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SUPPLY CHAIN MANAGEMENT (SCM) & INFORMATION TECHNOLOGY (IT)-AN INDIAN OUTLOOK

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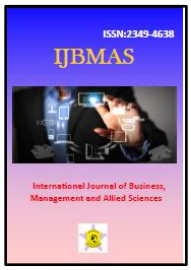

ABSTRACT
Supply chain management is the management of the flow of goods and services and includes all processes that transform raw materials into final products. In India, Supply Chain Management (SCM) has gained significant importance due to opening up of domestic economy as a result of globalization. In today's highly competitive and global environment, companies need to improve effectiveness and efficiency. SCM, as a major part of business operations, plays an important role for organizations to achieve competitive advantages.
With the use of 'IT', supply chain management creates efficiencies, raises profits, lowers costs, boosts collaboration and more. SCM enables companies to better manage demand, carry the right amount of inventory, deal with disruptions, keep costs to a minimum and meet customer demand in the most effective way possible. Good supply chain management can help a company to meet market demand. A good supply chain is that which is able to move product to market faster and cut the cost of moving goods from the source to the customer. The wide applications of IT make it possible for organizations to improve the overall business operations in India especially.
In fact, through this paper, author wants to highlights on supply chain management (SCM), concept of SCM, use of IT in SCM in Indian scenario especially etc.
Keywords; Supply chain management, economy, global environment, organization, IT.

Introduction

Supply chain management is the management of the flow of goods and services and includes all processes that transform raw materials into final products. It involves the active streamlining of a business's supply-side activities to maximize customer value and gain a competitive advantage in the marketplace. SCM represents an effort by suppliers to develop and implement supply chains that are as efficient and economical as possible. Supply chains cover everything from production to product development to the information systems needed to direct these undertakings. In the current competitive scenario supply chain management assumes a significant importance and calls for serious research attention, as companies are challenged with finding ways to meet ever-rising customer expectations at a manageable cost. Supply chains

encompass the companies and the business activities needed to design, make, deliver, and use a product or service. Businesses depend on their supply chains to provide them with what they need to survive and thrive. Every business fits into one or more supply chains and has a role to play in each of them. To succeed in the competitive markets that make up today's economy, companies must learn to align their supply chains with the demands of the markets they serve. Supply chain performance is now a distinct competitive advantage for companies who excel in this area.

Supply Chain Management requires advanced analytics capabilities (e.g. machine learning for forecasting, optimization for planning) in order to take advantage of the multi-facility network view.

About Supply Chain Management (SCM):

"Supply chain management (SCM)" is the broad range of activities required to plan, control and execute a product's flow, from acquiring raw materials and production through distribution to the final customer, in the most streamlined and cost-effective way possible.

In commerce, supply chain management (SCM), the management of the flow of goods and services, involves the movement and storage of raw materials, of work-in-process inventory, and of finished goods from point of origin to point of consumption. ... Marketing channels play an important role in supply chain management.

SCM is a set of synchronized decisions and activities utilized to efficiently integrate suppliers, manufacturers, warehouses, transporters, retailers, and customers so that the right product or service is distributed at the right quantities, to the right locations, and at the right time, in order to minimize system-wide costs while satisfying customer service level requirements. The objective of SCM is to achieve sustainable competitive Advantage.

Supply Chain Management can be defined as the management of flow of products and services, which begins from the origin of products and ends at the product's consumption. It also comprises movement and storage of raw materials that are involved in work in progress, inventory and fully furnished goods. The main objective of supply chain management is to monitor and relate production, distribution, and shipment of products and services. This can be done by companies with a very good and tight hold over internal inventories, production, distribution, internal productions and sales.

What is the Concept of Supply Chain?

The concept of Supply Chain Management (SCM) is based on two core ideas: The first is that practically every product that reaches an end user represents the cumulative effort of multiple organizations. These organizations are referred to collectively as the supply chain.

`A supply chain provides a company and the activities involved in the business what is needed in designing, making, using, and delivering of services and products. Any business depends on the supply chain in providing it with necessary survival and thriving methods.

A supply chain is in all regards a network of distribution and facilities, which perform functions in procurement of materials, transforming these materials into finished products and distribute the products to clients. A basic pattern is evident in supply chain management as they each have their own set of market challenges and demands. Production is an important aspect in supply chain management, as many things have to be taken into consideration such as plant capability, quality control, Workload balancing, and equipment maintenance.

Role of IT in Supply Chain Management – Indian Scenario:

Information and Technology (IT) Application of 'Supply Chain Managemen't Software includes the entire system and application programme used for processing transactions management control, decision-making and strategic planning.

Globalisation, Liberalisation and steady economic growth have mainly driven a vast change in India. Logistics and supply chain management in India has been receiving greater attention in the last few years, with India's GDP recording high growths. This is not only because of vast opportunities, but also because the growth of logistics infrastructure has not kept pace with broader economic growth and warrants much needed consideration. In view point of it companies that opt to participate in supply chain management initiatives accept a specific role to enact. They have a mutual feeling that they, along with all

other supply chain participants, will be better off because of this collaborative effort. The fundamental issue here is power. The last two decades have seen the shifting of power from manufacturers to retailers.While we talk about information access for the supply chain, retailers have an essential designation. They emerge to the position of prominence with the help of technologies.

Doubtless, information technology(IT) is a vital organ of supply chain management. With the advancement of technologies, new products are being introduced within fraction of seconds increasing their demand in the market. In India the software as well as the hardware part needs to be considered in the advancement and maintenance of supply chain information systems. The hardware part comprises computer's input/output devices like the screen, printer, mouse and storage media. The software part comprises the entire system and application program used for processing transactions management control, decision-making and strategic planning.

In this regards, there are some very important role or use of some critical hardware and software devices in 'supply chain management(SCM)', which are as under follows:

(a) Electronic Commerce: It is the term used to describe the wide range of tools and techniques utilized to conduct business in a paperless environment. Electronic commerce therefore includes electronic data interchange, e-mail, electronic fund transfers, electronic publishing, image processing, electronic bulletin boards, shared databases and magnetic/optical data capture. Companies are able to automate the process of moving documents electronically between suppliers and customers.

Electronic commerce helps enterprises to automate the process of transferring records, documents, data and information electronically between suppliers and customers, thus making the communication process a lot easier, cheaper and less time consuming.

(b) Electronic Data Interchange (EDI):

Electronic Data Interchange (EDI) involves the swapping of business documents in a standard format from computer-to-computer.

In other words, Electronic Data Interchange (EDI) refers to computer-to-computer exchange of business documents in a standard format.

It presents the capability as well as the practice of exchanging information between two companies electronically rather than the traditional form of mail, courier, & fax.

The major advantages of EDI are as follows −

- Instant process to information
- Improved better customer service
- Limited paper work
- High productivity
- Improved tracing and expediting
- Cost efficiency
- Competitive benefit or advantages
- Advanced billing

The application of Electronic Data Interchange(EDI), supply chain partners can overcome the deformity and falsehood in supply and demand information by remodeling technologies to support real time sharing of actual demand and supply information. Though the use of EDI supply chain partners can overcome the distortions and exaggeration in supply and demand information by improving technologies to facilitate real time sharing of actual demand and supply information.

(c) Barcode Scanning (BS): The use of barcodes makes business integration processes in supply chain management simpler and more efficient. Barcodes are an effective identification tool that helps track products and greatly reduce errors. Barcode technology has a range of advantages such as being affordable, easy to handle, and accurate.

Barcodes have influenced almost every aspect of Supply Chain Management. The use of barcodes makes business integration processes in supply chain management simpler and more efficient. Barcodes are an effective identification tool that helps track products and greatly reduce errors. Barcode technology has a

range of advantages such as being affordable, easy to handle, and accurate. These advantages make barcodes widely used in supply chain management and accepted across the world. Employing barcode technology in inventory practices enables timely and accurate information that helps to operate with greater warehouse efficiency and lower inventory on hand.

(d) Data Warehouse (DW): Designing and managing a supply chain is a complex and challenging task because one of the key issues of data warehousing for supply chain management lies in the readiness of enterprise integration by coordinating the available resources and specific needs of the company with a long-term strategic plan.

Supply chain management (SCM) and warehouse management system (WMS) integration can improve the performance of both software systems. SCM WMS integration comes with some IT challenges, such as data field mapping.

Data warehouses are used to support subject-oriented decision-making in a company. When a company joins a supply chain partnership to increase competitiveness, its data warehouse has to be re-designed. The design of data warehouses for supply chain partners has to take into account issues such as data schemas, duplication of data, data security, and homogeneity of data warehouses. This study proposes five approaches to designing data warehouses for supply chain partners:

(1) a centralized data warehouse,
(2) a coordinated data warehouse,
(3) a distributed data warehouse,
(4) a federated data warehouse, and
(5) a heterogeneous data warehouse.

Each approach has different features and provides a high level of data security.

(e) Enterprise Resource Planning (ERP) Tools: Enterprise resource planning (ERP) is business process management software that allows an organization to use a system of integrated applications to manage the business and automate many back office functions related to technology, services and human resources.

ERP has now become an important part of the businesses and almost every sector for all the good reasons. People are insanely using it for the many benefits it has to provide to the people. Aforementioned are the best benefits and role of the ERP in supply chain management.

ERP is basically software that is now being used by multiple businesses to manage their accounts. This is used by several schools, colleges, hospitals, hotels etc, to name a few of them. But now, these things are slowly becoming a thing of the past. Now, people are using it for managing the supply chain. ERP System has various functional modules that help in various business functions. The most important function of ERP is Integration. It integrates data and process from all functions of an organization. Therefore, if you still are not using it then this is the right time to do it.

ERP and Supply Chain Management systems offer different benefits to an organization in terms of capabilities and functionalities. Given the intra-organizational and inter-organizational advantages offered by ERP and Supply Chain respectively, integration of both systems will provide a company with substantial leverage over competitors. However, it is pertinent that companies first identify and work on reducing and eliminating non-value added activities, processes and components in the business. It is only when they start to adopt a holistic view to efficiently address enterprise needs that they will be able to deliver their products and services with speed, ease and quality.

What Role does ERP play in a Supply Chain Management Strategy?

The integration of Supply chain management and ERP allows manufacturing and distribution businesses the ability to gain greater visibility into all operations while increasing speed, efficiency and overall customer satisfaction.

A growing number of businesses recognize the many potential benefits of 'Enterprise Resource Planning (ERP)' when it comes to managing business information, integrating various systems and working processes, and ensuring optimal operational efficiency. When it comes to Supply Chain Management (SCM), businesses need to interact with numerous suppliers and partners in order to obtain the raw

materials and resources needed to bring finished goods to market. ERP plays a vital role in combating inefficiency; reducing waste and ensuring that workers are better able direct their efforts. The integration of both systems may pose some unique challenges. It is in your company's best interest to ensure that you and your staff fully understand the role of ERP within the SCM process.

ERP system holds a high level of integration that is achieved through the proper application of a single data model, improving mutual understanding of what the shared data represents and constructing a set of rules for accessing data.

Conclusion

Supply chain management is important because it is the backbone on which the demand and supply of a company is based on. If a company has to improve revenue, he has to reduction costs at every stage.

Supply Chain Management requires advanced analytics capabilities (e.g. machine learning for forecasting, optimization for planning) in order to take advantage of the multi-facility network view.

With the advancement of 'information technology(IT)', I would like to say that India is shrinking day by day. Similarly, customers' expectations are increasing in that ratio. As well as, Indian companies are being more prone to uncertain environment. In this running market, a company can only sustain if it accepts the fact that their conventional supply chain integration needs to be expanded beyond their peripheries.

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