

## A Report on Information Technology in Supply Chain Management

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### Abstract

The Information Technology (IT) plays a major role in today's world, where the company deals with Supply Chain Management (SCM). With the help of information technology, it helps to solve the issues and face the challenges that enhance with supply chain management. With the help of information technology in supply chain it helps us to analyze the information in the organization and execute on it to improve the performance of the supply chain. It helps to achieve organizational competitiveness, with higher services, maintaining the level of inventory and supply chain cost. The virtual Supply chain is going rapidly with the help of IT software such as bar coding, Electronic Data Exchange (EDI), Enterprise Resource Planning (ERP), E-Commerce, Radio Frequency Identification (RFID), Decision Support System. With the intervention of Information Technology in supply chain help us to reduce the time consumption and finish the works at the earliest, providing various benefits to manufacturer and retailers. Thereby monitoring inventory, tracking the information, shipping details, providing end to end details to the supplier and to the final customer, and by providing e-bill invoices to the customers. Therefore, the purpose is to help the supply chain with the invention of Information Technology.

**Keywords:** Supply chain, information technology, benefits to manufacturer & retailer

### Introduction of Supply Chain

The supply chain is the process of transferring product or services from the place of manufacturing to the place of consumers. Some product or services reach the consumers directly from the manufacturers without any intermediaries. Whereas some product or services are transported with the help of intermediary such as distributor, wholesaler, retailer to reach the final consumer. Managing the movement of product from the manufacturer to the customer at the right place, right

time and with the right product is known as Supply Chain Management. Where these products can be carried out through roadways, railways, seaways or airways depending upon the type of cargo we transport. In earlier days the process of supply chain was difficult since it deals with several procedures, process and it can be done only with the help of human intervention. Nowadays, with the help of Information Technology it has reduced the work of people and time consumption, making it easier and user friendly.

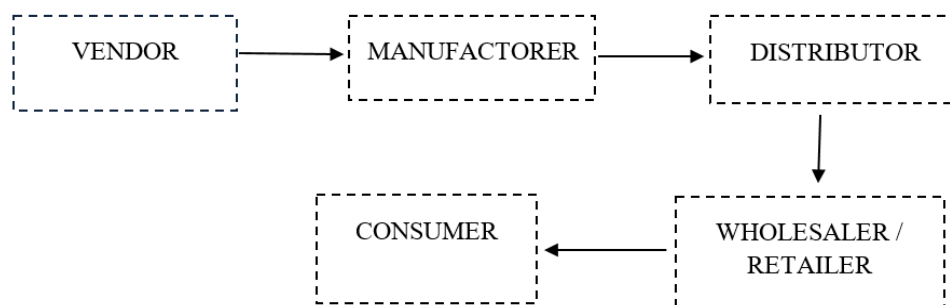


Fig 1: Process cycle of supply chain

### Review of Literature

As we shown in previous section, the supply chain consists of all the activities and process associated with the flow of goods and information from the raw material stage to the end consumer of the product/service. The integration of activities and processes among the members of the supply chain is frequently referred to as Supply Chain Management (Handfield and Nichols, 2003) <sup>[18]</sup>.

The field of Supply Chain Management (SCM) was born to manage the flow of information, products and service across a network of customers, enterprises and supply chain partners. (Russel and Taylor, 2009) <sup>[20]</sup> and since its introduction as a concept in the 1980s, supply chain management has undergone significant changes and extensions. Lambert and Cooper, (2000) <sup>[21]</sup> believe the identification of chain members, critical to link with, and the processes needing linkage, are part of the implementation of supply

chain management, aiming at creating the most value for the entire supply chain network. As seen by Chandra and Kumar (2000), supply chain management, turns out to be a way of improving competitiveness through the reduction of uncertainty and the enhancement of customer service. In addition, Mentzer *et al.*, (2001) [22] postulate that supply chain management is the strategic managerial tool to effectively manage the total flow of inventory from the ultimate supplier to the ultimate customer, which is also important in building capabilities for customization which promises sustainable customer satisfaction.

### It in Supply Chain

In today's world, Information Technology plays a significant and important role in Supply Chain Management or SCM. In this system where the business process are fully digitalized, thereby reducing the employers and help the organization make better business decision. With the help of Information Technology, it helps us to make proper analysis and maintenance of inventory i.e. avoiding excess stock or stock outs, and optimum performance in supply chain. Through Information Technology in supply chain, it enhances the decision makers to plan, manage and to achieve their goals in manufacturing, inventory and so on. With the invention of technology in supply chain it makes the business process easier, reducing paper works, and time consumption. It helps in better efficiency and effectiveness in the business organization. Through Information Technology in supply chain, it helps to satisfy consumers needs and requirements. Some of the technological software are:

- **Bar Code Scanner:** It is Price scanner, used for scanning the product and helps to maintain stock in the warehouse.
- **Electronic Data Exchange (EDI):** Transformation of information from vendor to the retailer or to the consumer.
- **Enterprise Resource Planning (ERP):** It is used to manage the business process, activities and accounting in the firm.
- **E-Commerce:** It is the process of buying or selling product or services through online.
- **RFID:** Radio Frequency Identification is an electromagnetic field used to track the tags attached to the objects.

### Objectives

- Finding how Information Technology makes the supply chain management works easier.
- Benefits that manufacturing and retail industry earns with the help of IT in Supply chain, thereby to gain profit in the business organizations.
- Utilizing IT, suppliers enhance a strong relationship with the intermediaries and to the final customer, maintaining a loyal customer and maximising share in the market.

### Manufacturer's Benefit from it

Information Technology in the manufacturing industry it makes the process of manufacturing easier and faster and are more automated enhancing speed delivery. It involves lower inventory investments and providing better scheduling and planning i.e. with the help of Advance Planning and Scheduling (APS) software and to have good market information. It benefits with closer customer ties and preferred status. With information technology in manufacturing, it maintains a strong relationship between the supplier and customer, increasing the speed of the work,

efficiency and flexibility in the manufacturing process. Therefore with the development of information technology in manufacturing it helps the manufacturer in planning, scheduling, designing, maintaining raw material, processing, marketing and production. Hence it helps the manufacturer to make better decisions for their business organisation in order to hold share in a competitive market.

### Retailers Benefit from it

Retailers or wholesaler are the person who face the final customer in the supply chain. Nowadays the retailing industry are also digitalized that help them to manage the inventory and automation in reordering the stock before it gets out of stock, providing e-invoice to the retailers and report generation. It helps in tracking the expiry date of goods before handing over to the final customer thereby increasing customer satisfaction. Through IT in supply chain payments are done through online transaction that benefits the retailers. They use fewer stock out with higher inventory turnover with better market information and optimal product mix. It involves lower administrative replenishment cost. The use of innovative technology in retail as a result of specialisation in IT sector involving latest development, radio frequency technology, computer system and internet.

### Benefits of Supplier with the Utilization of it

Supplier is the first person who's involved in supply chain. Supplier receives the real time information from manufacturer, distributors, retailer or the ultimate consumer. Supplier and manufacturer works together to avoid delay in production because of insufficient raw materials. With the advent of Information technology it helps supplier to monitor inventory, and deals with consumers demand and future enhancement. Reducing storage and transportation cost in warehouse. It analyzes the inventory level without leaving any excess stocks or stock out. Minimizing the lead time with help of information technology. Reaching out the customers at the earliest on or before the due date, this enhances in making customer loyalty.

### Suggestions

- With the utilization of Information Technology in supply chain it races up the business enhancing with higher profitability, efficiency and effectiveness in the organization.
- Minimizing financial losses, thereby reducing the transportation cost and increasing the transparency. Eliminating wastage of the goods and preventing fraudulent.
- Suppliers must maintain a strong relationship with the manufacturers and customers thereby to cope up with the changing trends according to the technology, to meet the customer's needs and requirements.

### Conclusion

With the advent of digitalized software in supply chain helps in maintaining the customer demand and managing the resources. Large retail companies are managed with advanced technology, reducing the risk of the workers. Therefore. it helps in satisfying the customer and also achieving the goal of the company.

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