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Supply Chain Management In Automobile Industries In India: Conceptualities And Realities

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Abstract:India has become the preferred manufacturing destination for many multinational automobile industries due to high quality and low cost operations. The emergence of India as manufacturinghub paved way to growth opportunities for Indian industries. Almost all major automobile giants purchase the required material, components and sub-assemblies from vendors as per horizontal supply chain integration strategy. Any disturbance in supply chain results in to derailment of delivery schedule of automobile manufacturing company and ultimately incurred losses.This paper attempts to explore conceptualities and realities in automobile industries in India. The identified conceptualities and realities are the result of a survey conducted ineight companies and fifty executives of automobile industries in India. The paper expresses the insight received from the executives, managers of automobile industries through the personal discussion, interviews and questionnaire. The research work is useful to the academician and practitioners in the domain of supply chain.

Keywords: Supply Chain Management (SCM); Automobile Industry; Conceptualities; Realities

INTRODUCTION:

India established as manufacturing hub for many multi-national automobile companies like Nissan, Toyota, Suzuki etc. Increasing competition, due to globalisation is making inevitablefor the Indian industries to provide cost effective quality output with stringent delivery schedules(Ketkarand Vaidya, 2012).In a business environment characterized by high complexity and uncertainty, manufacturing companies are forced to manage their supply chains effectively in order to increase efficiency and reactivity (Thun and Hoenig, 2011). It has been pointed out that understanding and practicing supply chain management (SCM) has become an essential prerequisite to staying in the competitive global race and to growing profitably (Power et al., 2001; Moberg et al., 2002; Li et al. 2005).

According to Lambert et al. (1998), "A supply chain is the alignment of firms that bring products or services to market."According to Chopra et al. (2001),"A supply chain consists of all stages involved, directly or indirectly, in fulfilling a customer request. The supply chain not only includes the manufacturer and suppliers, but also transporters, warehouses, retailers, and customers themselves."

The automobile supply chain facing many challenging issues for example delayed delivery schedule, poor quality, and unnecessary escalation of cost.This paper attempts to explore conceptualities and realities in automobile industries in India. The identified conceptualities and realities are the result of a survey conducted in more than eight companies and fifty executivesof automobile industries in India.Based on the experiences of the senior executives of these companies and other similar companies in Pune, (Maharashtra, India) the researcher has prepared the following deliberation. The automotive supply chain integrates Supply chains in automobile industry encompass the companies activities needed to design, make, deliver, and bring into play a vehicle spares or service agreeably. Automobile companies and their sales depend on their supply chains to survive and thrive. Every automobile company or firm fits into one or more supply chains and has a role to play in each of them.

The remaining paper is presented as follows. Inthe next section 2 explains the research objectiveand methodology. Section 3describes supply chain management in brief. Research analysis and findings are presented in Section 4 (discussion). Finally, in section 5, section 6 and section 7 present the conclusions, limitations of the study and scope for further research.

RESEARCH METHODOLOGY

The objective of research paper is to explore conceptualities and realities in automobile industries in India.The approach of the research is exploratory in nature.

The relevant literature is reviewed. The literature review was augmented by use of online computerized search engines like Science Direct, Google Scholar, Bingetc. using keywords such as Supply Chain Management (SCM), Automobile Industry,conceptualities and realities. The research is based on information collected through questionnaires and personal interviews with executives and managers of automobile industries in Maharashtra, India.The objective of this paper is to study the conceptualities and realities in supply chain management of automobile industries in India.

2.SUPPLYCHAIN MANAGEMENT

The pace of change and the uncertainty about how markets will evolve has made the automobile groups of players:Original Equipment Manufacturers (OEMs), First-Tier Suppliers, Sub-Tier Suppliers and Infrastructure Suppliers. Traditionally, different types of technologies were used to establish the links between these groups. ThesumofSupply Chai decisions will define the capabilities and effective nesso fan automobile company's.Thethingsan automobile company can doand the ways thatit can competeinits market sareall very much dependent on the effective nessofits supply chain. For example, when Baja Auto has a strategy in early seventies to serveamassmarket in three wheelers segment (Auto rickshaws) and when it was price maker ,ithad then free to overlook the efficient supply chain that might be optimized for low cost.Ifan automobile company's strategyis to servea market segment in reasonable price and compete on the basis of customer service and convenience,it had better have a supply chain optimized for low unit cost. Who a company is and what it can do is shaped by its supply chain and by the market sit serves.

Gold ra ttexplores the SCM issues and provides answer stothe proble mofoptimizing operation sin any businesssy stem whether it be manufacturing of cars,mortgage loan processing, or supply chain management. Supply Chain Management: Strategy, Planning,and Operation are anin-depth presentation of the conceptsand techniques of the profession.The aim of supply chain management is to increase speed of deliveries of output from one supply chain member to other and also addition in to value aligned with profit while simultaneously reducing both inventory and operating expense (Goldratt, 1984).Thus, it refersto the rate at which sales to the end customer occur. There are five areas where automobile companies canmaked ecisions that will define their supply chain cost, profit, customers' service capabilities and its speed. These five areas are Production; Inventory; Location; Transportation; and Information.Theseareasare performance drivers that can be managed to produce the capabilities needed for agiven supply chain (Chopra and Meindl 2000). Effective supply chain management calls first foranunder standing ofeachdriverand how it operates.Each driver has the ability to directly affect the supply chain and enable certain capabilities.The next step is to develop an appreciation for the results that can be obtained by mixing different combinations of the se drivers.

3.DISCUSSION

In automobile industry, there is a difference between the concept of supply chain management and the traditional concept of logistics. Logistics typically refers to activities that occur within the boundaries of asingle automobile firm and supply chains referto networks of firms that work together and coordinate their actions todelivera vehicle and their spare parts tomarket.Alsotraditional logistics focus esitsattentiononactivitiessuchasprocurement,distribution, maintenance,and inventory management.Supplychainmanagement acknowledges alloftraditionallogisticsandalsoincludesactivitiessuchas marketing,newproductdevelopment,finance,andcustomer service.

In the wide rview of supply chain thinking,these additional activities in automobile industry are now seen as partof the work needed to ful fill customer requests. Supply chain management in Tata Motors, for example views the supply chain and the company organization as asing leentity.It bring sa systems approach tounder standing and managing the different activities needed to coordinate the flow of vehicles, their spare and after-sales services to best serve the ultimate customer.Thissy stems approach provides the frame work to be strespond to the business requirements that ot her wise would seem to be inconflict with each other.

Taken individually, different supply chain requirements in automobile Industry oftenhave conflicting needs.Forinstance,therequirementofmaintaininghigh levels of customer service by “To yota Way”(Liker) calls for maintaining high level so finventory,butthen there quirement tooperate productively or to increase in ROI calls forreducing inventory levels.It is only when the se requirement sare seen together a sparts of alarger picture that reconciles an effectively balance the ir different demands.

The renowned Automobile Companies on the milieu their resources and marketing constraints are aware of the supply chains and understand the roles that they have to play. Those automobile companies like Bajaj Auto, MarutiUdyog or Tata Motors that learn how to build and participate in strong supply chains and they will have a substantial competitive advantage in their marketing segment.

In Supply Chain Management (SCM) there is a need of factors of production appropriately maneuvered for optimum production at minimum unit cost(Maher et al., 2005).In all the factors of production (i.e. Land, Labour, Capital, Govt. and managerial skills), the labour factor of production in automobile is sentient, sensitive and mobile and for which the renowned automobile companies like Toyota take special care and creates special management for its productive use. This is nothing Entirely New . . . Just a Significant Evolution! The practice of supply chain management is guided by some basic underlying concepts that have not been changed much over the centuries.

Inits simplest form, a supplychaini scompose dofa companyandthe supplier sand customer sof that company. This is the basic group of participants that creates a simple supply chain.The participant sinasupply chaina recontinuously making decisions that affect how theymanage the five supply chain drivers.Each organization triesto maximize its performance indealing with these drivers througha combination of out sourcing, partnering, and in-house expertise. In the fast-moving markets of our present economy, an automobile companyusually will focus on what it considers to be it score competencies in supply chain management and out source the rest. This was notal ways the case though.In thes lower moving mass automobile markets, it was common for successful companies to attempt to own much of their supply chain.That wask now nas vertica lintegration.Thea imofvertical integration was to gainmaximum efficiency through economies of scale.

In the first half of the1900s Ford Motor Company owned much of what it needed to feed it scar factories.It ownedand operatediron mines that extracted ironore,steel mills that turned the oreinto steel products,plants that made component carpartsand assembly plants that turned out fini shed cars.Inaddition,they owned farms where they grew flaxto make into linencartop sand forests that theylogged and sawmillswheretheycutthetimberintolumberformakingwood encar parts.Ford's famous River Rouge Plant was amonument tovertical integration—ironorewentinatoneend and carsca meoutat the ot her end. HenryFord in his 1926 auto biography, “Today and Tomorrow”, boasted that his company could take inironore from the mine and put outa car81 hours later (Ford, 1926). This wasa profit able way of doing business in them or epredictable, one-size-fits-all industrial economy that existedin the early1900s.Ford and other business eschurned out massa mount so fbasic products. But as the markets grew and customers be camem or eparticulara boutthe kind of products they wanted,this modelbegan to breakdown.It could not be respon sivee noughor produce the variety of products that were being demanded. Forinstance,when Henry Ford was asked about the number of different colorsa customer could request, he said,“they can have any color they want.”In the 1920s Ford'smarket share was over 50 percent but by the 1940 sit had fall en to below 20 percent. Focusing on efficiency at the expense of being responsive to customer desires was no longer a successful business model.

Globalization, highly competitive markets, and the rapid pace of technological change are now driving the development of supply chains where multiple companies work together,each company focusing on the activities tha tit does best.Mining companies focus on mining,timber companies focus on logging and making lumber, and manufacturing companies focuson different types of manufacturing from making component part stodoing final assembly.This way people in each company can keep up withr apid rates of change and keep learning the new skills needed toc ompete in their particular business.

Where companiesonce routine lyran their own ware housesor operated their own fleet of trucks,they no wha vetocon sider whether those operation sarereally acore competency or whe ther it is more costeffective to out source those operations to othercompaniesthat make logistics the center of their business.Toachievehighlevelsof operating efficiency and to keep up with continuing changes in technology, an automobile companies need to focus on their corecompetencies.It requires this kind off ocusto stay competitive.

Aligning the supply chain with business strategy is a critical process. A company's supply chain in automobile industry is an integral part of its approach to the markets it serves. The supply chain needs to respond to market requirements and do so in a way that supports the company's business strategy. The business strategy an automobile company employs starts with the needs of the customers that the company serves or will serve. Depending on the needs of its customers, a company's supply chain must deliver the appropriate mix of responsiveness and efficiency. A company whose supply chain allows it to more efficiently meet the needs of its customers will gain market share at the expense of other companies in that market and also will be more profitable.

For example, let's consider two companies and the needs that their supply chains must respond to. The two companies are Bajaj Auto and Tata Motors in Pune, which is a part of automobile Industry. The customers who shop at MarutiUdyog have a different set of needs and preferences from those who shop at Tata Motors distributors.

The MarutiUdyog customers are looking for convenience and not the lowest price. That customer is often in a hurry and prefers that the repair and maintenance close by and has enough variety of vehicles so that they can pick up one of them. The Tata Motors customers are looking for the lowest price. They are not in a hurry and are willing to drive some distance and buy a vehicle in o₹ler to get the lowest price possible.

Clearly the supply chain MarutiUdyog needs to emphasize responsiveness. That group of customers expects convenience and will pay for it. On the other hand, the Tata Motors supply chain needs to focus tightly on efficiency. The Tata Motors customer is very price conscious and the supply chain needs to find every opportunity to reduce costs so that these savings can be passed on to the customers. Both of these companies' supply chains are well aligned with their business strategies and because of this they are each successful in their markets. Likersays there are three steps to use in aligning the supply chain with your business strategy. The first step is to understand the markets that your company serves. The second step is to define the strengths or core competencies of your company and the role the company can or could play in serving its markets. The last step is to develop the needed supply chain capabilities to support the roles your company has chosen.

Understanding the markets your company serves is very essential for grand success.Begin by asking questions about the customers. What kind of customer does your company serve? What kind of customer does your customer sell to? What kind of supply chain is your company a part of? The answers to these questions will tell you what supply chains your company serves and whether your supply chain needs to emphasize responsiveness or efficiency. Chopra and Meindl have defined the following attributes that help to clarify requirements for the customers that automobile company serve. These attributes are placed in the ground for automobile industry as:

i)The quantity of the spares or vehicle needed in each

lot—Do your customers want small amounts of spares or will they buy large quantities? A customer at a vehicle spare part store buys in small quantities. A customer, when he is retailer and intends to purchase for sale buys in large quantities.
ii)The response time that customers are willing to tolerate—do the customers buy on short notice and expect quick service or is a longer lead time acceptable?
iii)The variety of products needed—Are customers looking for a narrow and well-defined bundle of products or are they looking for a wide selection of different kinds of products?
iv)The service level required—do the customers expect all products to be available for immediate delivery or will they accept partial liveries of products and longer lead times?
v)The value of the product—how much are customers willing to pay? Some customers will pay more for convenience or high levels of service and other customers look to buy based on the lowest price they can get.
vi)The desired rate of innovation in the product—how fast are new products introduced and how long before existing products become obsolete.

4.CONCLUSIONS

“Asupplychainisanetworkoffacilitiesanddistribution optionsthatperformsthefunctionsofprocurementof materials,transformationofthesematerialsintointermediate andfinishedproducts,andthedistributionofthesefinished productstocustomers.”(Ganeshan and Harrison, 1995) Understanding the markets your company serves is very essential for grand success.Aligning the Supply Chain with Business Strategy is a critical process.Effectivesupply chainmanagementrequiressimultaneousimprovementsinbot hcustomerservicelevelsandtheinternaloperatingefficiencies ofthecompanies like Tata Motors or Toyota. Mr. Duggal in his book (Duggal,2006) remarks that “the Customer service atits most basic level mean sconsistently high order fill rates,high on- time delivery rates, and a very low rate of products returned by customers for what ever reason.Internal efficiency for organization sina supply chain meansthattheseorganizationsgetanattractiverate ofreturnon theirinvestmentsininventoryandotherassetsandthosetheyfin d ways tolowertheiroperatingandsalesexpenses”. Insteadofverticalintegration, automobile companies nowpractice“virtualintegration.”Companiesfind other companieswhotheycanworkwithto perform the activitiescalledfor intheirsupplychains.Howa company definesitscorecompetencies and how it positions it self in the supplya chain it serve sisone of the most important decision sitcan make.

5.LIMITATIONS

The study focus is restricted geographically automobile companies in Maharashtra (India) only.

6.FUTURE WORK

The drivers of supply chain for automobile can be identified; the interaction among the drivers can be analyzed using appropriate modeling techniques. Execution strategy can be developed for successful implementation of supply chain using tools like Quality Function Deployment (QFD), Balance Score Card and HoshinKanari policy deployment etc. Research work in this area may act as a roadmap for successful supply chain implementation. It would be a light house to supply chain practitioners and researchers.

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