

## **SUPPLY CHAIN MANAGEMENT: INTEGRATION AND GLOBALIZATION IN THE AGE OF E-BUSINESS**

Parth Arora

Scottish High International School, Gurugram

DOI: 10.46609/IJSSER.2022.v07i12.007 URL: <https://doi.org/10.46609/IJSSER.2022.v07i12.007>

Received: 5 December 2022 / Accepted: 19 December 2022 / Published: 28 December 2022

### **ABSTRACT**

With the emergence of globalization in the steadily dynamic business climate, it is mandatory for organizations to adapt to the changes, to get by in a cutthroat market. It likewise offers a more prominent chance for organizations to carry out their inventive side into the field. With the assistance of globalization, it is getting increasingly more alluring for organizations to create imaginative thoughts to run business both public and worldwide. Development and the reception of new innovations have prompted efficiency enhancements that create more grounded monetary development and higher living guidelines. In business, mechanical development throughout the last century has zeroed in on the plan and assembling processes that are utilized to a great extent inside individual firms. In this paper, we would focus on the scope of supply chain management (SCM) in the current business market and its effects on e-businesses and how supply chain management has benefited them to grow also impact of e- business on supply chain operation.

### **Introduction**

Supply chain management (SCM) refers to the management of materials, information, and funds across the entire supply chain, from suppliers through manufacturing and distribution, to the final consumer. It also incorporates after-sales service and backward flows such as managing customer returns and recycling of packaging and discarded products (See Figure 1).

**Figure 1 Supply Chain Management Flow**



Supply chain management has been defined as the "design, planning, execution, control, and monitoring of supply chain activities with the objective of creating net value, building a competitive infrastructure, leveraging worldwide logistics, synchronizing supply with demand and measuring performance globally." There are basically three objectives of SCM: to decrease stock, to speed up exchanges with ongoing information trade, and to increment income by fulfilling client demands more effectively.

SCM is fetching attention due to number of reasons. Managers in numerous businesses understand that any substantial move made by one individual from the chain can impact the benefit of all others in the chain. Instead of competing with other firms, there is a sheer competition in the supply chain processes of the rival firms. SCM has gained ample importance with the growth of global competition which forced many manufacturing companies to improve the quality of their products and reduce their manufacturing costs.

### **Integration and Globalization**

With years of subsequent progress, many manufacturers noticed that the biggest challenges they

faced in the new millennium were outside of their immediate control and solutions required better coordination with their upstream and downstream partners. While they have reduced their own costs, they noticed that the costs of poor coordination could be very high.

Supply chain integration includes effective communication between a buyer and a vendor so that the buyer's requirements are better known and grasped by the vendor. It may involve integrated computer systems for real-time data transfer from the supplier's computer system to the buyer's computer (See Figure 2).

**Figure 2 Supply chain integration**



This helps to get the knowledge of -

1. The current status of all orders.
2. Which products are in the supplier's inventory?
3. The status of products being manufactured for the buyer.
4. When an order or product is ready to ship.

The best example of SCM integration is online shopping.

The globalization of the supply chains refers to the transportation of goods produced in one part of the globe to another part of the globe; each component of the goods thus produced can be made in different countries (See Figure 3). For ex. if we buy Apple iPhones, various parts are

made in various countries including China and the finished good is transported to the US and Europe where it is sold.

**Figure 3 Supply chain globalization**



### **Importance and Implication**

Though in recent times, companies are paying increased attention on their SCM, but this concept is as old as trade itself. From the evolution era of SCM till the introduction of e-business, companies focused on various aspects like specialization of labor, operations research techniques, mass-production, just-in-time inventory systems, total quality management (TQM) programs, and enterprise resource planning (ERP) systems for their efficient and flawless working. With the advancement in innovation and technology, e-business has been equipped with powerful resources like the internet, information sharing technologies such as global position satellites (GPS), radio frequency identification devices (RFID) , and other wireless telecommunications platforms which in turn resulted in improved inventory management and streamlined logistics systems.

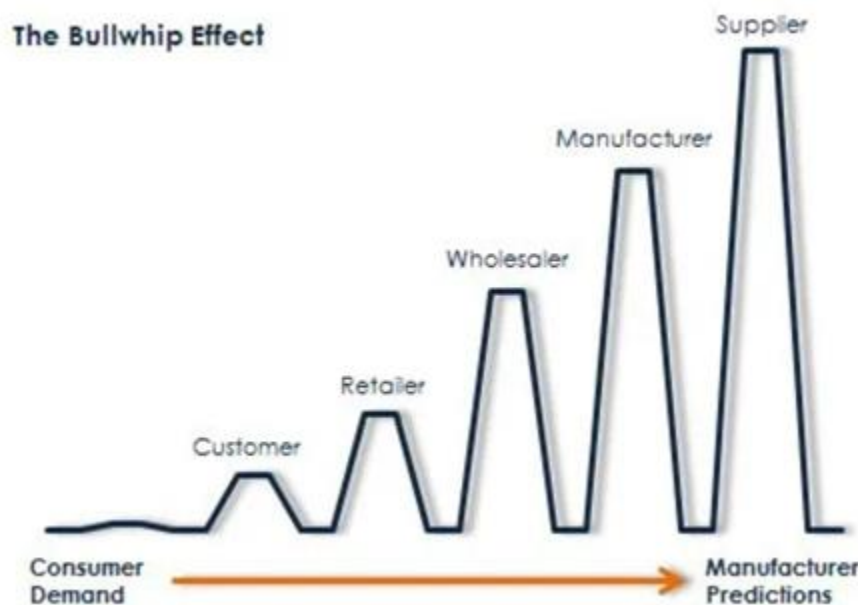
### **Some remarkable benefits of effective supply chain integration and globalization:**

- 1) **Flexibility:** It results in improved ability to respond to dynamic changes in the market due to shared interest of all stake holders throughout the supply chain, in getting things right.

- 2) **Improved Inventory Management:** Since the inventory levels can be matched with customer demand in real time, the overstocking and under stocking of inventory can be avoided resulting in reduced storage cost, holding cost, insurance cost and quick replacement of unused and unsold inventory.
- 3) **Improved logistics:** Improved supply chain operations result in lower logistics costs. In the past, logistics systems were focused on stored inventory. With e-business technology since the information is flowing at all critical points along the supply chain, logistics are focused more on managing in-transit inventory. Hence the right goods shipped to the right places at just the right times, without storing much inventory at intermediate stages.
- 4) **Procurement:** Due to the adoption of digital technology, automation in order placement, billing, payment, etc is possible without human intervention which is more economic and faster, improving the efficiency of the whole supply chain.
- 5) **Lower costs:** Cheaper labor or material cost in some countries can cause companies to outsource their tasks as a result of globalization. The market becomes wider due to the diversification of a supply chain on a global scale, which ultimately helps in cost-cutting and profit gains for businesses.
- 6) **Wide range of options for sourcing components:** At the time of crisis or disruption, global diversification can be helpful by providing various options of sourcing components that are rare or have shortages, to keep the production flow uninterrupted. These components can be found worldwide wherever available.
- 7) **Quicker delivery to far-off areas:** Supply chains that have their whole manufacturing activity in one spot really do profit from quicker producing processes due to speedier delivery times of parts and components. But, the transportation expenses and delivery times to the end client will be a lot higher when they are further abroad. Having, manufacturing facilities or distribution centers situated at diverse areas will permit to get items to the end client a lot quicker. Without this capability, it may not be feasible to ship to certain regions at all, potentially cutting off the business from an entire section of the market. A globalized supply chain has far-reaching benefits, improving a business's potential strength, productivity, and profitability.
- 8) **Minimization of Bullwhip Effect :** Bullwhip effect refers to an oscillation in the chain caused due to continuous and constant fluctuation in the demand. In-compatibility in the information causes its distortion which creates a bullwhip. This term "Bullwhip Effect" was given by managerial of P&G, the company that manufactures Pamper brand

of diapers. These executives noticed that though the demand for Pamper's Diapers was constant over the period of time, the orders for diapers placed by retailers to their wholesalers or distributors were quite variable i.e., displayed huge variances over time. Likewise, much bigger variation all together in amounts was seen in the orders that P&G got from its wholesalers. This increase in the fluctuation of the orders seen by each stage in a supply chain was termed as the bullwhip effect (See Figure 4).

**Figure 4 Bullwhip Effect**



This phenomenon – termed the bullwhip effect – has many causes (Lee, H., P. Padmanabhan, and S. Whang, 1997). Sometimes it is caused by separate forecasting of supply chain by members at various stages of supply chain, as in the example above. Whatever may the cause, the end result is a greatly distorted and peak demand signal for upstream members of the supply chain. These large demand swings affect order fulfillment and increase costs. Fortunately, the bullwhip can be minimized through an integrative approach that employs timely information shared by supply chain partners and strong relationships that enable coordination (Johnson, M.E., 1998). The insufficient knowledge of each other's needs by each company in the chain causes disproportional rise in inventory levels and results in , a much greater difference in demand compared to others in the chain (Forrester, 1958, 1961). Several scholars (Forrester, 1961; Holweg and Bicheno, 2002) have proven that with direct movement of information from the customer to the manufacturer, the peak of production can be significantly decreased .An integrated SCM serves this purpose very well.

### **The Effect of E-Business Innovations on Supply Chain Operations**

In order to analyze the impact of e-business technologies on supply chain operations, consider the supply chain into three distinct components: the business channel, the transportation/distribution channel, and the payments channel. E-Business has tightly integrated these three channels and provides accurate real-time information to all the supply chain participants. Information can be gathered from products/services and analyzed separately to make better decisions regarding production, distribution, marketing, sales, etc.

The business channel of supply chain operations deals with what goods or services a business should focus on producing and at what levels. This includes knowing your client and fulfilling their requirements and desires. Information needed to make these decisions comes from the market research. This helps in accurately understanding changing preferences, tastes, styles, etc. of consumers.

The transportation/distribution channel help to understand about the best way to move products to customers; this involves understanding the entire supply chain, from the raw materials to the end consumer, and then utilizing the most efficient inventory system and effective logistics to move it towards its destination. Information at all points along the supply chain can be integrated and incorporated using new e-business advancements, empowering better decisions with respect to inventory levels and efficient product movement from supplier to consumer.

The payments channel helps to understand the best way to move money in exchange for delivered goods and services. Knowing and understanding the supply chain operations of all the firms involved is crucial to making the payments system flow smoothly and accurately. ERP systems that communicate and share information in real time can lead to competitive advantages.

Each of these three channels has been transformed by new e-business technology advancement. The powerful utilization of new information technologies allows firms to quickly collect and analyze important information and knowledge along with the supply chain, which include real-time monitoring of consumer demand. In short, e-business technology tend to flow the information within and between organizations resulting in effective and more timely decisions across all channels of the supply chain (Lee and Whang, 2001).

### **Conclusion**

Supply chain Management is an enormous and developing field for each and every business to focus on. Essentially all significant firms have grown huge practices in SCM. Any organization, during its functioning can face challenges in some of the following areas due to inadequate and faulty SCM. These areas may include- location , transportation and logistics, outsourcing and

logistics alliances, sourcing and supplier management, marketing and channel restructuring, inventory and forecasting, service and after sales support, reverse logistics and green issues, product design and new product introduction, information and electronic mediated environments, metrics and incentives , global issues etc. The lack of transparency among all the participants of SCM, faulty information flow, isolated decision-making may cause a huge trouble. Practicing e-business, advanced technological integration and globalization is the new way to get ace over all these pitfalls and running the smooth operations.

21<sup>st</sup> centuries technologies including internet, GIS, ERP softwares, can mitigate the adversities in the above mentioned areas along with minimizing the Bullwhip effect in highly efficient manner. Administrating the new and innovative ways of inventory management is a need of the day. Large firms operating in global environments, dealing with multiple suppliers and customers, require advanced possible channel restructuring. That implies organizations need to control the efficiency of the supply chain to get competitive edge over others.

Hence the red carpet of e- business has paved the new way of trading and evolved the supply chain practices for the better tomorrow.

### **References**

- Basu, A., & Siems, T. F. (2004). *The Impact of E-business Technologies on Supply Chain Operations: A Macroeconomics Perspective* (pp. 4-8). Federal Reserve Bank of Dallas, Research Department.
- Lee, H. L., Padmanabhan, V., & Whang, S. (1997). The bullwhip effect in supply chains. *Sloan management review*, 38, 93-102.
- Pyke, D. F., & Johnson, M. E. (2001). Supply chain Management: Integration and Globalization in the age of eBusiness. *Available at SSRN 307462*.
- Saroha, P., & Yadav, S. K. S. (2013). Supply Chain Management: A Tool of Business Process Integration. *Int. Multidisciplinary e-Journal*, 2, 32-55.
- Supply Chain Management: Integration And Globalization In The Age Of E-Business . (2021, September 24). Edubirdie. Retrieved October 28, 2022, from <https://edubirdie.com/examples/supply-chainmanagement-integration-and-globalization-in-the-age-of-e-business/>