the assembly plant of Maruti.

Also, it had a double sourcing strategy, due to the generally poor infrastructure, at that time, which often hampers on-time delivery. This strategy gave more auto component makers opportunity to be connected with Maruti Suzuki.

5. Government Policy of Protection

Many local small firms that produced components already existed before Suzuki entered India. Government policy since the 1960s protected and promoted the Small Scale Industries (SSI). Government provided various incentives such as the allocation of the plots in industrial estates at subsidized costs. Government had reserved many auto components to be produced only by the SSI sector (Okada, 2000 ; pg 48). This policy of reservation forced auto manufacturers including Maruti Suzuki to buy components from SSI sector rather than make it themselves. Maruti Suzuki's growth has also encouraged many small-scale entrepreneurs to start business in close locations, taking advantage of such incentives given by government (Okada and Siddharthan, 2008; pg 71). 60% of the Maruti Suzuki's 404 (as of 1997) first-tier suppliers were small and medium enterprises (Okada and Siddharthan, 2008; pg 71).

6. Location

The manufacturing plant of the Maruti Suzuki was in green field location, away from

¹ Complete knock-down (CKD), is a complete kit needed to assemble a product. It is also a method of supplying parts to a market, particularly in shipping to foreign nations, and serves as a way of counting or pricing. CKD is a common practice in the automotive industry.

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traditional auto industry at the time which were Tamil Nadu and Maharashtra. Condition of transportation was not very efficient. So, it became necessary that the component makers are situated in the proximity of the manufacturing plant of Maruti Suzuki so that supply of the components would be better. Introduction of JIT system added to that necessity. That is a one of the reasons why Maruti Suzuki encouraged its suppliers from other states of India to establish manufacturing plants in NCR region. This helped in the agglomeration of the automobile industry in that region as a whole.

7. Tax System.

Also, there was octroy tax system in place during the initial years of Maruti Suzuki's operation. Octroy is a tax that each state government levied on consignments each time they cross the state border (Okada and Siddharthan, 2008; pg 70). Buying components from maker in other state meant additional cost which worked against the idea of cheaper car. This led to the effort by Maruti Suzuki to agglomerate the component makers in the same region and near to its plant.

These are the main factors because of which Maruti Suzuki got involved in supplier development. And this supplier development led to the development of auto cluster in NCR region.

8. Conclusion

The Indian Automobile Industry has been very competitive and will further get more competitive. Continuous innovations in supply chain and logistics management will contribute positively to the overall efficiency of the entire chain of suppliers and will offer many benefits to all. MSIL has been responsive to the dynamic market and has been innovating their supply chain. The changes implemented have benefited all the suppliers in terms of lean operations, integration of suppliers in value chain, lowering of cost, inventory reduction, and lesser transit time of finished vehicles. The future will present further challenges, MSIL will be required to be flexible and responsive towards their approach for supplier development. Consistently introducing innovations in order to further improve operational efficiency, quality and cost effectiveness will be significant.

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