

A Study of Supply Chain Management's Development and Future

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ABSTRACT

The goal of this essay is to examine, comprehend, and analyze the development of supply chain management. We have made an attempt to investigate the future of supply chain management based on a thorough examination of the literature. Together with the most important classical definitions, we have collected a variety of definitions of SCM from specialists from the early to late eras. This analysis includes several supply chain dimensions as a crucial component. The goal of supply chain management is to enhance company operations by giving them greater flexibility, resilience, and competitiveness (Machowiak, W., 2012). In addition to discussing supply chain management (SCM) and its various facets, the article seeks to distinguish SCM from similar fields such as operations management, value chain management, and logistics management. The research also elaborates on a few SCM ideas. After a detailed analysis of the literature, the study discusses potential directions for further research.

Keywords: Supply Chain: Supply Chain Theories, Supply Chain Evolution, and Future Supply Chain Aspects.

INTRODUCTION

A supply chain, in the words of Mabert and Venkataramanan (1998), oversees the conversion of raw materials into finished items and the timely delivery of those goods to final consumers. The first part of this paper discusses the evolution of supply chain definitions. The primary focus of supply chain management is on the relationships and interactions among different processes, functions, and chain participants, and how these relationships affect value additions and profit maximization (Ballou, 2007). We then elaborate on certain research questions, such as understanding SCM and its dimensions, differentiating SCM from related domains, and identifying various inputs in SCM theories. Additionally, we have tried to identify and evaluate research gaps.

RESEARCH ISSUES

RQ1: To comprehend the dimensions and evolution of SCM.

RQ2: To distinguish supply chain management (SCM) from similar fields such as operations management, value chain management, and logistics management.

RQ3: List the different contributions made to the field of SCM theories. Demand management, sourcing and procurement management, production management, and logistics management are all connected by supply chain management, or SCM.

The supply chain management (SCM) process involves a number of partners, including suppliers, manufacturers, and retailers. Its principal objective is to use a channel that facilitates the appropriate flow of resources and information to add value to the goods that these parties offer to their clients, both upstream and downstream. In this fast-paced economy, a seamless information flow inside the physical network may be fully used through business integration. This corporate integration would facilitate

stakeholder coordination to achieve financial objectives. Since supply chain networks now compete with each other rather than with individual enterprises, many businesses have begun to recognize this (Li et al., 2005; Koh et al., 2007; Chow).

Evolution and Definitions of SCM

The concept and use of supply chain management are always changing. The definition of "supply chain management" has evolved in the industry after twenty years. Its range is constantly growing and shifting. Here, we have tried to identify the pattern in the evolution of SCM by examining the articles in chronological order. A historical examination of the papers will demonstrate how the trend in the SCM definition has evolved.

RESEARCH METHODOLOGY

The research concerns are addressed by means of the literature review procedure. Our study paper aims to identify the trends of SCM evolution. SCM theories and definitions are quite variable and have rapidly changed throughout time. We have looked at a number of research studies and made an effort to investigate the many historical interpretations of supply chain management.

A large number of academic publications were located and referenced from databases including Science Direct, EBSCO, and Emerald. Supply Chain Management: An International Journal, International Journal of Operations and Production Management, International Journal of Information Management, International Journal of Physical Distribution and Logistics Management, Journal of Operations Management, and other journals were among the many journals we cited from these databases.

The following approach has been used for the literature review procedure.

1. **Identification of locations:** We were able to pinpoint the precise locations where we were expected to locate literature by using the research questions as a guide.
2. **Searches in Various Databases:** To locate the pertinent research articles, we used a variety of databases, including Ebsco, Emerald, and others, after deciding on the topics for the literature review.
3. **Sorting the Literature for Review:** After the research papers were accessible, they were arranged according to their applicability to the study topics.
4. **Conducting Review:** After the articles were categorized, a review was conducted to try and find answers to the study questions.

Visualization of the Procedure:

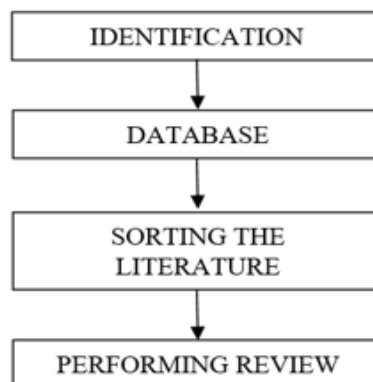


Fig: Visualization of the Procedure

DIMENSIONS OF SUPPLY CHAIN MANAGEMENT

Upon reviewing several articles, we determined three main aspects of the supply chain:

Extended Partnership-The two most crucial markers of a long-term relationship in supply chain management are trust and communication (Heidi and John, 1990). Long-term relationships are identified in several scholarly studies as an important component of SCM (Min and Mentzer, 2004). In a supply chain, sustaining long-term connections mostly involves creating synergies to boost total revenues and improving each other's competencies (Carr and Pearson, 1999). Businesses need to be aware of their long-term relationships with other companies at all times. Because they enable individuals to exchange ideas and gain from one another's experience and skills, long-term connections are very advantageous to an organization (Griffith, Harvey, and Lusch, 2006).

Parallel Programming- It is basically the early cooperation of suppliers, consumers, and other supply chain participants (Celtek and Kaynak, 1999). To ensure that there are no misunderstandings about any aspect of engineering design, all stakeholders are included in the decision-making process from the beginning. Creating cross-functional teams and incorporating all stakeholders in the process of product or process design allows for the completion of any activity that may require collaboration with other stakeholders.

ORGANIZATIONAL THEORIES IN SUPPLY CHAIN MANAGEMENT

These ideas serve as the cornerstones of the supply chain, and it is important to comprehend them. Studies on these fundamental components have been conducted (Ketchen Jr. and Giunipero, 2004 and Ketchen and Hult, 2006). These ideas will be used to comprehend SCM's conventional viewpoint and its historical development.

PERSPECTIVE BASED ON RESOURCES

It is believed that the most important component of supply chain management is the Resource-based View (RBV). These materials are hard to come by, extremely valuable, and uncommon. A competitive advantage over rivals lacking these resources is provided (Barney, 1991). When a company uses cost-cutting, market-seizing, or threat-averting tactics that other businesses do not, it is often considered to have a competitive edge. Competitive advantage arises from resource allocation done right.

KNOWLEDGE-BASED THEORY

The knowledge-based perspective sheds light on supply chain coordination. The hierarchy plays a major role in the coordination of a conventional organization. Formal hierarchy is absent from the standard supply chain philosophy. They mostly rely on knowledge to enable coordinated action. In formal processes, the majority of supply chains are often used to store important knowledge or information within an organization (Grant, 1996).

AGENCY THEORY

According to agency theory, resource holders can be seen of as loosely defining the company. When many people assign certain responsibilities to other people (agents) and give them decision-making authority, an agency relationship is created. The parties get somewhat different goals; often, the agent has a greater goal than the principal (Eisenhardt, 1989). Hiring agents is an expenditure that comes with maintaining a successful agency partnership.

INSTITUTIONAL THEORY

Institutional theory is heavily reliant on outside factors or influences to shape organizational decisions. For certain businesses, it highlights certain supply chain procedures. It gives managers and staff direction on how to comprehend other organization's successes and implement suitable course of action (DiMaggio and Powell, 1983).

TRANSACTION COST ANALYSIS

This idea offers a common method for determining the bounds on how well a company should run (Williamson, 1975, 1985, 1996). TCA is a tool that may be used to incentivize companies to collaborate with other organizations. We can determine which tasks should be carried out internally inside the business and which ones should be outsourced by applying this approach. When a company contracts out a function, the contracted out company becomes a partner of the parent company. Thus, when a partner finds an opportunity, how it behaves will also affect the transaction costs. Long-term contracts with penalty provisions are one approach to lower the risks associated with the partner's unpredictable conduct.

THE NETWORK THEORY

A company's performance in the competitive world of today is not just based on its direct and indirect partners. Therefore, in this day and age, a company's interactions with other companies become extremely vital. The creation of a new resource is determined by how the company engages with other companies. As a result, the two businesses collaborate to create synergies and benefit from one another's advantages. The network theory helps to explain the significance of ties between two organizations, including the development of trust, enduring bonds, and the utilization of one another's procedures and systems. Two types of processes improve the relationship between two firms in a network: the exchange process, in which the two firms trade goods, services, and other information; and the adaptation process, in which the two firms pick up on and adjust to each other's procedures, such as administrative, legal, and logistical (Johanson and Mattsson, 1987).

DELINEATING SCM FROM OTHER RELATED AREAS

Numerous definitions of supply chain management are presented in the above table style. Terms like operations management, value chain in particular, and logistics are frequently used synonymously. This is the real motivation behind focusing on these phrases, where the arguments and parallels as well as differences are examined and explored in more detail.

RESOLVING DEBATE BETWEEN LOGISTICS AND SCM

The planning, execution, and storage of the forward-reverse movement of commodities with associated data between the point of origin and the point of destination are the focus of logistics management. Meeting client requests is the ultimate goal. Inventory management, warehousing, materials handling, demand fulfilment, network design, and inbound and outbound logistics are all included in logistics management. Information technology, marketing, operations, finance, and other disciplines are all included in logistics management. Contrarily, supply chain management focuses on integrating demand and supply management throughout all organizational activities.

One might refer to logistics as a specific area within SCM. The five main core functions in supply chain management are procure, make, move, store, and serve. Moving goods from one place to another is referred to as logistics. It is engaged in a supply chain at different points in time, such as from a supplier to plants, plants to distribution centers, distribution centers to shops, stores to consumers, or any combination of these. Logistics management may involve packaging, technology, customer service, third-party integration, and procurement given the competitive nature of the global market.

RESOLVING DEBATE BETWEEN VALUE CHAIN AND SCM

Value chain and supply chain have frequently been discussed. As we already know, supply chain management (SCM) involves managing the process of converting raw materials into products, often known as completed goods. It keeps an eye on every action involving different supply chain participants, from the supplier to the final consumer. We also know about value chain, a notion popularized by Michael Porter in his landmark study on "Competitive Advantage."

Porter conceptualized the "value chain" as the assembly of nine typical value-added activities that operate within a company and cooperate to deliver value to clients. Porter defined value as the price that buyers are prepared to pay for what a firm deliver (Porter, 1985). Supply chains and value chains are complimentary to one another. The supply chain manages the movement of goods and services, whereas the value chain handles financial flows and satisfying client expectations.

Both chains make use of the same suppliers and parts. Participants in the supply chain are dependent on one another. One of the main differences between the two is the emphasis point. The supply chain's primary focus is on the upstream activities that take place from supplier to manufacturer to distributor to customer. It mainly manages the production procedures, waste reduction, boosting output and effectiveness, and other related duties.

Value chain concentrates on operations that occur downstream and add value for the clients. It primarily handles demand fulfilment, timely delivery, customer satisfaction, and other associated tasks. Various research studies seem to muddle this distinction.

The idea of a value chain has changed throughout time, and it is now possible to state that a value chain functions both ways. From the perspective of the provider and the client, it provides value. Whereas the latter obtains value from the caliber of the goods and services provided, the former obtains value via payments.

A further distinction between a value chain and a supply chain may be that the former emphasizes cost containment and the accomplishment of strategic objectives, while the latter places greater emphasis on R&D, marketing, after-sale services, return on assets, return on investments, and profitability. In summary, a value chain pertains to a company, while a supply chain serves an industry. The current situation requires that value chain and supply chain be viewed as one and the same. All supply chain components must be completely connected, and information must flow instantly, in today's competitive market.

To keep debating these two ideas might lead to a gap in our current framework. To attain commercial excellence, all organizations should strive for integration.

RESOLVING DEBATE BETWEEN SCM AND OPERATIONS MANAGEMENT(OM)

The majority of businesses view supply chain management as a component of operations management. There is, however, one distinction between the two. While the latter is solely internal, the former is both external and internal. Manufacturing goods in accordance with specifications, appropriate packaging, selling to the correct merchants, and effective marketing are all responsibilities that fall within the purview of operations management.

Operations management is responsible for sales forecasting, productivity enhancement, enhanced responsiveness, meeting demand, and upholding quality standards. Controlling each stage of the manufacturing process is the focus of operations management, which encompasses a wider range of tasks including supply chain management.

SCM, VC, AND OM'S COMPARATIVE AND CONTRASTIVE FEATURES

The phrases "operations management" and "supply chain management" are closely linked. Managers in organizations frequently mix these together. Although there are some conceptual overlaps and parallels between the two ideas, there are also some distinctions.

In general, supply chain management deals with external aspects of the business, whereas operations management handles internal matters. But the two words are actually rather similar and interdependent. SCM is typically seen as a subset of OM. SCM is concerned with managing and keeping an eye on the equipment purchases for raw materials needed to manufacture goods. SCM is just one of the larger range of tasks that OM does.

A similar relationship exists between supply chain management and logistics. Supply chain management is the comprehensive management of materials, encompassing everything from the procurement of raw materials to the delivery of finished goods to the final user. Its activities include design, planning, execution, control, and monitoring. On the other hand, logistics focuses primarily on the movement of goods from the point of production to the point of consumption. Achieving customer happiness is the ultimate aim of both supply chain management and comprehensive quality management, if we compare the two. Despite having different origins, each of them are evolving in comparable ways. They both enter the scene in order to satisfy the requirement for tactical plans for operations. As stated by Gunasekaran and McGaughey (2003) on page 361: "The Total Quality Management (TQM) philosophy encourages cost reduction, the creation of high quality goods and services, customer satisfaction, employee empowerment, and the measurement of results." SCM, on the other hand, is a management concept that controls the entire material flow through a variety of channels, from the producer to the final consumer.

FINAL THOUGHTS, SPECIAL CONTRIBUTION, AND FUTURE RESEARCH PATHS

The paper's goal was to examine SCM's dimensions and evolutionary history. Three research questions served as the foundation for this paper:

RQ1: To comprehend the dimensions and evolution of SCM.

RQ2: To distinguish supply chain management (SCM) from similar fields such as operations management, value chain management, and logistics management.

RQ 3: To list the different contributions made to the field of SCM theories.

We were able to chart the development of supply chain management as a concept after examining articles on SCM and operations management, and the findings are shown in tabular form. We were able to determine which aspects of supply chain management—long-term relationships, concurrent engineering, and strategic purchasing—were most crucial. It was possible for us to distinguish between a few different terms, including supply chain management, value chain management, operations management, and logistics management.

We were able to distinguish SCM from other similar fields by looking at a number of articles on these subjects. Many SCM ideas have developed throughout time and gained widespread acceptance in the sector. In order to develop our theories, we looked over a number of publications and did so in this one.

UNIQUE CONTRIBUTION

The distinctive contribution of this research is the framework of the evolution of SCM across time, together with its future aspects.

An attempt has been made to illustrate the evolution of SCM from the 1960s to the present through the graphic below.

The graphic shows that the scope of supply chain management (SCM) has been growing over time, and we anticipate that in the future it will cover a lot more operations.

The figure shows that SCM nowadays includes all ideas, including physical distribution, operations, logistics, and more.

- Information Services
- Competitive Advantage
- Strategic Planning
- Marketing
- Sales
- Financial flow

Product Flow

- Demand Forecasting
- Production Planning
- Purchasing
- Material Management

Physical Distribution

- Distribution Planning
- Order Processing
- Transportation
- CustomerService
- Information flow
- Warehousing
- MaterialHandling
- Packaging
- Returns

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