Using Information Technology to Revolutionize your Supply Chain

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Some have suggested that Supply Chain Management only exists because of Information Technology; that the IT revolution enabled supply chain management. They may be right. Supply chain management, as a discipline and profession, gained prominence in the 1990's, the same time that many important information technologies were hitting industry. The two most important technologies are the development of the internet and ERP (enterprise resource planning) systems.

This article will review how IT has enabled SCM to reduce costs and grow sales.

How IT has enabled SCM to Reduce Costs

There are six methods I will outline that supply chain professionals have used to reduce supply chain costs.

- Digital workflow
- Integration of information streams
- ERP systems to globalize information for global supply chains
- E-marketplaces
- Internet auctions
- RFID

Digital workflow reduces data entry and sends information to the next person who needs it, and only that person. The most widely used of these is EDI, electronic data interchange. EDI is a set of IT standards that different firms can use to share order and inventory data. Orders entered into a system connected through EDI eliminate the need to re-enter the order. The same is true of internet ordering systems. These allow customers to put orders directly into your system. Customers directly entering orders has eliminated millions of potential data entry errors.

Integration of information streams improves visibility of inventory and customer demand. The same EDI systems I mentioned above, and other software tools that allow supply chain partners to share data seamlessly, help reduce over and under ordering due to unknowns. Imagine seeing your suppliers' inventory. Well, it is happening right now. In addition, these systems send data to your suppliers, allowing them to see your inventory and your customers' orders. This visibility has dramatically reduced over and under ordering, which in turn reduces artificial peaks and valleys of demand in the supply chain.

ERP systems have globalized information and product flow for global supply chains. As supply chains have gone global, with companies' seeking the best suppliers worldwide,

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there has been a need to globalize information flow. Fortunately, ERP systems have the ability to deal with multiple languages and currencies. Instead of people translating languages and calculating currency exchange rates, ERP takes care of these chores. This has lowered the cost of having both internal and external global supply chain partners. By lowering this barrier, ERP systems have lowered total supply chain costs.

E-marketplaces have reduced the costs for purchasing professionals to find new supply sources. What once took internet searches, reference checks and phone calls can now be done on an e-marketplace. These marketplaces take care of the administrative work. Supply chain managers can now more easily find new supply sources for existing products, or to support new product development. These marketplaces have reduced the costs to find the best suppliers.

Internet auctions have been an amazing tool to create competition for commodity-type items. Instead of a having to hire great negotiators, or purchasing agents who are willing to "beat-up" suppliers, the internet auction allows supplier-competition to help you get the best price. When combined with an e-marketplace, the administrative costs of conducting an internet auction are so low, that even medium-size firms are able to use this cost-reducing tool.

RFID has often been called the technology of the future… and always will be. But it is finally happening. RFID has one purpose; to create visibility in the supply chain without needing to count or scan. RFID tags can be passive and scanned by a reader, for instance at the dock-door of a warehouse. These would check-in an entire pallet with no data entry. More expensive RFID tags are active and broadcast what they are, so even goods in transit can be tracked with total visibility. This prevents ordering goods that you either have in stock, and don't know it, or have ordered and are in transit. RFID has, and will continue to, reduce labor and improve inventory accuracy in the supply chain.

How IT has enabled SCM to Grow Sales

Most business executives equate supply chain management with reducing costs. However, it can be used to increase sales.

E-marketplaces help small companies gain access to new customers and/or sell excess goods. In the past, if you were a small company, you had the choice to hire manufacturers' representatives or your own sales force. With e-marketplaces you can have a global presence. Also, in the past, if you had surplus materials, you would call people in the industry, trying to get rid of them, or in the worst case, you threw them away. Now you can put these items on surplus e-marketplaces and potentially sell them for much higher prices because of the exposure to many more potential customers.

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E-networks can help you gain pricing leverage with larger customers. It has been proven by supply chain researchers that suppliers in e-networks gain negotiating leverage when renewing contracts to the focal firm in the supply chain. For a large focal firm in a supply chain, such as Wal-Mart or Ford Motor, it takes work to connect suppliers into your e-network. When it is time to renew contracts, it turns out that suppliers who are connected to an e-network have a higher probability of renewing than those who are not connected.

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