Information subsystems for e-commerce in the supply chain of amazon.com

Ecommerce – has brought about a huge revolution in the global business by incorporating both the use of Internet-based computing and information systems to work out every small business processes. Businesses use the facility of internet to efficiently drive their supply chain management systems, trading with partners, giving back fast response to customer query and to over come resource shortages as well. This paper examines the importance of information based - ecommerce supply chain systems, in the online store likes–Amazon. com.

There are four main vital issues that need to be addressed with the aim of the study – information collection, planning, systematized workflow, and modern updated business models. ECommerce business solutions provide the benefits of supply chain with reduction in costs, flexibility, and faster response times. However, the beginning of the ecommerce era, has led along a number of critical issues that determine the success of an ecommerce business online.

The e-supply chains of the online ecommerce websites, which are loaded with information systems have covered every part on the World Wide Web and there are loads of applications that are running with the help of thistechnology. The organization of an e- supply chain needs a global supply chain transparency, which in turn can only be achieved through incorporation of the various sub-information systems that are present within the ecommerce supply chain.

This visibility or transparency can only be achieved if all the parts of the supply chain management system of an eCommerce site come on a common

platform to share knowledge and real time information with the help of systems or electronic markets that collect and supply data bases about the transactions. The e-supply chain can be automated and well planned in order to deliver more productivity and increase the response of the eCommerce system. Some of the solutions that have been devised and also used up in the present are examples of electronic marketplaces like e-bay, amazon. com, mutual exchanges and Business to Business process controllers.

There are various example of applications and other processes that are used up to form the backbone of any information system for an e-commerce trade, like CPFR, VMI and make to order. This paper is an attempt to decompose the typical nature of an e-supply chain in terms of information systems for an online store – Amanzon. com. In the beginning, we start with the nature of supply chains and later, we will look into the emerging trends with Ammazon. com, which have suitably been adapted to its eCommerce supply chains.

Basics of a Supply chain

1. Planning

This is the premeditated segment of Supply chain management. This is the first step of SCM, in which a strategy is prepared for the efficient management of all the resources that are needed in meeting the market demands, less costs, high quality and value to the customer. The business plans are developed in co-ordination with the suppliers who will be a part of the manufacturing process of new products.

2. Resource allocation

After a plan of action has been created, the next step of a Supply chain management is to select the suppliers who will deliver the goods and services. A number of issues arise here – pricing, time of delivery, payment procedures, monitoring, inventory of goods, shipment, verification, authorization and improving the two party relationships. These actions put together, give way to a well managed supply chain.

3. Production and commercialization

This is the industrialized manufacturing step included within a supply chain. Most often this is the most complex step that needs first-rate handling at all levels.

It consists of scheduling the activities, which form the various stages of production, testing, packaging and the final preparation of a product. The production stage is the most metric-intensive part of the supply chain as it can give vital data analysis for measuring the quality levels, cost of production, worker productivity. According to According to Lambert and Cooper (2000), the mangers who are in charge of the product development and commercialization cycle of the product must:

- synchronize with customer relationship management to recognize client-articulated needs.
- decide on resources and dealers in combination with procurement.
- Develop a manufacture technology in developing a proper flow to manufacture and incorporate the best supply chain flow for the product/market combination.

4. Transportation

This stage of the supply chain is also referred to as Logistics by many experts. This stage is concerned with the movement of the final finished product to the customer. In physical terms, the customer is the final destination of the product, which is in turn linked through a marketing channel.

This stage includes the co-ordination of order receipts, warehousing management, selecting transport carriers, shipment, and distribution of the product to customers and setting up an invoicing system to receive payments.

5. Rate of Return

This stage concerns with the analysis of the whole activity that has been carried out as different parts of the Supply Chain. Every activity is broken down into sub activities so that the investment and rate of return per activity is calculated. This also consists of creating a network for receiving feedbacks from customers.

Therefore as suggested above, any traditional supply chain consists of many stages that include the participation of one or more companies. Any supply chain includes more than one company tied up together in a series of supplier-customer relationships. These relationships define all the activities from the purchase of raw materials to the delivery of finished goods to the end client. The raw materials enter into a manufacturing process and are transformed into finished goods, which are supplied at the distribution

centers. The finished goods are then supplied to customers through the market.

Supply chain and information Systems Successful trade thrives on information. Any industry that cannot boast of a strong information system for the Supply chain Management will never render the desired results. The importance of an efficient information system and how it works to improve the performance of ecommerce sites, its various applications, thereby giving a substantial improve in rate of return andsaving moneyby utilization of specific applications in receiving, production tracking, quality control, and transport operations.

To gain competitive advantage, e-companies have been using a number of schemes to increase their source of information and visibility into their tasks, many of them turned to enterprise resource planning or ERP, customer relationship management (CRM), supply chain and various other management softwares. Definitely, these softwares and their respective applications can be highly effective, but their efficiency is hampered when the data they require is not timely collected and presented before them.

That is why the most important concern is providing cost-efficient and effective tools for providing accurate and on time data to enterprise applications to gain advantage. Supply Chain Management and information systems deals with the flow of goods from the firm, along with the facilities, to the final destination – customer. In this new era of intense competition, supply chain efficacies and its efficient implementation are not only necessary, but also the requirements for survival for any industry.

A proper performance based supply chain management contributes to higher revenue, low operation cost, better warehousing management, order tracking and processing, packaging, and added satisfaction for the customers. Supply chain management has been engaged in organizations round the world, performing critical tasks. In addition, the rising global economy and the world-wide establishment of e-commerce also sharpened the premeditated significance of supply chain management and has twisted the old methods so that they take advantage by benefiting from supply chain strategy and planning as a competitive tool.

By the integration of supply chain, with customer relationship plans and an effective financial management, it has become easier for any firm to stay in firm control of business activities and generate the results that are aimed for. However, according to the study made, there has been a significant record about the optimal productivity that could have been achieved as compared to what the organizations are achieving at the moment. There are some serious problems that have come to the surface or were known to be existing since a long time, within the Supply Chain Management systems.

For example, a problem with the Distribution network in Amazon has been cited at many instances, a many distribution centers, causing difficulties with suppliers, production facilities, and distribution outlets. At the same time, the inefficient data distribution has been identified as a cause that leads to loss of integration of various processes within the Supply chain and causes the inability to predict demands, forecasts, inventory and transportations needs.

The issue of a proper and well defined distribution strategy has also been acknowledged lately by the experts which discusses the option of centralized and decentralized distribution strategies, shipment etc. Due to these and many other factors, it has become vital, that the present practices of Supply chain and information chain management be revised and studied in depth to render the process to become more effective and profitable for the online business sites.

The use of Information technology has become unavoidable for imparting solutions for a variety of supply chain management and design problems. These IT skills must work in unison to develop the Business to Business and Business to Customer needs. Various IT solutions that have been developed today, implement solutions for e-collaboration, faster response methods, jointly managed warehousing facilities and transportation. One of the most common IT applications within a supply chain is that of bar codes which makes data collection accurate and fast.

Most of the enterprises apply the bar code shipping labels or RFID application on their finished goods that are about to leave the company premises. But with changing trends, mangers have learned that if the use of bar codes is pushed back into the production system, then it provides tremendous labor and material savings. These changes lead to less time delays and this times saved can easily be converted into financial benefits and increased productivity.

Similarly, the use of Direct Store Delivery (DSD) and other route accounting operations when combined with mobile printing applications saves a lot of

time and reduces the cost by a remarkable amount and in turn increases the return on Investment. Likewise, there are a number of IT applications that can benefit eCommerce sites to develop its information system so as to meet the customer requirements. Business information, production reports, warehousing data, inventory problems can be supported with the help of better managed supply chain management solutions coupled with some of these IT solutions.