

Challenges faced by the automotive industry management essay



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The entire business scenario is changing and companies are operating globally to reach customers all over the globe. The advancement in technology, increase in customers' expectation and globalization are some of the challenges industries are facing today. Automobile industries, like other industries should take right decision at right time to perform better and remain competitive in market. This report examines how Ford motor company, one of the major players in automobile industry integrates its entire supply chain with technology by making better strategies. Similarly, the report seeks to find out how Ford has been able to improvise its upstream and downstream activities in supply chain so that it could gain cost effective operations and fulfil the customers' demand.

TABLE OF CONTENTS

Executive Summary

TOPICS PAGE NO.

INTRODUCTION 1

BACKGROUND OF THE COMPANY 1

HISTORICAL CHANGES IN OPERATIONS 2

FORD'S GLOBAL OPERATION 3

SUPPLY CHAIN STRATEGIES 4

LOGISTICS AND THE SERVICE PROVIDERS 5

ROLE OF IT IN INVENTORY MANAGEMENT 9

PERFORMANCE IMPROVEMENT 10

CRITICAL ANALYSIS 10

CONCLUSION 11

BIBLIOGRAPHY

APPENDICES

LIST OF FIGURES

Global operation of Ford 3

Hierarchical structure of Ford Supply Chain Strategy 5

Ford's Supply Chain 7

Inventory turnover ratio 8

LIST OF TABLE

Automated Brands Operations 3

Introduction

According to Hau L. Lee, Harvard Business Review “ The best supply chains aren’t just fast and cost-effective. They are also agile and adaptable, and they ensure that all their companies’ interests stay aligned”. This quote even more broadens the meaning of what the better supply chain is.

“ Logistics management is that part of supply chain management that plans, implements, and controls the efficient, effective, forward and reverse flow and storage of goods, services, and related information between the point of origin and the point of consumption in order to meet customers’ requirements”,(Jonsson, 2008, p 4).

Logistics and Supply chain management is a crucial part of entire business functioning. Better supply chain enables company to manage inventory, reduce wastages and manages cost. Companies have been keen in finding best supply chain model for years and yet have not able to discover the exact best fitted model for their company. There is nothing called best and perfect because situation and environments are ever changing. Also, risks in any process of business operations cannot be eliminated because sometimes they are uncontrollable to a particular business firm. The truth is; in order to remain competitive in market with efficient internal operations as well as satisfy customers the supply chain part should be continuously monitored

Company Background

Ford Motor Company was founded by Henry ford Sr. in 1903. Its head office is located in Dearborn, Michigan, US. “ With about 198, 000 employees and about 90 plants worldwide, the company’s automotive brands include Ford,

Lincoln, Mercury and Volvo.”(Annual report 2009, Ford motors) . Ford motors sell cars and truck globally. In North America the cars, trucks and the parts are marketed by retailers and in other areas through distributors and dealers. Not only the sales of cars and trucks are what the company does, it provides financial service through Ford motor credit company. As per the annual report 2009, Ford was able to earn \$ 2. 7 billion net income.

For the company time line from 2000 to 2008 refer to appendix 1.

Historical changes in operations

At its early stages Ford Motor Company relied heavily on mass production and vertical integration.

According to National Science Foundation Report, “ The Rouge facility was the ultimate expression of mass production and “ vertical integration,” in which a company tries to cushion itself from the vagaries of the market by owning or controlling virtually every facet of its business, from the mines that provide the ore to the factories that make the glass. Raw materials-iron ore, coal, and rubber, all from Ford-owned mines and plantations-came in through one set of gates at the plant while finished cars rolled out the other.” (www. nsf. gov).

It perhaps shows how the companies operated in early 1920s. Ford owned all the operational activities from mining to supply of cars. Later on, during 1970s the Japanese motor company adopted new ways of doing things. They performed those activities in which they have higher comparative

advantages and purchased those materials in which their comparative advantage is low. Also they worked on reducing the inventory cost by <https://assignbuster.com/challenges-faced-by-the-automotive-industry-management-essay/>

directly buying from suppliers. This led American companies who relied on vertical integration to change their way of doing things sooner or later because Japanese were producing quality cars at cheaper price. Finally, companies began to rely on their core competencies and rest outsourcing. None of the companies are 100% self sufficient and efficient so they should outsource some of their process and activities partnering with external bodies.

Similarly, Henry Ford was the pioneer to initiate the concept mass production but the concern was more on mass consumption. Henry Ford believed that if there is no consumption then there's no reason in producing cars in larger quantities. So, he raised the basic pay rate to \$5 from \$ 2. 34 for 8 hours shift. This was a revolutionary action in 1920s.

Ford's global operation

Fig 1: Global operation of Ford

File: Ford Motor Company global locations. png

(Source: Google image)

The map above describes the Ford plants worldwide. The dark area suggests the existence of the plant. Still African countries are not conquered may be because of lower income of people over there. In Europe still some of the countries Ford plants are not located. Unequivocally, Ford has its global network operating in all major parts of world.

Table 1: Automated Brands Operations

Automated Brands

Ford

Lincoln

Mercury

Volvo

Dealers

11827

1427

1871

2341

Markets

110

30

20

103

Retail Vehicles Sales

4, 765, 528

118, 462

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129, 839

385, 185

Sales Mix

North America

42%

98%

94%

22%

Europe

38%

65%

Asia- pacific

9%

11%

South America

9%

Rest of the world

2%

2%

6%

2%

(Data collected referring to Sustainability Report 2008/9, Ford Motor Company)

Note: The dealer that sells more than one brands are counted under more than one brand

The table shows that Ford Brand has wider and successful sales mix as well as market share globally. Referring to the table it seems Ford brand out of its portfolio sales more cars in most of the places of world. Lincoln brand has lowest sales number and 98% percentage of its market is North America.

Supply chain Strategies

“ Initially, lean paradigm existed in market for example, the Model T Ford allowing market penetration to be achieved on the basis of a “ penetration” pricing policy (i. e. low cost production). With the growing market and increase in customers demand the agile paradigm replaces it. So, Ford in the 1980s and 1990s put forward a theoretical ten million plus combinations of models and options. Now, however, as we enter the third millennium we see the emergence of global supply chain strategies in which Ford seeks to achieve local differentiation whilst at the same time standardising by common platforms”. (www. engsci. aau. dk)

With the launch of model T cars, company didn't provide any variants. It adopted simply push strategy. But, things are never same; later on during company felt the need adaptation and differentiation so began customizing some aspects with standardising major core competencies. The company works on Leagile supply chain strategy. The cars are manufactured at a location and shipped towards next location near to the end consumers where some they can be configured to some extent as per customers' requirement. The demand for cars is complex to predict though the rough sketch can be drawn and it has longer replenishment lead times.

Customers always want something new and more. Company seeks to adjust with customers' ever changing demand considering cost pressure. Ford has transformed its operation from rigid, traditional and bureaucratic to open and collaborative type. It integrated its suppliers, employees and customers and let itself open to discuss and generate ideas in each steps of functioning.

Figure 2: Hierarchical structure of Ford Supply Chain Strategy

The logistics planning life cycle of Ford involves three major stages namely strategic, tactical and operational. At the strategic level sourcing decisions are made. At this level things like currency volatility, trading, market development is analysed then this is passed further to tactical level where planning for logistics is done and decisions of strategic level managers are forwarded to operational level. Then, at operational level the requirements are suggested to the logistic providers Penske, Autogistics etc.

“ The key initiative close to the executive team’s heart is Ford’s OTD (Order to delivery) process. OTD is the supply chain process that comprises product engineering through vehicle manufacturing and distribution. The goal of being more consumers oriented requires Ford to shorten the delivery cycle from the time a customer places an order to the time the vehicle is actually delivered to a dealer and the owner takes possession”, (www. cisco. com).

Ford showroom sales its products in two ways. First the customers visit the showroom and select the model of existing car they like to purchase and buy it. Second, Customers can place the order as per their need and requirement so that the car will be manufactured accordingly.

Logistics and the Service Providers

The physical logistics operation of Ford is efficient because it coordinates both the upstream and downstream activities properly and safely. Ford relies on two sets of freight network namely inbound and outbound. The inbound function is very integrated. Ford carries it’s some of the major parts itself rather than getting delivered from suppliers to excess the larger portion of control. The materials are collected at a single place and then redistributed to other location nearer to final location or plant. Trucks are used for redistribution in most of the cases. “ We are also working to maximize the use of rail, river and short sea transport for inbound parts and materials, to reduce fuel costs, emissions and road congestion” (Sustainability report 2008/9, Ford Motor). Ford has said that it will use air mode of transportation very less because of its impact on environment and having relatively higher cost. As part of outbound logistics Ford is highly concerned and is planning to make the best use of rail services and sea-based transports so that the use <https://assignbuster.com/challenges-faced-by-the-automotive-industry-management-essay/>

of long trucks will be decrease. This will ultimately result in fuel consumption and environmental protection

The logistics service providers of Fords are Penske Worldwide Logistics, FedEx and Autogistics. However, the major partner for inbound material movements is Penske.

According to Grant E. Belanger, Director of Material Planning and Logistics after partnership with Penske said, “ By doing so, we were able to achieve a significant improvement in inventory runs, cube utilization, and visibility of material flow. Meanwhile, we gained access to competitive logistics and supply chain technology through our relationship with Penske.”

“ As lead logistics provider, Penske managed the process of placing increasingly stringent requirements on carriers, who were ultimately required to meet established route pick-up and delivery windows within 15 minutes of scheduled time. The carriers were required to have on board 2 way communications and provide status updates via EDI.”, (www.worldtrademag. com). Penske played a major role in making the efficient and effective logistics process of Ford by providing single point of contact for all the logistics operations.

“ Ford’s physical logistics operations provide the safe and efficient transport of parts from our supply base to our manufacturing plants (our “ inbound” freight network) and of finished vehicles from the end of our assembly lines to our dealerships (our “ outbound” freight network). Although logistics account for a relatively small percentage of total vehicle life-cycle emissions,

we are working hard to maximize the efficiency of these operations to reduce both costs and environmental impacts.” (www. ford. com)

Ford’s material planning and logistics department which designs and operates global transportation networks along with better and qualitative packaging to guard materials in transit manages both inbound and outbound freight network.

Figure 3: Ford’s Supply Chain

The diagram above describes Ford’s Part Supply and Logistics as a major activity in Supply Chain. It shows how the activities are sequenced in an order from suppliers to dealers. First, the suppliers send the materials and parts to the packagers from where it is sent to redistribution centre. Then it’s further sent to various regional distribution centres from where the dealers receive the final consignment. In between these processes other activities like allocating materials, shipping etc occurs.

In order to obtain information about the inventory and how many times Ford sells its inventory within a year, ‘ Inventory turnover ratio’ can be a useful measure. The diagram below summarizes the ratios from 2005-2009.

Figure 4: Inventory turnover ratio

Year

2005

2006

2007

2008

2009

Inventory turnover ratio

13.8

13.6

13.2

13.8

14.2

We can see that the ratio is least in 2007 which suggest that there were overstocking during the year. In the year 2007 company had more stocks compared to other years. Also there can be deficiency in product line and marketing. Similarly, in 2009 the ratio was highest which indicates improvement in inventory management. Not all the times, higher ratio is good indicator. Sometimes it may mean inadequacy in inventory level which will decline sales. Still 14.2 times ratio is not a satisfactory one compared to industry ratio. So, Ford motor should emphasize more on marketing aspects and bringing visibility in supply chain

Role of Information technology in Inventory management

“ Both supply chain and it owe their development to the concept of business processes. They link functional activities to accomplish a mission of meeting the needs of the ultimate customer”, (Donald, 2003, p 152)

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For a big company like Ford Motors it's not an easy task to reckon what materials they have and when they have in how much quantity. One single mistake to identify its materials can have impact on entire process. In order to ease the entire process and manage inventory level Ford had to rely on Information technology. Also finding a particular car from parking lot with so many cars is time consuming as well as costly. After 2001 Ford implemented Vehicle Inventory Management System (VIMS) for its inventory management which tried to eliminate these hassles to some extent.

“ By applying VIMS, we can now track exactly which vehicle we want or need in a matter of seconds. Before we began using VIMS, the same process could take longer time.”

(Al Ver, Ford Motor Company, VP, Advanced and Manufacturing Engineering, www.aimglobal.org)

Similarly, the technology has helped the line employees to get new material supplies as the technology records which materials are going to be finished soon.

Ford was one of the first companies in automation industry to pioneer RFID technology which piloted in F150 trucks in Dearborn, Michigan. TNT a global logistics company was the one to provide this service to Ford. The technology was significant in terms of better visibility in supply chain, minimize inventory and smooth functioning of activities in supply chain.

“ As part of the Ford/TNT initiative, active (battery-powered) RFID tags and a network of wireless locating sensors supplied by WhereNet was set up to

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provide real-time location and status information for thousands of mobile racks shared between the assembly plant and TNT's North American material-sequencing centre (MSC). Devices located at MSC's dock doors trigger the active RFID tags to identify the dock door, trailer number and load ID when a rack filled with parts is loaded onto a truck bound for the Ford assembly plant.",(www. rfidjournal. com).

Thus, the use of RFID has helped in data collection process at various stages like loading and unloading and confirming the ready-to ship status. Also, one of the advantage is it alerts materials position that it's in route so that it will serve advance shipping notice. Use of this has really made significant changes in Ford's operation.

Performance Improvement

Ford Motor's changes in supply chain have enabled to improve the overall performance. Considering the technological dimension, after ford used RFID technology or VIMS the cost reduced increasing efficiency. The company has reduced supplier numbers, cost in supply chain with the help of technology, improved the delivery, reduce lead times and the procurement cost, flexibility etc which are the major indicators of improvement in supply chain. The flow of information and structural coordination has also been the major contributing factor for performance improvement. Reduction in cycle times may be one of the key performance measures. Ford through the use of E-commerce has been able to achieve it. Most importantly, fords embraced the significance of 6-Sigma, in reducing wastages and improving quality. " Since 6-Sigma's inception (1999), Ford has saved about \$1bn in waste elimination globally. Year-over-year savings worldwide were \$359m last year." <https://assignbuster.com/challenges-faced-by-the-automotive-industry-management-essay/>

(<http://www.ikmagazine.com>). As mentioned in 2002 annual report, the 6-Sigma project has saved more than \$ 675 million in 2002, which is a considerable amount.

Critical Analysis

There is no doubt that Ford Motor Company is one of the global leaders in automobile industry. It has confronted various ups and downs from the history to present. But, still in few aspects of operation management the company needs to improvise and change as per the need of time. Ford exercises rigid communication model inside and outside the organization. Still the challenge remains in integrating suppliers in database and providing up to date information. Also, the supplier base is large which should be consolidated otherwise coordination won't be effective. Though company has announced to reduce numbers of suppliers still it's not able to achieve the target. Ford should indentify its major suppliers and integrated them in planning and designing process. Also, supply chain should be shortening by identifying closest location for distribution of materials and parts. Introducing fresh faces in operations and generating ideas to improve the operation can be advantageous rather than having same old faces controlling all the major areas. Ford should seek to find the country with relatively less costly production possibilities and lower labour cost.

Conclusion

Ford motor company has a strong history, present is comparatively good in current automobile industry which is badly affected by economic depression and hopefully future will be even more golden as it is dedicated to find the ways to improve. While other automobile companies in America like General
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Motors were bailed out by government during 2008 recession, Ford confronted the recession without taking any bail outs. This shows that the market position is strong and the stakeholders are confident about the company and its popular product line. The global expansion of its plants and increasing global demand has resulted Ford to be more flexible and open in terms of operation and communication. The advancement in technologies and merely the use of RFID technology has made the functioning effective and smooth with low cost. Better integration of upstream and downstream activities in supply chain along with technological innovation will drive Ford to reach the peak of success.

(Word Count: 2852 words excluding tables and diagrams)