

Challenges and opportunities of supply chain management in Indian automobile industries

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ABSTRACT - The automobile industry in India is a major leading contributor to India's economy. India becomes a global manufacturing hub in the automobile sector. Increasing demands of the automobile in the domestic and international market opening new opportunities in the Indian automobile sector. The arrival of major global automobile companies in India has shocked the domestic sector into adopting best Supply Chain practices. Major supply chain (SC) practices are buyer-supplier relationships, information sharing, distribution and logistics, long term partnerships etc. The intensity of these supply chain practices varies from sector to sector. This has increased competition in Indian markets leads to effective growth in exports. However, the Indian automobile industries have many challenges like visibility, cost containment, risk management, increasing customer demands, globalization etc. Therefore, a requirement is felt to continuously study of supply chain management practices in this automobile sector. This paper seeks to analyze the present status, opportunities, complexities and challenges facing the Indian automobile sector, and also overcoming challenges facing by Indian automotive sector. It investigates trends such as visibility and innovation, collaboration and supply networks and growing leadership roles influencing supply chain effectiveness.

Keywords – Supply Chain Management, sector, automotive industry.

I. INTRODUCTION

Supply Chain Management is the management of a network of all business processes and activities involving procurement of raw materials, manufacturing and distribution management of Finished Goods. SCM is also called the art of management of providing the Right Product, At the Right Time, Right Place and at the Right Cost to the Customer. In other words, Supply Chain Management is the management of flow of the goods and service in order to deliver value to the end customer effectively along with optimizing the process of deliver it.

Supply chain represents a global network of interconnected activities starting from raw material extraction to the delivery of the finished goods to the end-user. The term supply chain management refers to co-operative management of materials and information flows between supply chain partners, to reach goals that cannot be obtained by acting individually (Eric Sucky, 2005). An important component in supply chain network design is the establishment of appropriate performance measures and metrics including qualitative and quantitative ones, where, for example, customer satisfaction, flexibility, and effective risk management etc.

II. METHODOLOGY

It is observed that the contribution of Indian automobile industry is large in growth of industrial economy. The

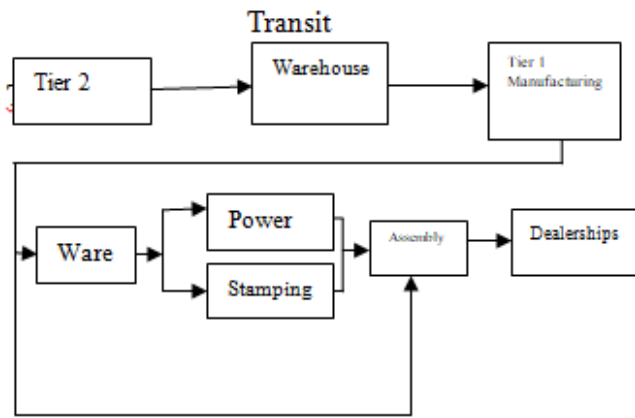
competitive strategy and best supply chain management practices questionnaire has been developed. Major supply chain (SC) practices are information sharing, buyer-supplier relationship, logistics and distribution, long term partnerships etc.

A situation-actor-process (SAP) and learning-action-performance (LAP) approach have been used in order to perform case study. A situation-actors-process (SAP) learning-action-performance (LAP) analysis have been applied to identify the many issue in automotive industries that need attention, propose development plans, compare current performance with the desired performance and make effective and efficient automotive supply chain.

III. ISSUE AND CHALLENGES OF SUPPLY CHAIN IN INDIAN AUTOMOTIVE INDUSTRY

The supply chain of Indian automobile industries have many different aspects and challenges. As we know that the, supply chain is a network of organization which involved through upstream linkage and down stream linkage, in the different many process and activities which produce product and services in the hand of ultimate consumer [4]. The ultimate goals of supply chain in automotive industries is to reduce operating costs and overall inventory level, and how to improve customer service and speed of product delivery to the markets[5].

Figure 1 schematically depicts a typical automotive supply chain which comprises of a network of smaller supply chains each with its own separate characteristics.



Transit
Fig.1 typical automotive supply chain

The complexity of the automotive supply chain may be found from the fact that a typical auto vehicle company comprises of approximately 20,000 components along with about 1000 sub-assemblies [1]. The automotive supply chain includes numbers of Tier 1,2 and Tier 3 manufacturers or suppliers with many different assembly operations and a number of dealerships. Customer demand for different specific configurations and features add to the high level of response needed from automotive supply chain. The lead time order expected by a customer is average at 4-6 weeks in the automotive industries[2] and there is a definite correlation between implementation of supply chain management (SCM) practices[3]

Trends in the auto industry which impacts the supply chain are depicted in Table 1 [1]. Fisher [6] profoundly enunciated that a supply chain must be tailored based on specific requirements of the product being manufactured. This is specially so for the complex automotive industry where in, an automaker has to contend with managing a network comprising several supply chains. It is imperative that Indian auto industry align supply chain practices to business strategies for maximizing competitive advantage in an emerging market [7]. Macro economic cycles of growth, contraction and recovery, creates tremendous strain on the effectiveness of established supply chain especially in the automotive sector due to its widespread linkages with other industries.

Demand-Side Trends	Supply-Side Trends
Uneven Growth	Differentiated Outsourcing
Fragmentation	Low-Cost-Country Sourcing
Accelerated Volatility	Risk Management
Importance of After market	Transparency/Accountability

The supply chain of automotive industries have many challenges. In reality when the automobile industries is continuous to grow, many different challenges are also arises. Some of these challenges are very difficult to handle. Some possible supply chain (SC) challenges which may be face by Indian automobile industries are-

• **Supply chain integration**

The supply chain integration section covers issues related to integration of core process across organization through improved communication, partnerships, alliance and co-operation. Supply chain integration also includes the application of new technology to improve the information flow and co-coordinating the flow of goods between trading partners such as buyer, suppliers. The purpose of supply chain management in an organization is to remove the communication barriers and eliminating redundancies through monitoring and coordinating and controlling the process. This is described by kaufman (1997 ,p-14).

The main parts of supply chain integration are listed by Handfield and Nichols (1999, p-5) as-

- The information revolution
- Increases the global completion market creates more demanding driven market
- The emergence of new types of inter-organization relationships.

The integration supply chain model are described by mainly three principal element. First one is information system i.e, management of information and financial flows, second is inventory management i.e, management of products and material flow, and thied one is supply chain relationships i.e, management of relationships between trading partners.

The basis of characterized by collaboration, trust, co-operation, partnerships, information sharing ,technology sharing, and a fundamental shift away from managing individual functional process to managing integrating supply chain of process (akkermans al. 1999).

• **Supply chain network design**

The main purpose of supply chain network design (SCND) is to determine company policies and programs and meet to achieve to accomplish long term strategic objectives, and most favorable business units or functional areas within a company are impacted by a network design project. The supply chain network design (SCND) increases the supply chain efficiency and customer satisfaction in an organization. While designing a supply chain network design (SCND) the following steps must be followed

- Define the business objective
- The project scope must be defined
- The form of analysis to be done must be determine
- Determine the tools will be used

➤ Project completion best design

- **Information sharing**

Now a day , there is a lack of information sharing within Indian automobile industries. Which results in inefficient coordination within the Indian automobile sector. Information sharing in a automotive supply chain face many problems. The first and critical challenge is that of aligning incentives of different partners. Information sharing and cooperation will increases the profit and efficiency by reducing inventory and smoothing production in an organisation.

- **Visibility**

The goal of visibility in supply chain improving and strengthen the supply chain by making data readily available to all stakeholders including the customer. Visibility is the ability of parts, component or products in transit to be tracked from the manufacturer to their final destination. the feature of supply chain visibility (SCV) are;

- Instant access to vital information
- Enhance end to end business process efficiency
- Real time visibility to customer requirement
- Enhance customer responsiveness
- Superior handling and execution
- Decreased material and labour costs
- Better stock management
- Optimized logistic and transportation efficiency

- **Cost containment**

Supply chain costs often represents a considerable percentages of the sales price of a goods or services. Lets suppose the net profit on an automobile industries or any organization is 4%, for an example, a reduction in supply chain costs in automotive industries from 8% to 4% by using supply chain practices will double the net profit. This is the big importance of cost reduction in a supply chain. And profit can be increased in organisation without increasing sells.

- **Increasing customer demand**
- **Risk management**
- **Globalization**
- **Environment and ethics**
- **Logistic chain; flexiable and reliable**

IV. CONCLUSION AND FUTURE SCOPE

The Indian automobile industries yet to adapt the supply chain standards of developed countries and dreadful condition exists for national level integration of supply chain. There is a need for exterior support to the automobile industries by way of supportive government policies, regulations and development infrastructure. Data collection

are measure issue arises in supply chain management. The difficulties arises in Indian automobile industries are fluctuating market demand trend and supply trend. : Now a days, There are several difficulties present in supply chain management. Some key issue are globalization, fast changing market, quality and appliance. For overcome challenges in supply chain management in Indian automobile industries Data management and integration are needed. Data management and integration is very helpful to solving these challenges by connecting the manufacturer supply chain management systems with those of suppliers and partners. Most of the difficult challenges such as supply chain network design, supply chain integration, high operating cost, globalization, high price of material are actually beyond the control of automobile manufacturer. A few of the challenges in automobile could provide opportunities for the manufacturer to focus their effort to become more competitive in Indian automobile sector.

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