

***INNOVATIONS-  
A COST MANAGEMENT STRATEGY FOR MANUFACTURING SECTOR  
IN INDIA***

**By Neetu Kapoor**

**Abstract**

Innovation is a word normally suitable to science and technology. In Business dictionary innovation is defined as the process of translating an idea or invention into goods or service that creates value or for which customers will pay. Innovation in manufacturing sectors can be broadly classified under four facets i.e. innovation in supply chain management, innovation in production process, innovation in technology and innovation in management. This research paper is an attempt to identify the relation between innovation and cost management strategy in manufacturing sector. It is observed that innovation leads to reduction in cost, better product, capturing of untapped market leading to increased turnover and more profits to the owners. Innovations keep the organisation thrilled and going, to meet the cut edge completion. As per the survey it was identified that innovation has developed as a cost management strategy to survive in the global village.

**Keywords**

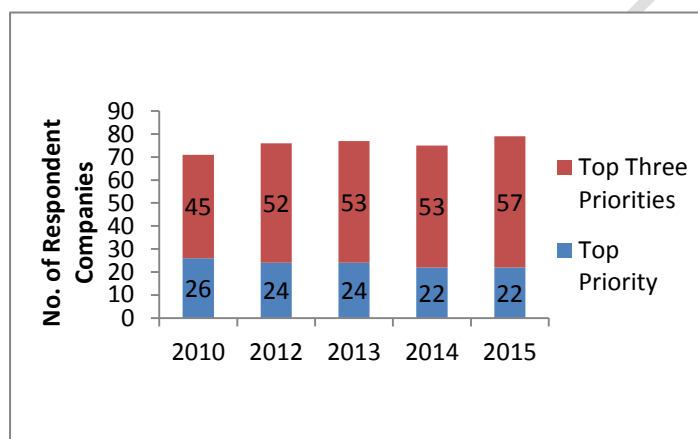
Innovation, supply chain management, technology, strategy, process.

*Innovations distinguish between a leader and a follower.*

----- *By Steve Jobs*

### Introduction

Innovation in manufacturing sector is defined as any change in the business, which generates monetary benefits directly or indirectly. Innovation is the pre-requisition for growth in any sector. To survive in a global competitive world everyone looks for something new to make its product in race for a longer period. National Knowledge Commission of India has defined innovation as by which varying degree of measurable value enhancement is planned and achieved in any commercial activity. Innovation in manufacturing sector means introduction of new method or change in technology that could result in better product or lower cost. It leads to economic growth and development. Innovation is gaining importance as management considers it as the top most strategy to survive the global competitiveness which can either lead to cost leadership or differentiation strategy or focus on any of them to manage its cost in the long run. According to the Global Innovation Survey of Boston Consulting Group, innovation has been ranked among the top three strategies by most of the companies.



Source: BCG Global Innovation Survey 201 1

In manufacturing context, innovation can be said as something that is newly introduced at any level of value addition entailed in the production process and the change is successfully commercialised.

### An Overview of Manufacturing Sector

Manufacturing sector plays a pivotal role in the growth and development of Indian Economy. This sector has witnessed a contribution of 15%-16% to GDP of India in the year 2015 and it is expected to reach to 25% by the year 2025 (Source: IBEF). Manufacturing sector fosters multiplier effect on employment as each job in manufacturing sector creates 2-3 jobs in services sector (Source CII). Currently this sector has been creating 12% of total employment of our country which is expected to rise to 90 million by the year 2025 (Source: IBEF). The trade account of our country cannot be balanced without healthy manufacturing sector. Manufacturing sector stands to be the prominent innovative sector of India and plays critical role in research and development and innovation. "Manufacturing adds value, creating more jobs than any other sector, driving innovation through out every segment of our society and delivering consumer solutions. All of which are the keys to long term, sustainable economic growth," said Andrew Liveris, the CEO of World Economic Forum's Manufacturing for Growth Project. According to the International yearbook of Industrial Statistics prepared by

United Nations Industrial Development Organisation (UNIDO), India is sixth largest manufacturer in the world.

### **Need of the study**

Innovation is the only tool that helps the company in surviving in the global competitive world. Innovation means huge investment of resources. However, it was observed that innovations can also help as a cost management strategy to meet cut throat competition. It was essential to identify the areas where innovation can be a tool for cost control, efficiency, and better utilisation of resources under the constraint of investment. The paper tries to identify the facets of innovation in the manufacturing sector and the companies who have practiced the same.

### **Objectives of the research**

1. To know the major area in which innovation can be made.
2. To identify the companies whose innovation has helped to be placed better in the market in terms of revenue and profit.

### **Research Methodology & Data Collection**

The methodology adopted to study the objectives of the research is the descriptive method which is based on secondary data collected through various books, journals and internet.

### **Findings**

The innovation in manufacturing sector can take place under different facets leading to increase in customer demand, reduced cost, better utilisation of resources, improved product quality, improvement in technology or design of the product and streamlining the supply chain management. Companies having innovation as the top strategy would have competitive edge to its competitors. The innovation in manufacturing sector can be in different phases.

### **Innovation in Supply Chain Management**

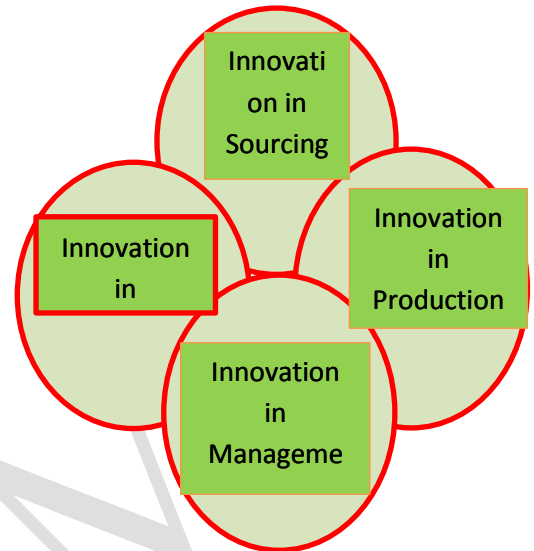
Raw material constitutes 40% of the total product cost. Sourcing the material from the right supplier at the right price and right time will significantly help in reducing the material cost. Any innovation or change in choosing the supplier having direct or indirect effect in reducing the cost will make the company more cost competitive. Through Economic order quantity (EOQ) one can calculate the quantity to be procured at the minimum cost.

Fig 1.1 Facets of Innovation in Manufacturing Sector

### Just-in-time purchasing or lean purchasing

JIT purchasing is a Japanese Philosophy which was conceived by Toyota. JIT purchasing means procuring the material at the time of consumption thereby minimising the wastages, handling and storage costs. However, this philosophy is greatly dependent on the strong relationship between the supplier and purchaser. Some of the leading innovations of supply-chain management in manufacturing sector are the following:

- ❖ **Introduction of E-Choupal by Indian Tobacco Company (ITC):** E-Choupal is a tool to empower the farmers with internet facilities. It act as a connecting link between company and farmers eliminating the middle man. E-Choupal network includes 6500 centres covering 40,000 villages. It helped in reduction of cost as there were no middleman and company set their warehouses in the villages itself reducing the transaction cost and logistics cost.
- ❖ **Amul or Gujarat Cooperative Milk Marketing Federation (GCMMF):** The federation has established efficient supply chain management system which has helped to lower down the cost making it more cost competitive. It is the largest co-operative of the world. The co-operative has over 3 million members from over 15,000 villages in the country.
- ❖ **Madras Cement's Alathiyur:** The plant uses bio energy by burning coffee husk and cashew nut shells, and saves INR 80 million every year. Cement players are sourcing energy from alternative sources to reduce cost.



### Innovation in Manufacturing Process

Innovation in a manufacturing process leads to modification in the technique of production or may lead to change in the whole process of production. Innovation in manufacturing process can be by adoption of Lean Innovation, Sustainable Manufacturing, Waste Management, Bio-manufacturing, Additive manufacturing or Operational excellence tools such as Six Sigma, Theory of Constraints(TOC) etc. Few illustrative innovations in Indian manufacturing sector can be stated as follows:

- ❖ **Ambuja Cement:** Ambuja is the largest exporter of cement in India for last 15 years. Its continuous innovation helped it to meet the market dynamics effectively. Cement manufacturing units are generally located at the place where limestone is easily available as transportation of limestone is very difficult. To overcome this shortcoming Ambuja introduced the concept of split plant which enabled the initial production of cement and made it convenient to transport the raw material to the market location through the barely used means of transportation i.e. coastal water

ways. This helped it in overcoming the shortcoming of transportation. Split Plant concept enable the company to use the cheapest means of transportation i.e. water transport to help in cost reduction. It also reduced its power cost (25-30%) by setting up its power plant working on the best coal exported from South Africa and furnace oil from Middle East. The extra power generated was a source of income through National Grid. (Source: Ambuja Cement Website).

- ❖ **Mahindra & Mahindra (M&M):** It introduced a new process while developing its multi-utility vehicle Scorpio called Integrated Design & Manufacturing. Under this process it was able to develop the design with the help of supplier. Even the tier-one suppliers were involved in designing Scorpio. The involvement of the supplier helped M&M in reducing the investment cost of setting up the plant all over the world.

### **Innovation in Management**

The adoption of new management principles to attain some management objectives is called management innovation. Introduction of change management to improvise any business activity is management innovation. Management can create a culture of innovation by encouraging employees to come up with new ideas and having a participative style of leadership. Proper training and encouragement should be provided to the employees that innovation become the base for the growth of the company. Illustrations of management innovation are mentioned under:

- ❖ **Brakes India Limited:** The Indian automotive manufacturer Brakes India Limited transformed the management approach for its first division and attained success. The top management's approach to attain Total Quality Management (TQM) was to adopt active leadership roles ensuring that the company's vision was passed down the hierarchy line clearly and encouraged employee participation through various schemes. One of the measures was the "suggestion scheme", wherein an employee's suggestion was implemented and rewarded with special payments. This innovation led Brakes India Limited to become a recipient of internationally recognised awards for excellence in quality such as the Deming Application Prize and TPM Excellence Award in 2003.

### **Innovation through Technology**

With new technologies coming up in the world, it is necessary for the manufacturing company to develop such technologies that could take care of all the class of people. The population of India is divided as 30% urban and 70% rural. In order to capitalise the Rural market and middleclass of the Indian society new technologies were invented or modified in such a manner as it suit the pockets of Lower section of the society.

Sensing and process control, Digital manufacturing technologies, Nano-manufacturing are some of the innovations that can be brought about in the use of technology. Many manufacturing companies innovated technologies to capture the unreached part of the market, some of which are quoted below:

- ❖ **Godrej:** Godrej appliances came up with Chottukool to reach the rural market. Chottukool is the refrigerator which was 355% cheaper than the cheapest refrigerator

in the market consisting of 20 parts as compared to 200 parts in the normal refrigerator. It had an feature of running on battery if there is no power and its high insulation helped it to remain cool for long hours without power backup. Thus the technology was designed to suit rural India.

- ❖ **Tata Nano:** Ratan Tata thought of manufacturing a car for the lower middle class people and was known of the fact that they won't be able to afford the cars available in the market. He discussed his idea of manufacturing the cheapest car of the world. The engineers invented a design which reduced the cost of car to Rs.100,000. They came up with the design of replacing an iron body of the car with fibre, reduced size of the engine that allowed its placement under the rear seat, thus permitting a smaller-sized car; and positioning of the instrument cluster in the middle unlike in front of the driver usually.

### **Conclusion**

Innovation is the backbone for the survival and growth of any industry. Industry and people in the organisation remains vibrant through innovation. Innovation kept Indian manufacturing sector on with global pace. It has helped manufacturing sector to harness the diversity in the Indian market. The innovation in different facets of manufacturing sector has made the industry cost competitive and the benefits have been surpassed to the customers. The innovations help to fight the fierce competition in the market and make the organisation cost competitive. It is a continuous process and not only a milestone to be achieved. India is a pool of skilled manpower and adds 500 PhDs, 2,00,000 engineers and 3,00,000 technically trained graduates on annual basis (Source IBEF). There are more than 1500 research institutions in our country. The focus should be on skilled manpower and identifying the latent talent who will form a strong innovative team of any organisation in future and the industry revamps with more innovative ideas. Currently India is contributing 2.2% of total global manufacturing output (Source CII). Innovations will make industry more cost competitive and with the help of efficient innovations Indian manufacturing sector will make significant foot prints in the global area.

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### **Bio**

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