

Research on the Evolution and Development of the Connotation of Supply Chain Management

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Abstract: The concept of supply chain management has been in existence for nearly 40 years, and the connotation of supply chain management is constantly expanding. In recent years, the theory and practice of supply chain management has penetrated into all walks of life and become an important theory of enterprise development in the 21st century. People from all walks of life often apply supply chain management theory to discuss supply chain management methods, but often create problems with inconsistent concepts. This paper summarizes the production and development process of supply chain management, discusses the different stages of supply chain management from the aspects of information technology, logistics management, enterprise management, etc, clearly describes the connotation of supply chain management, and better understands supply chain management for people. Have some help.

1. Introduction

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Since the reform and opening up, great changes have taken place in Chinese enterprises. In the 1980s, the theory of "enterprise management" was introduced. In the 1990s, the theory and practice of "logistics management" came into being. In the first ten years of the 21st century, with the application of information technology, the enterprise management mode has been constantly innovating, and many new enterprises have been created, which have made great contributions to the national economy. The 21st century is the century of "supply chain management". Now the competition is not between enterprises, but between supply chain and supply chain. Over the past 10 years, the theory and practice of supply chain management have gone deep into enterprises to improve their competitiveness by optimizing and reconstructing supply chains. However, because people have different experiences and roles in enterprises, they have different understandings and understandings of supply chain management, which leads to many problems in practice. People in different departments of supply chain still construct supply chain from the interests of their own departments. The concept of integration and coordination of supply chain management is only applied to the appearance, not really considering the overall interests and coordination of supply chain. Customer value.

2. Logic Diagram of Supply Chain Management Development

According to the development process of supply chain management, the logic diagram of supply chain management development is drawn as shown in Figure 1.

Starting from the application of marketing practice, based on the different stages of the industrial revolution and taking the development of information technology as an opportunity, this chart combs the production process from logistics management concept to supply chain management concept, as well as the different connotations and development process of supply chain management.

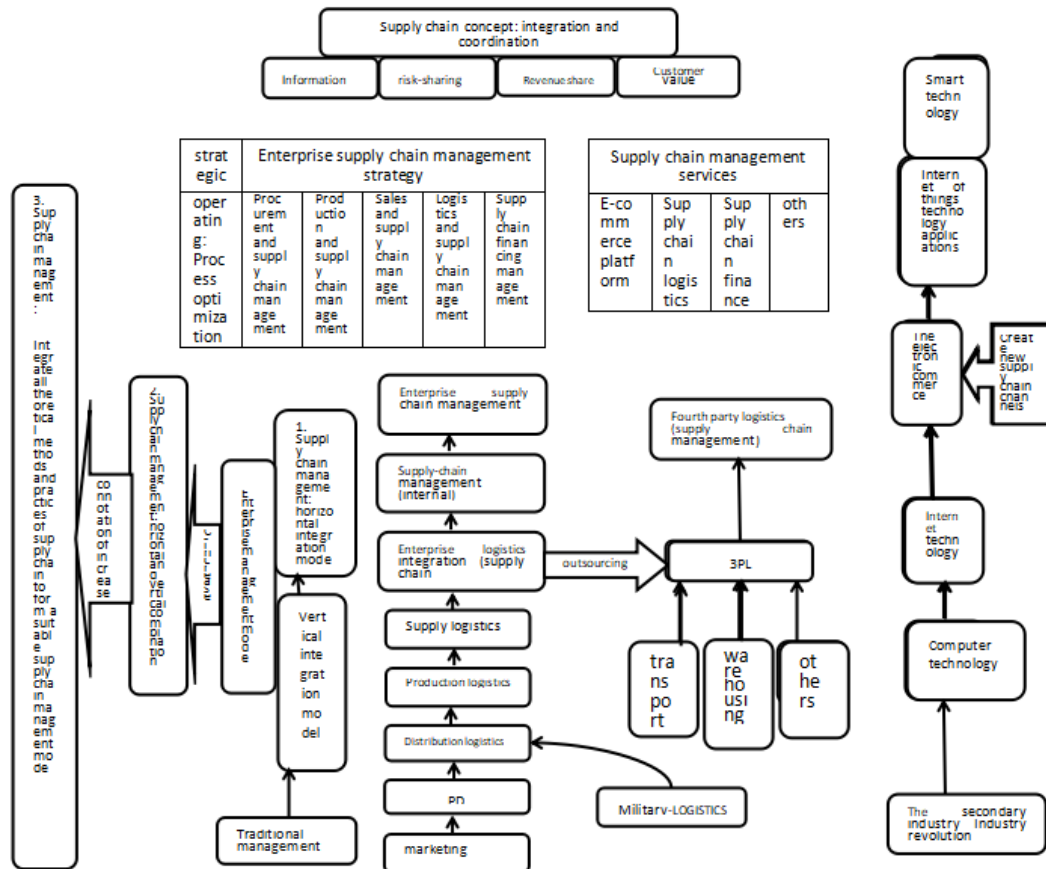


Figure 1: Logic Diagram of the Development and Evolution of Supply Chain Management

3. The Development Course of Logistics Management

3.1 Development course of enterprise logistics

Everything has its origin, with the development of industrial revolution from machinery, electricity, computer, Internet and Internet of Things. The supply and demand of the market are changing, and the logistics industry comes into being and develops accordingly. The evolution of logistics concept has been well known in the United States since the beginning of the 20th century, and is closely related to our daily life. The development and evolution of logistics concept has gone through nearly a hundred years. The emergence and development of logistics has gone through three stages, as shown in the Table 1.

3.2 Logistics Development Course of Logistics Service Enterprises

Logistics refers to the moving process of goods from the place of supply to the place of demand. Through the integration of transportation, warehousing and distribution, the whole process of planning, implementation and management of raw materials, semi-finished products, finished products and related information from the place of origin of commodities to the place of consumption of commodities is realized, and the cost is reduced under the condition of customer satisfaction. Logistics includes enterprise logistics and logistics service enterprise logistics.

Developed countries have roughly experienced the following stages in the development of logistics for logistics service enterprises:

During the 1950s, traditional logistics enterprises such as single-function transportation, warehousing and distribution were the main ones.

From 1950s to 1970s, the first-party logistics and the second-party logistics developed maturely. The main characteristics of the first-party logistics and the second-party logistics are that enterprises

can realize the distribution and storage of goods by establishing their own logistics departments and under the guidance of warehousing and cost control theory.

In the 1980s, with the application of the concepts of "core competence" and "business outsourcing", third-party logistics developed rapidly. Enterprises outsourced non-core logistics business. Logistics enterprises utilized information technology and professional capabilities to integrate multiple customer logistics needs, form scale effect, create value for customers and obtain profits.

Since the 1990s, with the development of information technology and third-party logistics, customer enterprises have higher requirements for it. Fourth-party logistics (supply chain management services) which provides overall supply chain solutions for customers has developed vigorously.

4. Evolution of Enterprise Management Model

The management mode refers to the systematic management method which transforms human, talent, material and information resources into suitable products and services that can be quickly and timely delivered to the market.

4.1 Traditional management model

At the end of the 19th century and the beginning of the 20th century, western enterprise management theories have basically matured. The representative theories mainly include Taylor's "scientific management principle", "Fayol's" general management theory, "Weber's" general administrative organization theory and "behavioral science theory" produced in the 1920s. These theories play a guiding role in the management of enterprises or departments, but they have not yet been involved. Management between upstream and downstream enterprises in supply chain. In the 1930s and 1940s in the United States, due to the distrust of upstream and downstream enterprises in the supply chain, transaction costs increased sharply, and the vertical integrated management model came into being. The so-called "vertical integration" mode is that in order to control or possess resources, an enterprise purchases or shares from upstream suppliers, controls downstream retailers or its own sales system to form a "big and complete" and "small and complete" enterprise management organization mode.

"Vertical integration" mode is produced under the conditions of underdeveloped information technology, competition and distrust among enterprises and seller's market. In the buyer's market, there are many problems under the conditions of individualized and diversified customer demand, namely, the increasing investment burden of enterprises in many aspects; the loss of opportunities for enterprises' core business market; enterprises will engage in some non-core business activities; and enterprises will understand various business activities. Domain is facing many different competitors, increasing the risk of enterprise industry, etc.

4.2 Management Model Based on Single Enterprise

In the 1960s and 1970s, with the application of computer technology and other production technologies, many new management modes emerged in a single enterprise, including Group Technology (GT), Flexible Manufacturing Cell (FMC), Variety Reduction Program (VRP), Computer Integrated Manufacturing System (Computer Integrated Manufacturing). Factorizing System, CIM, etc.

These management modes are based on the management mode of a single enterprise. By adopting these modes, the internal resources of a single enterprise are effectively utilized, and the competitiveness of the enterprise is improved to a certain extent.

4.3 Extension-based management model

The management mode based on single enterprise can make full use of the internal resources of enterprises, but the resources of enterprises are limited. In order to obtain more benefits, enterprises need to make use of external resources, which urges enterprises to cooperate with upstream suppliers

and downstream customers, make full use of their resources to create profits for enterprises, Agile Manufacturing (AM), Virtual Enterprise (Virtual Enterprise). Management models such as enterprise resource planning, Virtual Enterprise emerged as the times require.

4.4 Horizontal Integrated Management Model

In the 1980s, the theories of "outsourcing" and "core competence" prompted the emergence of "horizontal integration" management mode. Horizontal integration is a management mode in which enterprises focus on core business while outsourcing non-core business. Through the "horizontal integration" management model, from raw material suppliers to manufacturers, distributors, to final customers, each link has its core competence, and there is a relationship between supply and demand between adjacent nodes, thus forming a supply chain. Subsequently, there are three management modes, namely, push-and-pull enterprise resource planning (ERP), JIT pull-and-pull management and push-and-pull constraint theory (TOC) management.

With the development of production technology and information technology, there are more and more business management models. The application of the evolved enterprise management model in supply chain management enriches the connotation of supply chain management, and the theory of "supply chain management" has been further developed.

5. Development of Supply Chain Management

In 1982, Kane Oliver and McCaul Wilbur of the United States published the article "Supply Chain Management: Logistics Updating Strategy" in the magazine *Observation*, and put forward the concept of "Supply Chain Management" for the first time. Subsequently, a great discussion on "supply chain management" was launched. For example:

Houlihan (1988): Supply chain management is an activity that manages all material flows from suppliers, through producers or circulators, to end consumers; Langeley and Houlcomb (1991): Supply chain management is the interaction between channel members to provide products or services that bring the highest value to end consumers; Navack (1991): Supply chain Management is to manage all material flows from suppliers, through producers or circulation operators, to end consumers, etc.

Supply chain management originates from logistics management. As an advanced stage of logistics management development, in the process of discussion and application, many enterprise management theories have been added, especially the management mode theory of "vertical integration" and "horizontal integration", strategic management theory, value chain theory, principal-agent theory, core competitiveness theory, etc. Extension has changed a lot. The development of supply chain management has gone through three stages, as shown in the Table 2.

Table 2 The development of supply chain management has gone through three stages

stage	connotation	scope	target
First stage, 1980s: internal supply chain	Supply chain is an internal process in manufacturing enterprises, which is a process of transferring purchased raw materials and received parts to users through production conversion and sales activities	Involved in the main from the material procurement, inventory, production to distribution departments function coordination	Optimize internal business processes to reduce costs and improve operational efficiency
Stage two: the 1990s: extended supply chains	Stevens of the United States believes that the control of the flow from 'suppliers to users' through value-added processes and distribution channels is the supply chain, which starts at the source point of supply and ends at the end point of consumption.	Raw materials and parts are gradually transformed into products through suppliers, manufacturers and distribution channels to end users	Make full use of the upstream and downstream resources of the supply chain to maximize the overall benefit of the supply chain.
The third phase enters the 21st century: the supply chain	The production and distribution process involves the product or service to the end user activities of the upstream and downstream enterprises, formed by the network chain structure.	Core enterprise's network chain relationship with upstream suppliers of different types, suppliers of suppliers to raw material suppliers, downstream customers of different types, customers of customers to end users.	Maximize customer value through overall collaboration of the supply chain.

The concept of supply chain is different from the traditional sales chain. It crosses the boundaries of enterprises and becomes a new management method system, an operational management thinking and mode from the perspective of expanding the enterprise as a whole. In academia and business circles, because different people talk about "supply chain management" from different perspectives and stages, the scope of its meaning is different, but in general, there are three kinds of concepts: supply chain management concept, enterprise supply chain management, supply chain management services.

With the development of e-commerce, Internet of Things and intelligent technology, new channels and methods have been created for supply chain. New supply chains such as mobile supply chain and intelligent supply chain have been developed, and new contents have been injected into the development of supply chain management. Nowadays, the competition between supply chains is the competition between supply chains. With the development of supply chain management, supply chains will also cooperate to form a larger system - "supply chain network".

6. Summary

To sum up, the development of supply chain management includes four aspects: first, the development and application of information technology, from the new energy of the second industrial revolution to computer technology, then to the development of Internet technology, Internet of Things technology and intelligent technology, which provides technical support for the development of supply chain management; second, the development of enterprise logistics demand, due to different economic and technological conditions, market supply The focus and method of enterprise management are different from the change of demand. From focusing on marketing methods to physical distribution, from focusing on logistics cost to customer value, from self-operation to outsourcing, enterprise supply chain management has been developed, and formed supply chain strategic management, procurement and supply chain management, production and supply chain management, logistics and supply chain management, supply chain financing management, etc. It is the great development of logistics service industry. With the development of enterprise supply chain, enterprises pay attention to outsourcing, especially manufacturing enterprises outsourcing non-core business (logistics) to promote the development of logistics enterprises, from single function to multi-function, from one service for enterprises to supply chain logistics service, forming supply chain management service industry. Fourthly, enterprises have rich management modes and methods. The development of enterprise management theory, especially the emergence of system management theory, has broadened people's horizons. Horizontal integration and vertical integration management, push and pull management, self-operation and outsourcing, strategy and operation management, relationship management, customer service management, value management, etc., enrich the connotation and scope of supply chain management, form the theory system of supply chain management under the concept of supply chain management (integration and coordination), and have been practiced and developed in different fields of supply chain. In the future, supply chain management will also extend to the cooperation among multiple supply chains, forming a "supply chain network" or "industry supply chain network".

Acknowledgement

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Table 1 The emergence and development of logistics has gone through three stages

stage	period	item	event
The first stage: the initial stage of logistics, distribution logistics produced	From the early 1900s to the 1950s	Physical Distribution	American marketing scholar Archie Shaw the concept of "Physical Distribution" was put forward from the perspective of marketing in 1915
		Military Logistics	The concept of "Logistics" proposed by American major John S. Baker in 1905 from the perspective of Military Logistics refers to the supply guarantee, transportation and storage of materials
The second stage: Enterprise logistics Development stage	From the mid-1950s to the mid-1980s	Logistics management	In 1961, Smudger, Bolshox and Mossman Jointly wrote the world's first complete textbook of logistics management. In the early 1960s, Michigan State University and Ohio State University offered courses in logistics management.
		Production logistics	In 1965, Dr. Joseph A. Orlicky proposed the concept of independent needs and related needs. MRP is used in manufacturing enterprises. In the 1970s, Toyota created "Just In Time" (JIT) production technology and "kanban" technology. In the 1980s, DRP (Distribution Requirement Planning) technology was born. In the 1990s, LRP (Logistics Resources Planning) technology and ERP (Enterprise Resources Planning) technology were born.
		Supply logistics	Supply logistics refers to the physical flow of raw materials, parts or other items needed by enterprises from suppliers to the place of production demand. Just-in-time supply theory was developed and applied
The third stage: enterprise logistics integration (supply chain management) stage	From the mid-1980s until now	Supply chain management(SCM)	In 1982, American Kane Oliveira and McCall Weiboer published the article "supply chain management: the renewal strategy of logistics" in the magazine "observation", and put forward the concept of "supply chain management" for the first time. Subsequently, "supply chain management" has become a synonym for logistics management -- the advanced stage of logistics development, including the whole process of supply logistics, production logistics and sales logistics integration from the supplier to the place of demand.