



Supply Chain Management: A Global Perspective

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Supply chain management is an effective tool for business process improvement. It begins with the source of supply and ends at the point of consumption. Supply chain management covers the flow of materials and information from suppliers, through a number of value adding processes and distribution channels, to the customer. A supply chain is the stream of processes of moving goods from the customer order through the raw materials stage, supply, production, and distribution of products to the customer. The Aim of supply chain management is to optimize pre and post-production inventory levels, obtain greater efficiency from labor, equipment and space across the company and provide flexible planning and control mechanisms. In this paper we tried to analyze the supply chain management process through an empirical research based on secondary data analysis and literature review and we are pondering over the issues relating to Supply Chain Management from the globalised economy perspective wherein there are various managing viewpoints owing to the various assembly points located irrespective of demographic differentiations wherein the inventory levels need to be kept under high levels of scrutinization to avoid any sort of faults or inefficiencies in inventory maintenance process.

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Introduction

Supply chain management is an effective tool for business process improvement. It begins with the source of supply and ends at the point of consumption. Supply chain management covers the flow of materials and information from suppliers, through a number of value adding processes and distribution channels, to the customer. A supply chain is the stream of processes of moving goods from the customer order through the raw materials stage, supply, production, and distribution of products to the customer. The Aim of supply chain management is to optimize pre and post-production inventory levels, obtain greater efficiency from labor, equipment and space across the company and provide flexible planning and control mechanisms. Supply chain management is considered by many experts worldwide as the ultimate solution towards efficient enterprise management. Many management failures have been attributed to lack of a system to bind various sub-systems with in a geographically widespread enterprise which true to modern trends, also includes an umbrella of customers, suppliers and associates. Managers of tomorrow are therefore expected to raise themselves above the level of perpetual crises management to one of proactive, predictive and performance-oriented management.

Concept

The concept of Supply Chain Management 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. The second idea is that while supply chains have existed for a long time, most organizations have only paid attention to what was happening within their “four walls.” Few businesses understood, much less managed, the entire chain of activities that ultimately delivered products to the final customer. The result was disjointed and often ineffective supply chains.

Definition

A supply chain is the stream of processes of moving goods from the customer order through the raw materials stage, supply, production, and distribution of products to the customer. All organizations have supply chains of varying degrees, depending upon the size of the organization and the type of product manufactured. These networks obtain supplies and components, change these materials into finished products and then distribute them to the customer.

Evolution of Supply Chain Management

The concept of supply chain existed right from the evolution of trade. First industrial revolution was the transition to new manufacturing processes in the period from about 1760 to sometime between 1820 and 1840. This transition included going from hand production methods to machines. After the First Industrial Revolution the corporate were following factory system which was efficient at that time but with fragmented supply chain approach. Every department was an isolated island and hostile relationships were observed with other trading organizations like suppliers, wholesalers, dealers etc. the scenario started changing after the Second Industrial Revolution happened as Toyota production system in Japan. The same theme was accelerated by advent of MRP system, MRP-II systems and finally ERP systems. The organization starting evolving as one entity and internal supply chain started becoming stronger. This evolution ultimately results into supply chain management. Thus the concept of supply chain did exist long back but the concept of supply chain management is new.

In the early days, the supply chain management was referred to the functions of logistics, transportation, purchasing and supplies. However, the evolution of the supply chain management has moved to focus on integration, visibility, cycle time reduction and streamlined channels. The new integration has a variety of activities that include:

- Integrated Purchasing Strategy
- Supplier Integration
- Supply Base Management
- Supply Chain Management

Logistics activities exist since the early 1900s. These activities were first associated with the military as a branch of war that pertains to the movement and the supply for armies. Military forces always used to make use of logistics models to ensure the availability of the required material at the right place and on right time. Logistics is being used by the military even today.

After 1950, supply chain management got a boost with the production and manufacturing sector getting highest attention. The inventory became the responsibility of the marketing, accounting and production areas. Order processing was part of accounting and sales. Supply chain management became one of the most powerful engines of business transformation. It is the one area where operational efficiency can be gained. It reduces organizations costs and enhances customer service. The evolution led to an Internet-based application for Supply Chain Management.

Review of Literature

Stephen J. New (1997) Advocates an expanded scope for supply chain management research which accounts for the social function and the political and economic implications of supply chain developments. Argues that the research agenda must not be driven by the notion of efficiency alone, but should also be developed around the concept of the just supply chain. Provides a framework which sets out the range of issues which may contribute to this approach.

Andrew Cox (1999) Explains some of the thinking that informs both the case study articles that appear in the same issue of Supply Chain Management: An International Journal and the EPSRC funded research project currently being undertaken at the Centre for Business Strategy and Procurement. A review is provided of the dominant ideas that currently inform “supply chain management thinking”.

D.F. Kehoe, N.J. Boughton (2001) Discussed some of the key elements of research which will investigate the role of the Internet within the manufacturing supply chain and, in particular, focuses on its impact on the manufacturing planning and control operation. The Internet provides the opportunity for demand data and supply capacity data to be visible to all companies within a manufacturing supply chain, consequently companies can be in a position to anticipate demand fluctuations and respond accordingly.

Zhengping Li, Arun Kumar, Yan Guan Lim (2002) One of the typical issues in supply chain management (SCM) implementation is how to capture the complexities of supply chains. This paper reviews the existing supply chain modeling methods, and identifies the limitations of current methods. The proposed method is comprehensive, inclusive and aims to capture the complexities of a supply chain, align supply chain processes, and provide the basis for supply chain integration.

Kabossa A.B. Msimangira (2003) Discusses supply chain management practices, with emphasis on purchasing, in Botswana (a developing country). Focuses on problems facing business operations and how to improve the situation.

Michael Quayle (2003) This paper provides the outcomes of a supply chain management (SCM) practice survey designed to identify current trends in UK industrial small- to medium-sized enterprises. The analysis identifies the adaptation of SCM techniques and relationships between customers and smaller suppliers. The outcomes, based on a survey of 288 firms, indicates a lack of effective adaptation from traditional adversarial relationships to the modern collaborative “e” – supply chain; identifies issues businesses need to address to improve the performance of their

supply chains, and so improve their competitive position by grasping the benefits of effective SCM.

Marianna Sigala (2004) Competition had traditionally been highly intense in the airline sector, forcing airlines to continually foster collaborative practices. Although Information & Communication Technologies (ICT) had always been the backbone of any airline collaborative practice, research investigating the role of ICT in supporting collaboration had been solely concentrated on Global Distribution Systems (GDS) and their impact on marketing practices.

Christopher S. Tang (2005) reviewed various quantitative models for managing supply chain risks & related various supply chain risk management strategies examined in the research literature with actual practices.

Vinod Kumar, Kamel A. Fantazy, Uma Kumar, Todd A. Boyle (2006) The purpose of this research is to develop a conceptual framework for implementing and managing supply chain flexibility in supply chain organizations. The framework suggests that supply chain flexibility should be implemented and managed using a three-stage approach: required flexibility identification, implementation and shared responsibility, and feedback and control.

David A Menachof (2007) This paper reports the findings of an international survey of supply chain management academics on their views of journals used for research, teaching and outreach. Being a specialist field within business management, the rankings provide a guide to both logistics and supply chain management specialists and to our peers in other business fields as to the top journals in logistics and supply chain management.

Ray Torres (2008) As you can see you don't need to spend precious prime time out of your day to shop around banks for the credit card that better suit your business needs. Now you can go online and search, compare and apply for the best deals by going online.

Aweng Moral-Basco (2009) Logistics is enhanced, keeping the cost of transporting materials as low as possible consistent with safe and reliable delivery. Production can run smoothly as a result of fulfillment and logistics being implemented correctly without delays due to ordering and transportation. The company's flexibility to respond to unforeseen changes in demand and supply is improved.

Research Methodology:

Sources of Data: It is an empirical study based on secondary data analysis and literature review.

Objectives of the Study

- To study the concept of supply chain management.
- To know the evolution of supply chain management.
- To study the Global perspective of supply chain management.

Historical developments in SCM

Six major movements can be observed in the evolution of supply chain management studies: creation, integration, and globalization, specialization phases one and two, and SCM 2.0.

Creation era

The term "supply chain management" was first coined by Keith Oliver in 1982. However, the concept of a supply chain in management was of great importance long before, in the early 20th century, especially with the creation of the assembly line. The characteristics of this era of supply chain management include the need for large-scale changes, re-engineering, downsizing driven by cost reduction programs, and widespread attention to Japanese management practices.

Integration era

This era of supply chain management studies was highlighted with the development of electronic data interchange (EDI) systems in the 1960s, and developed through the 1990s by the introduction of enterprise resource planning (ERP) systems. This era has continued to develop into the 21st century with the expansion of Internet-based collaborative systems. This era of supply chain evolution is characterized by both increasing value added and cost reductions through integration.

Globalization era

The third movement of supply chain management development, the globalization era, can be characterized by the attention given to global systems of supplier relationships and the expansion of supply chains over national boundaries and into other continents. This era is characterized by the globalization of supply chain management in organizations with the goal of increasing their competitive advantage, adding value, and reducing costs through global sourcing.

Specialization era (phase I): outsourced manufacturing and distribution

In the 1990s, companies began to focus on "core competencies" and specialization. They abandoned vertical integration, sold off non-core operations, and outsourced those functions to other companies. This changed management requirements, by extending the supply chain beyond the company walls and distributing management across specialized supply chain partnerships. This transition also refocused the fundamental perspectives of each organization. OEMs became brand owners that needed deep visibility into their supply base.

Specialization era (phase II): supply chain management as a service

Specialization within the supply chain began in the 1980s with the inception of transportation brokerages, warehouse management, and non-asset-based carriers, and has matured beyond transportation and logistics into aspects of supply planning, collaboration, execution, and performance management.

Supply chain management 2.0 (SCM 2.0)

Building on globalization and specialization, the term "SCM 2.0" has been coined to describe both changes within supply chains themselves as well as the evolution of processes, methods, and tools to manage them in this new "era".

Key Features of Supply Chain Management

- **Inventory Management** With a supply chain package, companies can significantly improve the way they track and manage their supplies of raw materials and components needed for production, finished goods to satisfy open sales orders, and spare parts required for field service and support.
- **Procurement** All activities and tasks associated with sourcing, purchasing, and payables can be fully automated and streamlined across a company's entire supplier network with a supply chain software package. As a result, businesses can build stronger relationships with vendors, better assess and manage their performance, and improve negotiations to leverage volume or bulk discounts and other cost-cutting measures.
- **Logistics** With supply chain, businesses can improve on-time delivery performance and boost customer satisfaction by achieving complete visibility into how finished goods are stored and distributed, regardless of the number of facilities or partners that participate.
- **Forecasting and Planning** With supply chain software, organizations can more accurately anticipate customer demand, and plan their procurement and production processes accordingly. As a result, they can avoid unnecessary purchases of raw-materials, eliminate manufacturing over-runs, and prevent the need to store excess finished goods, or slash prices to move products off of warehouse shelves.
- **Visibility** Current inventory levels tend to bloat as a result of poor visibility into demand flowing through your supply chain. By making upcoming demand transparent to your suppliers, you let them help you to lower all of your costs and run a far more efficient supply chain.
- **Build strong customer relationships.** Delight your customers and increase retention with optimized invoicing and distribution capabilities that expedite inquiries and order deliveries, reduce errors, and minimize costs.
- **Increase sales success.** Improve service and boost revenues with customer priority ranking. Expand your customer base and close more sales by tracking and managing potential customers as prospects, separate from existing clients.
- **Increase office productivity.** Improve employee effectiveness and speed through invoice entry in a single window, with the ability to view all orders, invoices, back orders, and returns in one location.
- **Fully automate your invoicing.** Expand your distribution capabilities and gain flexibility in reporting, order management, inventory control, and general ledger entry with smooth integration with other Microsoft Dynamics GP modules.

Theories of supply chain management

Currently there is a gap in the literature available on supply chain management studies: there is no theoretical support for explaining the existence and the boundaries of supply chain management.

A few authors such as Hall dorsson, et al. (2003), Ketchen and Hult (2006) and Lavassani, et al. (2008b) have tried to provide theoretical foundations for different areas related to supply chain by employing organizational theories. These theories include:

- Resource-Based View (RBV)
- Transaction Cost Analysis (TCA)
- Knowledge-Based View (KBV)
- Strategic Choice Theory (SCT)
- Agency Theory (AT)
- Institutional theory (InT)
- Systems Theory (ST)
- Network Perspective (NP)

Principles of Supply Chain Management - building foundation for long term advantage

Successful Supply Chain Management is a complex proposition. Within a broad supply chain management there can be a number of small supply chains which need to be managed. Each chain is unique for the given player. The stake for the different players is extremely high making it imperative for the partners - including suppliers, manufacturers, distributors and customers behave as if they are part of the same company. This way only they can enhance performance significantly across the chain. Having as the main concern a win win situation for all the partners involved in the chain leads us to recognise and adhere to the following principles of Supply Chain Management:

Customer is the king: Your operations are meaningless if you don't meet their requirements. In a chain, your customer may be the supplier to some other customer. As such its requirement may be a certain quantity of material to be delivered in a particular time period. Thus begin with the customer.

Management of Logistics: It requires great planning and impeccable execution across the whole chain.

It involves determination of locations for distribution, management of inventory, transportation etc besides laying down clear performance measurement criteria for maintaining the standard of services.

Customer Management: This needs to be properly organized so that the customer gets the desired service. It may require aligning all the supply chains under your command so that their combined output meets the specific demand of the customer.

Process integration: It is the most vital part, the fulcrum on which success of the whole Supply chain exercise rests. For its success it requires real time information sharing among the chain partners and planning together for aspects such as forecasts etc. across the chain.

Leveraging of Manufacturing and Sourcing: It is not possible for the firms, even in a supply chain environment to manufacture in-house, everything that is required across the chain. Instead, outsourcing, lean manufacturing, Just in time (JIT) etc need to be followed. All these need proper linking with each other to produce the desired effect.

Strategic alliances and relationship management: Every chain partner shall look from its own perspective in a supply chain leading to strategic alliances across the chain. Once formed these partnerships need to be developed through effective relationship management

Develop performance measures: Performance measure is basically development of standards of performance and method for their measurement across the chain so that suitable action can be initiated to see that the performance of the entire chain remains optimum.

Advantages and Disadvantages of SCM

The supply chain is a highly complex area. As a result, it can be a source of great efficiency and cost-savings gains. Companies are realizing that, supply chain excellence drives competitive advantage, customer relationships and shareholder value. SCM provides greater productivity at lower cost and enhances quality of products that are more technologically advanced.

There are a few disadvantages, ones that are usually seen early on in the setup process and these are the investment of time, resources, and money to overlook the supply chain.

Discussion

Supply chain suffers when each member tries to maximize their own profit and optimize individually instead of coordinating their efforts. To make supply chain effective the member should look for long term gain over short term benefits and aim for improvements in customer service. They should not put their own house in order first and not to enter into partnership without the genuine commitment from senior management.

Implication of the Study

- **Distribution Network Configuration:** number, location and network missions of suppliers, production facilities, distribution centers, warehouses, cross-docks and customers.

- Information: Integration of processes through the supply chain to share valuable information, including demand signals, forecasts, inventory, transportation, potential collaboration, etc.
- Inventory Management: Quantity and location of inventory, including raw materials, work-in-progress (WIP) and finished goods.
- Cash-Flow: Arranging the payment terms and methodologies for exchanging funds across entities within the supply chain.

Global Perspective

Supply chain management in the international context pertains to the narrowing down of the demographic preposition as regards the inventory management is concerned. The international players have brought up the well defined distribution channels to cater to the international customer. The thrust of the SCM has shifted to the accumulation of resources viz raw materials, distribution channels etc banking upon the core competencies of the various nations. The maintenance of inventory levels has become a holistic approach to keep up with the low cost resources specific to various countries worldwide. The value addition has taken up a whole new dimension aimed at improvement of the velocity of the inventory levels. The supply chain assumes a more comprehensive framework which is aimed at bringing together the various products through a set out mechanism. The SCM global perspective brings together the various operation mechanisms to enhance the inherent capabilities of various participating nations.

Conclusion

Supply Chain Management (SCM) involves joint collaboration between outsourcing partners, suppliers, and customers. It comprises the transformation of goods from raw materials through to the delivery of the finished product. SCM involves the integration of these activities and aims to improve relationships between the various parties, while achieving a sustainable competitive advantage through high quality and lower cost products. Future supply chains are likely to be more dynamic in nature, and consist of collaborative value networks in which productivity and efficiency are constantly maximized. . The SCM global perspective brings together the various operation mechanisms to enhance the inherent capabilities of various participating nations. The manufacturers who are operating global supply chains. For them risk management has become a strategic imperative. Increased security and improved resilience are required to mitigate these risks. Regular testing of infrastructures using simulated disruptions can provide a better understanding of potential issues and possible deficiencies. Organizations that are dependent upon SCM must develop appropriate criteria for the appraisal of supply chain performance, and continuously measure this performance.

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