



Applications of Information Technologies in Management of Supply Chains and Logistics - A Study

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1.0 Introduction

Information technologies are entering in many fields day by day. The Applications of Information Technologies are increasing day by day. The areas of management of supply chains and logistics in which information technologies applied include inventory management, manufacturing management, procurement management, warehouse management, suppliers' management, customers' relations management, management of wholesalers, retailers' management, distribution management and so on. The various software packages and tools of Information Technologies used while applying Information Technologies in Management of Supply Chains and Logistics include Electronic Data Interchange, Decision Support Systems etc.

1.1 Objectives of the Study

- This study aims at identifying various applications of Information Technologies

in Management of Supply Chains and Logistics

- This study also aims at creating awareness among the suppliers and shippers about the same.
- This study also intends to examine the influence of the same in their growth
- This study is also intended to create awareness among the consumers to take advantage of applying Information Technologies in Management of Supply Chains and Logistics
- This study also aims at creating awareness among the academicians and researchers about the applying Information Technologies in Management of Supply Chains and Logistics

1.2 Research Design and sources of data

Descriptive Research design is adopted in this study. Right collection of data is very vital for any study. Secondary data is very much apt to



this study. The main sources of data collection are secondary in nature. The data sources encircle websites, e-papers, e-journals and other electronic forms.

2.0 Review of Literature

According to Prasad et al (2010), Information Technologies play an important role in Supply Chain Management because right input, throughput and output are the goals and means of supply chain management. Ronchi et al (2010) emphasized the importance of information technologies in electronic procurement. Gilaninia et al (2011) identified that e-commerce very much depends on information technologies and telecommunication networks in the process of its growth. Nair (2012) appraised the RFI's role in SCM. Nair (2013) also emphasized the role of software agents in the management of supply chains electronically because information technologies are very much useful in SCM.

Varma, T. N., & Khan, D. A. (2012) appraised that the phenomenal growth of ICT has transformed the paper-based communication into electronic communication. Tarn *et al* (2002) identified that the enhanced capabilities of information systems such as integrity of data, availability in real time, business processes standardization and processing capabilities of information technologies help in matching the demand and supplies and integrating the various elements of supply chains.

3.0 Analysis and Discussion

3.1 Applications of Information Technologies in the Management of Inventory

Effective and efficient Inventory management is very much essential for meeting the ends of management of supply chains and logistics. Information technologies support a lot the inventory management while tracking the various kinds of goods while flowing in and out of the warehouses. They also help the management in knowing the quantity of availability of products, what stocks are available in the shelves, processing of the sales orders and so on.

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3.2 Applications of Information Technologies in the Management of Manufacturing

The process of manufacturing and manufacturers also gain lots of benefits from the applications of Information Technologies. A better transparency and visibility are offered by the applications of Information Technologies which would lead to a better control and accountability of the manufacturing of the merchandise.

3.3 Applications of Information Technologies in the Management of Procurement

The process of procuring is very much vital in the process of manufacturing. Applications of information technologies in procurement fetch the benefits such as elimination of document storing manually, increase of accuracy of data, improvement in speed and efficiency, making the process of procurement very transparent and decrease in the cycle time.

3.4 Applications of Information Technologies in the Management of Warehouses

Warehouses are very much useful for every element of the supply chain such as suppliers, manufacturers and so on. The application of information technologies in the management of warehouses are very notable. The information technologies and systems help in providing the information about the capacity, type, location and so on of a warehouse. They also support in achieving the productivity, efficiency, effectiveness, proficiency and so on of the management of whole supply chains and management. The notable brands of systems include Warehouse-LINK® and so on.

3.5 Applications of Information Technologies in the Management of Distributors

Distributors waste a lot of time, money and other resources while managing the inventories. While using the appropriate Information Technologies, they can save the resources like time, money, space, materials, semi-finished and finished products, accessories etc. They can also forecast the demands and manage inventories and orders effectively, efficiently and professionally.

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Distributors management systems such as Apptivo, ERP123, Megaventory etc. are very much useful in organizing the information of contacts of distributors, scheduling the distributor related activities, sorting the records, configuring and creating segments and markets and associating with other distributors. The distributors also can be identified and redundancy of the data can be avoided.

3.6 Applications of Information Technologies in the Management of Retailers

Retailers are the main elements between the consumers and other suppliers such as wholesalers, dealers, distributors etc. With the help of Information Technologies, the retailers can achieve flexibility, visibility and integration. Retailers take the support of Information Technologies while setting the reorder points of various inventories and generate the orders automatically. Retailers can also use Point of Sales (POS) systems for selling their products, monitoring the stocks levels and coordinating with the distributors.

DocuSign, HERO, Xeroand so on are some of the applications of Information Technologies used by retailers for various purposes such as selling products, tracking the stocks, reordering to suppliers of various products, tracking the hours of working of employees, knowing the number of customers visiting the store each day, comparing passive and active customers, organizing, displaying and arranging various categories of merchandise in the stores, knowing the revenue and profits at any given point of time and so on.

3.7 Applications of Information Technologies in the Management of Shippers

Delivering on time and in good condition of the goods is the first and foremost goal and function of any shipper. When these goals are fulfilled, they lead to customer satisfaction and delight and which will pave the way for customer loyalty and retention. The shippers and logistics providers can ensure the satisfaction of the customers by allowing

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them to track the orders using various applications of Information Technologies. The Information Technologies also support the shippers in terms of letting the information shared to manufactures and distributors who can put the full stops for likely delays in delivery of the goods to customers. Some applications of information technologies such as the tools of supply chain management allow the access to platforms so as to have a control over the delivery process.

Clickpost, Shippo, Freightview, Freight Club and so on are some of the applications of Information Technologies which help shippers in terms of tracking and managing the inventories with regard to location, transparency, quality, quantity, velocity and so on. The tools of information technologies are also useful for generating Bill of Lading (BoL), managing the claims easily, fulfilling the orders automatically, scoring the best rates for shipping and so on.

3.8 Applications of Information Technologies in the Management of Wholesalers

Wholesalers play a vital role in any kind of goods such as beverages, food products, electronic goods, home appliances and so on. The wholesalers make use of various kinds of information technologies such as sensors, big data, virtual reality, robotics, drones, Internet of Things and so on. These information technologies help the wholesalers in terms of saving the costs, stay on par with wholesalers and consumers, meeting the deadlines in fulfilling the orders, integrating the manufacturers and retailers while meeting the needs of the consumers and so on.

3.9 Applications of Information Technologies in the Management of Dealers

Dealers of various goods such as cement, groceries, fruits, vegetables, automobiles and so on

depend on IT. Dealers take support of information technologies for a number of benefits and convenience. Information technologies help the dealers in eliminating the errors, obstacles, delays, redundancies and so on. Information technologies also support the dealers while learning about the warranties, obtaining the financial

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information, evaluating the business and so on.

3.10 Applications of Information Technologies in the Management of Suppliers

Suppliers of various unfinished, semi-finished and finished goods take lead in SCM. Information technologies are very useful in managing the suppliers. They help in decision making with regard to which type of supplier, what to be supplied, when to be supplied, how to be supplied and so on. They help in faster connectivity and responses, effective and efficient management of information, processing the orders digitally, gaining competitive advantage, computerization of the activities of the firms and so on.

For better decision, the suppliers can take advantage of decision support systems. With the help of these systems, the suppliers can take the appropriate decisions with regard to right suppliers, right supplies, right type of supplies, right quantity and quality of supplies and so on. The applications of information technologies for the suppliers also include entering the orders, processing the orders, control of inventory of finished goods, measurement of performance, auditing and payment of freight and so on. The other tools and technologies of information technologies very much useful to the suppliers are B2B e-commerce, Electronic Data Interchange and so on. The application of information systems to suppliers also extend to various priorities such as user friendly ordering, creation of pickups of customers, delivering on time, expediting and tracking of shipment, levels of stock-outs, completeness of orders and so on.

4.0 Conclusion and Implications

On the whole, this study concludes that the applications of information technologies in the management of supply chains and logistics are phenomenal. They are very much supportive in the areas such as inventory management, production and operations

management, management of procurement and warehouses, management of distributors, retailers, shippers and so on.

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