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STATEMENT OF THE PROBLEM

OBJECTIVES

HYPOTHESES

RESEARCH METHODOLOGY

RESULTS & DISCUSSION

FINDINGS

RECOMMENDATIONS/SUGGESTIONS

CONCLUSIONS

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AN OVERVIEW OF SUPPLY CHAIN MANAGEMENT PRACTICES IN INDIAN AUTOMOBILE SECTOR

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ABSTRACT

The Indian Automobile Industry is manufacturing over 11 million vehicles and exporting about 1.5 million every year. The supply chain of this industry in India is very similar to the supply chain of the automotive industry in Europe and America. The Indian automobile industry has undergone significant structural and other changes in the last decade. In view of the present globalisation, implementation of lean production and the development of modularization have changed the relationships between automobile assemblers (OEMs) and their suppliers, especially those in the first tier. The present paper examines the role of various players in automobile supply chain and also discusses the challenges faced by automobile supply chain and the need for integration of supply chain through information technology

KEYWORDS

Automobile Industry, Auto Component Industry, Challenges in Automobile Supply Chain, Role of IT in Automobile Supply Chain.

INTRODUCTION

The automobile sector is a key player in the global and Indian economy. The global motor vehicle industry (four-wheelers) contributes 5 per cent directly to the total manufacturing employment, 12.9 per cent to the total manufacturing production value and 8.3 per cent to the total industrial investment. It also contributes US$560 billion to the public revenue of different countries, in terms of taxes on fuel, circulation, sales and registration. The annual turnover of the global auto industry is around US$5.09 trillion, which is equivalent to the sixth largest economy in the world (Organisation Internationale des Constructeurs d'Automobiles, 2006). In addition, the auto industry is linked with several other sectors in the economy and hence its indirect contribution is much higher than this. All over the world it has been treated as a leading economic sector because of its extensive economic linkages.

India's manufacture of 7.9 million vehicles, including 1.3 million passenger cars, amounted to 2.4 per cent and 7 per cent, respectively, of global production in number. The auto-components manufacturing sector is another key player in the Indian automotive industry. Exports from India in this sector rose from US$1.0 billion in 2003- 04 to US$1.8 billion in 2005-06, contributing 1 per cent to the world trade in autocomponents in current USD.

India's automobile sector consists of the passenger cars and utility vehicles, commercial vehicle, two wheelers and tractors segment. The total market size of the auto sector in India is approximately Rs 540 billion and has been growing at around 8 percent per annum for the last few years. Since the last four to five years, the two wheelers segment has driven the overall volume growth on account of the spurt in the sales of motorcycles. However, lately the passenger cars and commercial vehicles segment has also seen a good growth due to high discounts, lower financing rates and a pickup in industrial activity respectively.

The Indian automobile industry is fairly concentrated, as in most of the segments two to three players have cornered a major chunk of the total sales. For instance, in passenger cars segment, MUL, Tata Motors and Hyundai Motors control around 85 percent of the total annual sales. Similarly, in the two wheelers segment, the sales volumes of Hero Honda, Bajaj Auto and TVS Motors constitute around 80 percent of the total sales and in the commercial vehicles segment, the market leader Telco controls around 56 percent of the total annual sales. The autocomponents industry on the other hand is highly fragmented, though there are dominant players in some of the critical segments.

NEED OF SCM IN AUTOMOBILE INDUSTRY

From the past two decades, automobile companies discovered new manufacturing technologies and strategies that allowed them to reduce the cost and better compete in different markets. Strategies such as Just-In-Time (JIT), Lean manufacturing, Total Quality Management (TQM) and others become very popular, and vast quantities of resources were invested in implementing these strategies.

In the last few years, however, it has become clear that Automobile Companies have reduced manufacturing cost as much as possible, now the automobile Companies are concentrating on effective Supply Chan Management (SCM) as the next step to decrease the operational cost and to increase their market share and profits.

Today there is fierce compititation in Indian Automobile industry with large number of players and products, the product life cycles are shortening, and operating margins are shrinkening,there is continues advancement in technology, moreover customer expectations heightened with regard to product quality, product availability, on time delivery, sales services and timely availability of information etc.

Further continuing advancement in communication systems and transportation facilities like mobile phone networks, internet and intranet systems and overnight delivery practices etc, intensified the need for efficient and effective Supply Chain Management (SCM) in Automobile industry.

As the number of companies are increasing in Automobile sector , competition forces prices to decline, flat sales, putting a premium on efficiency to maintain profitability and sales growth which calls for effective integration of front-end and back-end operations of Automobile companies which can be possible only with the implementation of Supply Chain Management practices in these sector.

S.C.M aids in product ordering, replenishment, inventory control and, more importantly, better control over logistic management, merchandising, and marketing operations .S.C.M also facilitates

Demand Forecasting, Customer data Analysis, Customer Relation Management(CRM) which can be effectively used in replenishment of product, production scheduling, order processing and order delivery etc; which will further help in smooth functioning of Automobile companies. So, there is much need for study of Supply Chain Management in Automobile Industry.

EMERGENCE OF SCM IN AUTOMOTIVE INDUSTRY

The automotive industry has historically used very large supply chains. Even during the industry's earliest days, Original Equipment Manufacturers (OEMs) purchased the bulk of the parts used in their products from suppliers, rather than making them in-house. Barriers to entry were low and the market was crowded with a plethora of OEMs.

A trend towards vertical integration then dominated the industry for several decades. This new business model eliminated many of the smaller OEMs who could not afford the capital investment it necessitated. Most either merged with larger firms or disappeared altogether. Automakers sought to reduce costs by making their own components and even producing their own raw materials.

Over the last few decades, OEMs have once again been relying more on suppliers for components and functions they once did on their own. Even individual parts units, such as Delphi and Visteon, have been spun off from their parent OEMs. In addition to supplying modules, suppliers are now relied on for a significant portion of the engineering of key vehicle components.

A key driver of the increasing complexity of industry relationships is the trend towards modular sourcing. Under the modular sourcing model, OEMs purchase preassembled sections of a vehicle from suppliers. The module is generally built of components supplied by several lower tier suppliers. This paradigm requires unprecedented collaboration between the OEM, the supplier providing the module, and the suppliers from which the module is sourced. A new supplier tier, referred to as the 0.5 tier suppliers, has appeared on the automotive landscape. These suppliers maintain extremely close relationships with OEMs and have final responsibility for managing suppliers of lower tiers.

As the relationships between OEMs and suppliers grow ever more complex, with increased interaction between participants of different tiers, as a result integrated supply chain is emerging as a necessary tool and enabler of this new business paradigm.

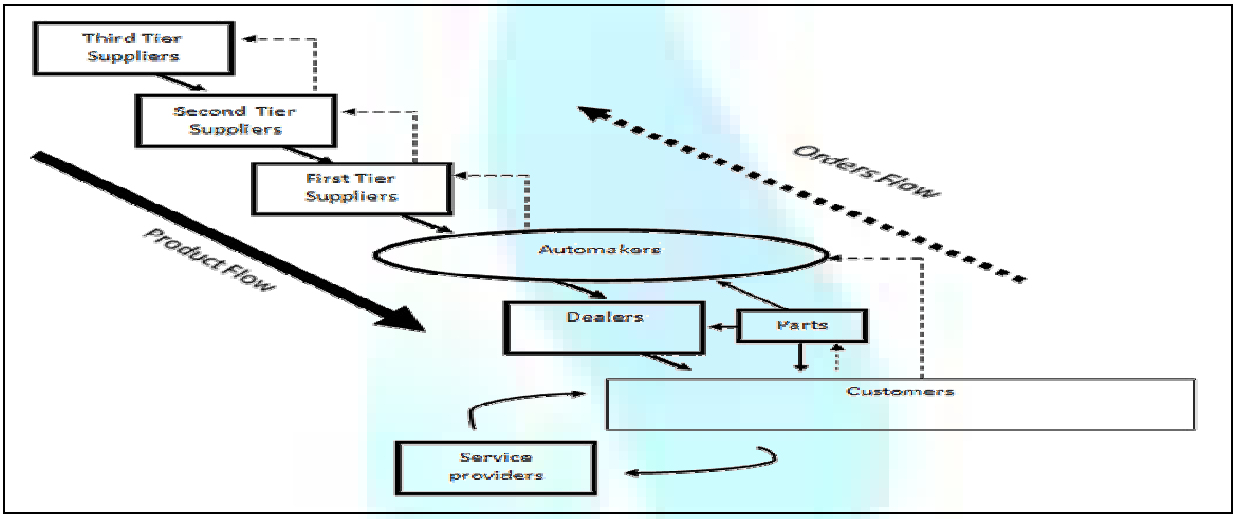
The Indian automobile industry has undergone significant structural and other changes in the last decade. In view of the present globalisation, implementation of lean production and the development of modularization have changed the relationships between automobile assemblers (OEMs) and their suppliers, especially those in the first tier. Stiff competition among manufacturers will result in more mergers or acquisitions. The challenges automobile manufacturers and suppliers face include improving quality, meeting cost reduction targets and developing time to market.

All this is driving the organisations towards greater product differentiation using cutting edge R&D, innovative sales and marketing approaches, and increasing focus on boosting efficiencies in manufacturing and supply chain. Hence, in the age of e-business and global outsourcing, supply chain management (SCM) plays a crucial role in many of these areas.

SUPPLY CHAIN OF AUTOMOBILE INDUSTRY

The supply chain of automotive industry in India is very similar to the supply chain of the automotive industry in Europe and America. The orders of the industry arise from the bottom of the supply chain i. e., from the consumers and go through the automakers and climbs up until the third tier suppliers. However the products, as channelled in every traditional automotive industry, flow from the top of the supply chain to reach the consumers. Automakers in India are the key to the supply chain and are responsible for the products and innovation in the industry.

FIGURE 1: SUPPLY CHAIN OF AUTOMOBILE INDUSTRY



Source: ImaginMor, Inderscience Enterprises Ltd and United Nations Industrial Development organisation.

PARTIES IN AUTOMOBILE SUPPLY CHAIN

The description and the role of each of the contributors/parties in the supply chain are discussed below.

THIRD TIER SUPPLIERS

These companies provide basic products like rubber, glass, steel, plastic and aluminium to the second tier suppliers.

SECOND TIER SUPPLIERS

These companies design vehicle systems or bodies for First Tier Suppliers and OEMs. They work on designs provided by the first tier suppliers or OEMs. They also provide engineering resources for detailed designs. Some of their services may include welding, fabrication, shearing, bending etc.

FIRST TIER SUPPLIERS

These companies provide major systems directly to assemblers. These companies have global coverage, in order to follow their customers to various locations around the world. They design and innovate in order to provide "black-box" solutions for the requirements of their customers. Black-box solutions are solutions created by suppliers using their own technology to meet the performance and interface requirements set by assemblers.

First tier suppliers are responsible not only for the assembly of parts into complete units like dashboard, breaks-axel-suspension, seats, or cockpit but also for the management of second-tier suppliers.

AUTOMAKERS/VEHICLE MANUFACTURERS/ORIGINAL EQUIPMENT MANUFACTURERS (OEMs)

After researching consumers' wants and needs, automakers begin designing models which are tailored to consumers' demands. The design process normally takes five years. These companies have manufacturing units where engines are manufactured and parts supplied by first tier suppliers and second tier suppliers are assembled. Automakers are the key to the supply chain of the automotive industry. Examples of these companies are Tata Motors, Maruti Suzuki, Toyota, and Honda. Innovation, design capability and branding are the main focus of these companies.

DEALERS

Once the vehicles are ready they are shipped to the regional branch and from there, to the authorised dealers of the companies. The dealers then sell the vehicles to the end customers.

PARTS AND ACCESSORY MANUFACTURER

These companies provide products like tires, windshields, and air bags etc. to automakers and dealers or directly to customers.

SERVICE PROVIDERS

Some of the services to the customers include servicing of vehicles, repairing parts, or financing of vehicles. Many dealers provide these services but, customers can also choose to go to independent service providers.

ORGANISED AUTO SECTOR IN INDIA

Automotive Sector in India is guided by various kinds of association that we can see in automobile supply chain as parties, these are

SIAM - Society of Indian Automobile Manufacturers

ACMA - Auto Components Manufacturers Association

FADA - Federation of Automobile Dealers Association
FISPDA- Federation of Indian Spare Parts Dealers Association
ARAI - Automobile Research Association of India

While the Original Equipment Manufacturers (OEMs) are at the top of the auto supply chain, it should be noted that there are a few OEMs in India which supply some components to other OEMs in India or abroad. Most of the Indian OEMs are members of the Society of Indian Automobile Manufacturers (SIAM), while most of the Tier-1 auto component manufacturers are members of the Automobile Component Manufacturers 'Association (ACMA). All of them are in the organized sector and supply directly to the OEMs in India and abroad or to Tier-1 players abroad. Tier-2 and Tier-3 auto-component manufacturers are relatively smaller players. Though some of the Tier-2 players are in the organized sector, most of them are in the unorganised sector. Tier-3 manufacturers include all auto-component suppliers in the unorganized sector, including some Own Account Manufacturing Enterprises (OAMEs) that operate with one working owner and his family members, wherein manufacturing involves use of a single machine such as the lathe.

THE INDIAN AUTO COMPONENTS INDUSTRY

Indian auto component industry is emerging as a global manufacturing hub for auto component manufacture. Indian auto component industry is one of the front runners for grabbing the global auto component outsourcing market, estimated to be worth US$700 billion by 2015. Auto components sector requires an incremental investment of Rs 2,000-crores as per the report of working group on automobile industry Eleventh Five Year Plan (2007-2012).

Today, India has the potential to manufacture a range of automotive components (about 20,000 in numbers) - from fasteners to engine parts Apart from the foreign demand, the domestic car production is also growing with sales expected to be about 10 million by 2009.

Auto-component manufacturers cater not only to the OEMs, but also to the after-sales market. In the recent years, there has been a rapid transformation in the character of the automotive aftermarket, as a fast maturing organised, skill-intensive and knowledge driven activity. Hence, the auto industry in India possesses a very diverse and complex structure, in terms of scale, nature of operation, market structure, etc. While output, emoluments and Gross Value-Added (GVA) have been growing in both the automobile and auto-component industries, employment is on the rise in the latter and it is declining in the former, fall in employment despite growth in total emoluments is a matter of concern in the automobile sector.

ROLE OF AUTO ANCILLARY INDUSTRY

The auto ancillary industry caters to three broad categories of the market:

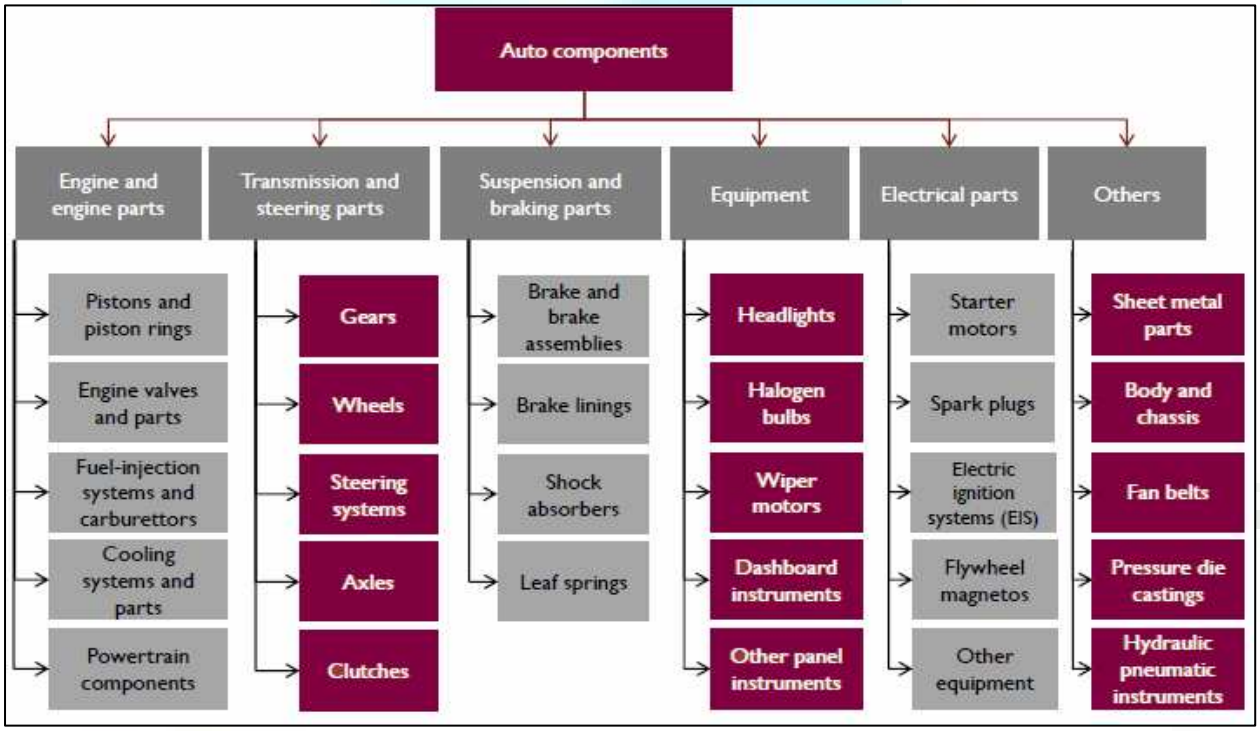
1) Original equipment manufacturers (OEM) or vehicle manufacturers, that comprises of 25% total demand
2) Replacement market that comprises 65% of the total demand
3) Export Market that comprises primarily of international Tier I suppliers and constitutes 10% of total deThe Indian auto component Industry is highly fragmented:

- Around 500 organized players account for the 77% of the value added in the sector.
- Unorganized players are mainly replacement market players or tier ¾ component manufacturers · Automotive Manufacturers Association of India (ACMA) represents the auto component industry in India and has around 500 registered members.

SEGMENT-WISE DIVISION OF AUTO COMPONENTS INDUSTRY

The auto components industry can be further divided into six main segments

FIGURE 2: AUTO COMPONENTS SEGMENTS



1) **ENGINE PARTS**

Engine assembly, fall into 3 broad categories: core engine parts; fuel delivery system; and others. This also includes products such as Pistons, Piston Rings, Ene Valves, Carburetors, and Diesel-based Fuel Delivery Systems. This by far is the most critical component and requires high involvement from the supplier.

2) **ELECTRICAL PARTS**

The main products in this category include starter motors, generators, spark plugs and distributors.

3) **DRIVE TRANSMISSION & STEERING PARTS**

Gears, wheels, steering systems, axles and clutches are the important components in this category.

4) **SUSPENSION & BRAKING PARTS**

These include Brakes, Leaf Springs, and Shock Absorbers

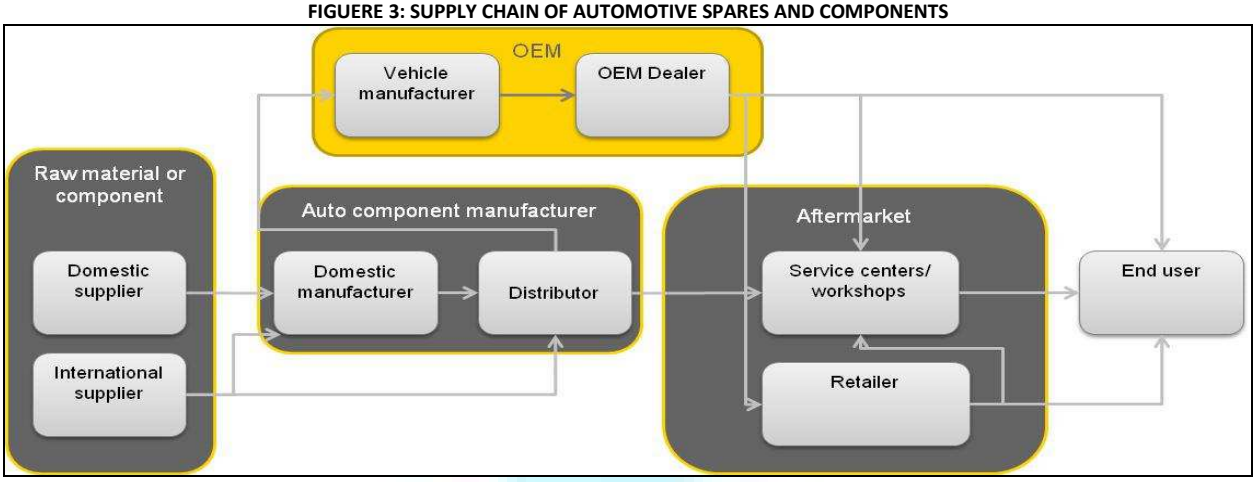
5) **EQUIPMENT**

This includes headlights, Dashboard Instruments

6) **OTHERS**

Sheet metal components and plastic molded parts are two of the major components in this category.

FIGUERE 3: SUPPLY CHAIN OF AUTOMOTIVE SPARES AND COMPONENTS



In a genuine automotive component supply chain, the manufacturer of auto components sources raw material either domestically or from an international supplier. The manufacturer can be the OEMs or independent (tier-I) manufacturers of auto parts. Vehicle manufacturers receive their supply of components from Tier I suppliers. The manufacturer then supplies the part to its distributors who in turn services the aftermarket. There may be a regional distributor in the aftermarket supplying the component to sub-distributors, or there may just be regional distributors for the product. The part is supplied from distributors to retailers or directly to large workshops. Finally, the component is sold to end consumers either directly or by replacing the part in their vehicle in the course of maintenance or break down service. This supply chain is generic and may not apply to all types of auto components, and some may have a very straight forward or even more complex supply chain.

TRENDS IN THE AUTOMOBILE INDUSTRY-IMPLICATIONS ON SUPPLY CHAIN MANAGEMENT

Recent emphasis on global climate change is increasing pressure on automotive executives to make the right decisions in many areas, including R&D and manufacturing. In fact, emission-level targets, currently in question, threaten to alter the entire structure of the auto industry.

These challenges hit an industry already plagued with high costs, low profit margins, and accelerating competition. New entrants from China (such as Chery Automobile) and India (such as Tata Motors) are working aggressively to capture their share of the global market, following the path taken by the Japanese in the 1980s and the Koreans in the 1990s—both of whom went beyond their domestic markets by focusing on the United States first, and on Europe later.

General macroeconomic and financial circumstances are not necessarily favorable, either. The cost of energy and raw materials continues to increase due to rising global demand. Strong fluctuations in exchange and interest rates pose another challenge and are difficult and costly against which to hedge.

In this dynamic business environment, a superior supply chain is one critical element to helping automakers differentiate themselves from the competition. In fact, many of trends in the auto industry are reinforcing the need to redefine supply chain strategies, layouts, and operations. This paper summarizes the current challenges in the automotive world and analyzes their implications on supply chains.

IMPLICATIONS OF TRENDS ON THE AUTOMOBILE SUPPLY CHAIN

Based on these challenges, eight major trends are identified witch affecting the automotive supply chain. The trends can be classified into two broad categories, these are:

I. Supply- Side Trends

II. Demand-Side

I. DEMAND-SIDE TRENDS

UNEVEN GROWTH

The demand for cars and two wheelers are growing, stemming in large part from China, India, and Eastern Europe. Established automotive markets in the United States, Western Europe, and Japan, however, are flat to declining.

This uneven growth raises implications for the supply chain. For one, OEMs and their tier-1 suppliers must establish a local presence to benefit from these new growth opportunities in emerging economies. They must also tap into the local supply base to take advantage of cost levels and to fulfill local content requirements. At the same time, they must integrate local operations into their global supply chain management systems and programs. For example, sourcing processes from local suppliers must be aligned with global quality-assurance guidelines and procedures.

FRAGMENTATION

Traditional car segments such as sedans, vans, hatchbacks, and pick-up trucks are fragmenting more and more into niches. Derivative car segments, on the other hand—such as coupes, roadsters, minivans, and two-seaters, as well as cross-over vehicles such as four-door coupes, SUV coupes, “soft”1 SUVs, and sport vans—are growing. In the two wheeler segments there is clear division is emerged with economy and premium two wheeler segments with different engine powers ranging from 100cc to 350 cc and wide verity of models like Scooterette , mopeds, and motor cycles etc.

A combination of customer demand for personalization—the right product for their specific use at the right time—and manufacturers conquering new customer segments is causing automakers to grow their product offerings. The environmental or “green” movement is encouraging fragmentation even further, by shifting demand away from large and/or high-consumption vehicles to smaller and/or more fuel-efficient cars, giving birth to even newer segments, such as city or micro cars, and new propulsion technologies, such as hybrids, clean diesels, and diesel hybrids.

Despite measures to control incremental costs resulting from fragmentation—such as platform, module, and component sharing across models and brands segmentation results in a more complex supply chain that needs to be managed. Hence, the supply chain requires integrated capabilities and flexible tools based on real-time information to address this increasing complexity.

For example, using an identical gearbox in two different two wheeler models does not prevent the manufacturer and its supplier from having to manage the supply chain process on a transparent basis to ensure on-time delivery of the specific gearbox to the specific assembly line in the specific location.

ACCELERATED VOLATILITY

In the past, forecasting new product demand was easy. Today, new model automobile that initially sell well may lose ground within as little as two years. Shifts in customer demand—from product to product, from brand to brand, and from segment to segment—are accelerating. Customers have more choices than before, want more personalization, and, in general, enter the showroom better informed. As a consequence, customer loyalty is decreasing—across all segments and across all manufacturers.

The supply chain, therefore, must cater to these shifts through quicker responsiveness and overall flexibility. Yesterday, it was enough merely to set up the supply chain when launching a new product and then make a few changes to it over the product's lifecycle. Today, a higher degree of flexibility and responsiveness must be built in up front so that suppliers can react quickly when overall product volumes are not in line with plan, or when the mix within the product differs from original forecasts.

AFTERMARKET

The automotive aftermarket is attractive because of its continued growth potential. Trends in vehicle usage and ownership show that there will be an increasing need for spare parts and service. Spare parts are stocked at each location along the supply chain, and each node experiences different pain points. It is highly challenging to get the right part to the right place as quickly as possible – without significant over stocking or under stocking.

The automotive spare parts supply chain is vast and highly fragmented. Manufacturers should work with suppliers and dealers to persuade their consumer base to return for service after the sale of the vehicle. They should also work to build a base of responsive to customers across the broad spectrum of channels that consumers use for servicing their vehicles.

The aftermarket supply chain varies company to company, in some cases spare part manufacturer supplies genuine spare parts to manufacturer of two wheeler , then manufacturer supply it to their dealers and distributors and authorized service center etc. in some cases spare part manufacturer also supplies spare parts along with two wheeler company. There are also spare parts companies which supplies spare parts to dealers, service centers and auto mobile retailers without any relation to companies supply chain, this type of supply chain is called grey market chain.

Creating transparency in the aftermarket business both in sales and in operations of the business and value chain is an important way for automakers to defend this source of revenue and profit against independent parts and service suppliers.

II. SUPPLY-SIDE TRENDS

DIFFERENTIATED OUTSOURCING

Outsourcing in the automotive industry will continue. Differences in labor costs and disadvantages in scale and scope are influencing this trend. Outsourcing will create opportunities for both automotive suppliers and supply chain management providers (such as logistics companies and IT firms) to expand their businesses into adjacent areas like, preassembly or management and quality control. To benefit from continued outsourcing, supply chain management providers must offer flexible, modular solutions because not every manufacturer will concentrate on the same core capabilities and functions.

LOW-COST-COUNTRY SOURCING

The auto industry will continue to source from low-cost countries as manufacturers and suppliers continue to complement their commodities with more complex products and services. The lowest price, however, isn't everything—automakers and suppliers must look at the total cost of sourcing, including logistics, quality of work, and management. This approach is referred to as "best-cost-country" sourcing, and for supply chain management providers represents another opportunity to encourage, enable, manage, and optimize sourcing.

RISK MANAGEMENT

Most manufacturers agree that their supply chain risk has increased in recent years. Natural disasters, terrorism, workforce issues, and level of dependence on partners and suppliers are just some areas that require strong capabilities in risk management. Manufacturers and their suppliers must account for supply chain alternatives in their overall supply chain strategy. Increased transparency based on real-time information allows them to identify risks early on and, ultimately, to manage them. This represents an opportunity for supply chain management providers to expand their value-added services. They have the opportunity to become risk-mitigation agents by ensuring the required transparency and by offering, like, fall-back solutions or performance guarantees.

TRANSPARENCY AND ACCOUNTABILITY

Business operations are becoming more complex and global. Supply chains are turning into complex supply networks. As a consequence, auto manufacturers and suppliers need transparency and accountability across the entire supply network. For example, near-real-time information flow based on a sensor-driven supply chain across the extended enterprise is in high demand. Information should, ideally, flow in two directions to help ensure better and faster interactions within enterprises and among OEMs, suppliers, and supply chain management providers.

At the same time, there is a focus on security across these complex information networks, led by the need to manage risks. The supply network has become very complex globally and is optimized to the penny. Because of this, automakers and suppliers cannot afford to go after breakdowns in the supply chain. Providers must deliver performance and output in a transparent manner—they are now held accountable much more stringently than in the past, and are at risk when it comes to paying high penalties in case of nonperformance.

KEY ISSUES / CHALLENGES IN AUTOMOBILE SCM

Indian automotive players today face several key challenges in managing their supply chains. According to KPMG survey the automobile companies were ranked the challenges in automobile supply chain in order of priority as follows:

INTEGRATING THE ENTIRE SUPPLY CHAIN

The most significant challenge identified by automotive players in India is 'integrating the entire supply chain' and managing it as a single integrated entity. While past efforts of OEMs have been focused on streamlining and improving different areas of the supply chain independently, through efforts in dealer management, operations planning, vendor rationalization, IT package implementation etc, it is expected that the linking up of these activities is expected to provide significant benefits to players, as this would involve aligning the entire chain to meet market requirements in the most efficient way.

The key challenge in achieving this would be two-fold – to align the different stakeholders along the chain – vendors, transporters, distributors and dealers – along common goals and processes, and also to integrate and link disparate IT systems used by different stakeholders.

MANAGING INBOUND LOGISTICS

Managing inbound logistics will be a key concern for OEMs as well as auto component players, driven more by challenges related to reliability of data, lead time and absence of quality logistics players on the upstream side. However, it is felt that this was a key area of focus, given the criticality of supply for future growth.

MANAGING PRODUCT AND PART PROLIFERATION

This is one of the second significant challenges players face. Increasing competition in the Indian automotive industry has led to significant shrinkage in product lifecycles and the need for regular and frequent product up gradation and new product introductions. While this has led to issues of managing a wide product portfolio, a related key issue is the proliferation of parts/components, driven by the need for providing spare parts for current as well as discontinued models. Respondents across both OEMs as well as auto-components indicated that increasingly the need for common platforms, and hence common parts becoming critical pre-requisite. A key role played by product development teams today is the identification and adoption of common parts and components across models. Costs, quality and timely delivery continue to be key concerns for players, driven by increasing competition and pressure on margins. Many OEMs have implemented 'Just in Time (JIT) supplies in their inbound logistics'. However, in cases where this is not accompanied by increased visibility across the supply chain and improved planning, it has only resulted in the burden of inventory getting shifted from OEMs to their Tier-I vendors.

POTENTIAL AND MARKET SIZE OF SCM IN INDIA

SCM solution market has been making inroads in India and it is being accepted widely by many industry sectors in the country, particularly manufacturing, automobile and retail where inventory carrying cost is very high.

According to CMIE, over Rs 100,000 crore of industry sectors are tied up due to high inventories. In India, logistics cost is very high as compared to other developed countries. It forms around 14% of the country's total GDP. Transportation accounts for 35%; inventory for 25%; losses for 14%, packaging for 11%; handling and warehousing for 9%; and others for 6%. Several automobile manufacturers in India have taken proactive measures to control their logistics cost and improve customer services. Several measures were undertaken by Indian companies to improve their supply chain.

In India, some of the automobile manufacturing companies have adopted e-sourcing, which helped them to reorganize the purchasing process and supported the aggregated buying across business units with the help of Internet-based tools or B2C Internet portals. With the use of Internet, more global suppliers have

participated compared to the traditional strategic sourcing process. The process reduces time spent on negotiating, accelerates information gathering and speeds up communication channels among buyers and sellers. The companies have implemented this e-sourcing for procurement of high-value commodities
The success of SCM solution lies in coordinating the flow of information and goods between the customers and the network of suppliers, manufacturers and distributors. Interestingly, there has been a growing trend of realization of supply chain optimization in India; there is no dearth of SCM solutions in the country. Around 70% of Indian software houses have expertise in SCM. Currently, manufacturing and automotive sectors have been the leaders in implementing SCM solutions in the country.

ROLE OF IT IN AUTOMOBILE SUPPLY CHAIN

IT spending by the manufacturing sector in India, which accounts for 10% of the domestic IT market, is growing between 30 to 40% per annum. The main reasons for this surge in spending on IT by Automobile manufacturing industry are:
a) Indian automobile and auto components companies which are Tier 1 or Tier 2 suppliers to OEMs in India or abroad, to reduce time-to-market and product life cycles, put pressure on manufacturers to integrate with OEMs of both India and other MNCs, Tier-I suppliers, sub-contractors and distributors during product development and process manufacturing;
b) The automobile manufacturing sector wants to improve operational efficiency and capital productivity by reducing fixed and variable costs;
c) Short product lifecycle, rapid customization of products and most importantly growing globalization led to a spurt in IT spending by the automobile sector in India.
There is a huge scope for Indian automobile and auto component manufacturers to reduce their logistics costs with the implementation of SCM solutions. Proliferation of Internet, in particular has made the business easier and cheaper for manufacturers to coordinate their business activities with their suppliers.

CONCLUSION

SCM is a best-in-class, high-performance solution which can be utilized by the every automobile manufacturer, logistics and distribution companies, and automobile dealers/distributors to blend the demand chain with the supply chain. SCM helps in demand forecasting; taking an order; giving an accurate promise date; sourcing and manufacturing the right goods; position inventory properly; pick, pack, and efficient transshipment; most importantly, SCM makes a world of difference to the manufacturers by maintaining a minimal finished goods inventory. To get all the benefits of cost and time the Indian automobile chains has to be integrated to compete with global automobile industry.

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