



## THE ROLE OF MANAGEMENT IN THE EVOLUTION OF THE COMPANY'S SUPPLY CHAIN

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### **Abstract:**

Today, knowledge and intellectual capital of the organization are the main factor in competition and, in other respects, these supply chains compete with each other, and thus organizations must work to integrate the entire supply chain in an integrated manner in coordination with other members of the chain. On this route the integrated management of supply chain knowledge is important both in improving the functional characteristics of the chain and in promoting the integrity of the supply chain the present paper focuses on supply chain review and others the evolution of that pendulum then discusses its management and its role in the supply chain. The theoretical review of the subject literature shows that the role of knowledge management in supply chains is not only undeniable, but with the development of information and development technology.

**Keywords:** knowledge management, supply chain management, evolution of supply chain

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## 1. Introduction

Today, academics researchers and industry activists strongly believe the importance of knowledge management for survival in a fully competitive and constantly changing marketplace many believe that companies will have a competitive edge if they know how to create, store, distribute and operate organizational knowledge. Today's world is moving towards more effective systems that make effective use of knowledge essential and vital. Knowledge management to create new opportunities and gain greater value from supply chain business based on core competencies provides. At present, knowledge management is a very hot topic, and successful managers have always appreciated. The advent of the Internet, information technology and knowledge management has reduced transaction costs and increased user trust. Such factors allow the development of knowledge transfer in supply chains. This requires changing the traditional methods of operation in the supply chain. In an industrial economy, knowledge-based logistics has a very important strategic role for organizations that are trying to keep pace with market changes and have an integrated supply chain. The main research knowledge management approaches are diverse, from the activities of knowledge sharing knowledge management economics, and systems design to intelligent applications. What is currently lacking is the holistic review of these phenomena in a process. Our aim in this paper is to examine the overall role of knowledge management phenomena in the corporate supply chain. Therefore, firstly, it discusses supply chain management and its evolution and the role that knowledge management has in creating a new stage in supply chain evolution, then defines knowledge management and explains its role in the supply chain in a comprehensive manner.

## 2. Supply Chain Management

It may be assumed that the supply chain has not been invented and has existed in the past; this is the correct thinking of a long supply chain, but supply chain management is a new concept, in other words, guiding all members of a chain in an integrated and coordinated way. There are several definitions of the supply chain, but the short definitions that can be provided from the supply chain are: *"chain supply, chain that covers all activities related to the flow of goods and the conversion of materials from the stage of procurement of raw materials to the stage of delivery of final goods to the consumer."* The best and, at the same time, the simplest definition of chain management Supply is also: *"an integrated approach for managing networks supply and distribution"*.

In this definition, the purpose of the Office is to manage physical materials, services, information, money and time between organizations in a commercial relationship that covers the goals of all organizations. Supply chain management is the evolutionary management of storage. A supply chain to stream materials, information, funds and services from Suppliers of raw materials, through workshops and warehouses to final customers It refers to organizations and prestigious goods Creating information and services and delivering it to the customer.

In fact, the supply chain consists of all stages and factors that directly or indirectly engage in satisfying customer demands. Thus, a supply chain involves many single entities, each of which adds value to the product or service. This chain includes many tasks, including purchase, flow of funds, material handling, process planning and control, inventory control and logistics, distribution and delivery. Supply chain management consists of three major components: supply and procurement, production and distribution. Hence, supply chain management has three types of management:

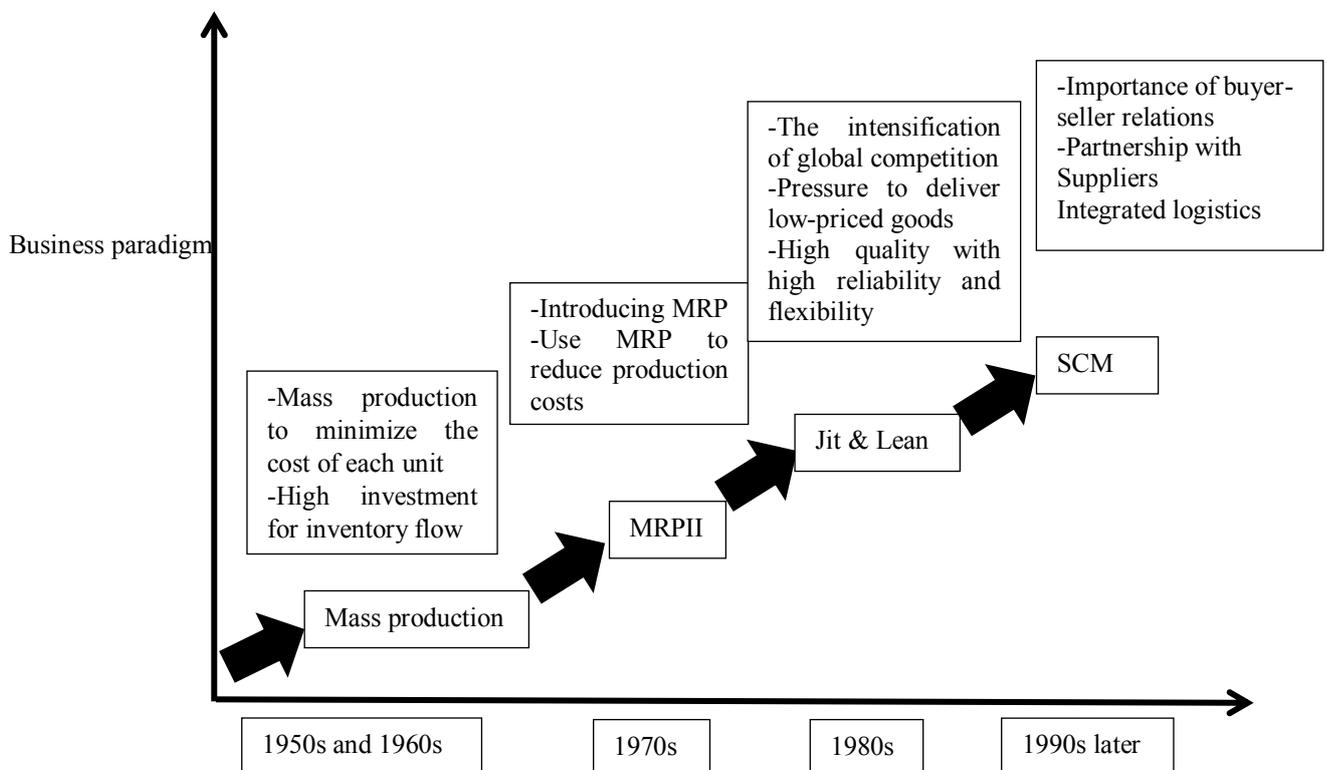
- Data management;
- Logistics management;
- Relationship Management.

Theoretically, the supply chain target is the delivery of a particular service or end-user. This multilevel process can be from by sharing and efficient processing a large amount of data for Internal and intra-corporate business more efficient. For the supply chain Hayek, which works with many suppliers Effective use of knowledge management technology for effective design the prediction of future operations is very effective.

### **3. The Evolution of the Supply Chain**

Achieve a supply chain of pride tools for each company Goals and business aspirations. Due to changes in environmental conditions and product changes, organizations are required to re-design their chain from time to time. Over time, as business paradigms change, the concept of supply chain has also evolved. In the 1951 and 1961s, most manufacturers started to produce to reduce the cost of producing each unit, as the main operational strategy was emphasized. The development of the new product was slow and focused exclusively on its own technology and capacity. To balance the flow of production, production bottlenecks were being held for an operation. That's it leads to a lot of investment in inventory It was made. In the 1970s, resource planning was introduced, and executives realized the impact of existing goods on manufacturing costs, quality, product development, and delivery times. To this will bring new material management concepts to improve performance the organization has taken refuge.

The intensification of global competition in the 1980s forced organizations to bring the world at a low cost, high quality and Design reliability and flexibility and Producers from time to time and other for management initiatives improve their production efficiency. In the production environment, manufacturers realized the importance and potential benefits of partnership and interaction in buyer-seller relations. The concept of supply chain management came about when producers developed strategic partnerships with their direct suppliers. In addition to logistics specialists, logistics and transportation professionals also took the concept of material management into one step forward and also provided distribution and transportation operations, and ultimately led to the creation of an integrated logistics concept that is also known as supply chain management. The evolution of SCM continued in the 1990s, and organizations expanded the HRM approach with regard to strategic suppliers and logistics operations in the supply chain. Figure 1 illustrates the evolutionary stages of supply chain management. In recent years, with the expansion of information technology and development Electronic Commerce and Knowledge Management Components of the supply chain there have been a lot of changes. Continue on this topic Investigating knowledge management and its role in explaining and evolving the chain Supply.



**Figure 1:** The evolution of supply chain management

#### 4. Knowledge Management

Before addressing the concept of knowledge management is necessary to provide a definition of the words of knowledge. According to Davenport and Porsec 1998, "Knowledge is a complex concept of structured experiences, values, underlying information, and expert insight that provides a framework for evaluating and integrating new experiences and information that emanates from people's thinking. Knowledge and resources in organizations not only documents but also in organizational routines, processes and norms of the organization can be found. Knowledge management is also a structured approach that employs procedures for identifying, assessing and applying knowledge to meet organizational needs and goals. Knowledge management involves combining internal and external information and transforming them into active knowledge through the IT platform.

Many of the issues of knowledge management are very similar to the principles of information management: collect data, store them, and prepare the books and records, workflow and communications mechanisms and so on. However KM several proprietary features that make it different from the traditional ways of dealing with the data. The purposes of knowledge management in organizations is to value knowledge and create new knowledge through synergy, knowledge must be shared and shared with people, and use of knowledge gained to achieve the highest goals of the organization and gain competitive advantage. Through knowledge management, information, knowledge, expertise and skills can easily be transferred to the main needy or to the knowledge base for future use. In this regard, Peter Drucker describes the management of the productivity of knowledge-intensive staff as one of the greatest challenges of management in the 21st Century, with which organizations deal with it. But what comes out of thousands of experiences is that knowledge management does not need more tools to collect information and data, but it needs a new vision for the integration of discrete information that can enhance individual insight. In other words, for the development and management of knowledge, not only is it necessary to maximize the memory of the company, Stock also relates to existing organizational and intellectual capital skills. Organizations need not only to remain competitive but also to manage their knowledge. For them, they are not only sufficiently agile, but also need to be clever organizations. There is an urgent need to create knowledge management metrics for executives to see if knowledge management is effective for their organizations? They have to determine what value is being added to processes and products. Organizations are gradually finding that knowledge is a privilege, perhaps the only score that grows over time and if properly controlled, they will be able to compete continuously in the new millennium.

## 5. Supply Chain and Knowledge Management

Today, the world moves towards more effective systems where effective exploitation of knowledge is vital. KM provides new opportunities for creating and maintaining value for supply chains based on key business competencies. In fact, vital artery knowledge management systems are supply chains. By adapting the information that exists in formal and informal knowledge management systems, companies reduce the costs of the product, reduce the costs and bring more value to both domestic and foreign customers, thereby gaining competitive advantage in the market. Creating and distributing knowledge across the supply chain is a very important requirement. When there is a multi-layered supply chain in which dynamic interactions occur between suppliers, manufacturers, distributors, retailers and individual customers. The flow of knowledge between these interactions is critical to the success of the supply chain. This becomes more difficult when each loop of the supply chain has CRM and EPR systems, and other businesses are knowledge-based. The discrepancy between these heterogeneous systems can reduce the amount of information that should flow between chain loops and create inconsistent supply chains. Inaccurate performance, inadequate forecasting, deferred orders and frequent deficiencies, volatile cost structures, overtime in factories, poor supplier performance, abnormal standards and indicators, long planning, reprogramming, and poor inventory improvement there are inconsistent signs of a supply chain. If these deficiencies are not corrected in order to provide knowledge flow across all components of the supply chain, the effects of this include reducing market share, reducing margins, lowering the return on investment, losing customers, and reducing the revenue of business organizations. In order to optimize the supply chain for all the key factors in the chain, it must be able to establish the flow of knowledge across the chain. Connecting in the supply chain is the first factor in establishing connectivity across the knowledge chain. The second is the transfer of this knowledge, enabling all users in the supply chain to make decisions that maximize customer value while minimizing costs and time cycles. The third characteristic of the knowledge management system is the ability to collaborate on sharing knowledge and encouraging knowledge sharing that allows for adaptation to market changes for the supply chain. This adaptation to the supply chain needs to predict, complete, produce and transfer environmental permissions. There are many issues in finding key knowledge assets in the supply chain and the ability to utilize knowledge efficiently. Knowledge management systems in the supply chain need to support the following:

- Supporting a vocabulary domain throughout the supply chain to ensure that knowledge is properly understood.

- The model and knowledge available in each component of the supply chain must be fully identified
- The supply chain manages knowledge for different applications to share and reuse existing knowledge resources.

In this approach, managing a supply chain involves the flow of tangible and intangible resources across the chain. The circulation of these resources can be one-way and two-way. But today, the flow of intangible resources and bilateral flows in the supply chain have become very important due to environmental and competitive conditions. This shows the need for using knowledge management and integration for supply chain management to characterize the character and effectiveness of the supply chain. Also, the development of a strong knowledge management system in the supply chain has become more important for the following reasons:

- Markets are increasingly competitive and the level of innovation is increasing, so that knowledge must be expanded and accelerated more quickly.
- Companies organize their businesses for value to the customer. The duties of employees, such as management structures, are declining. In this situation, the need to replace the informal knowledge management with employee activity is felt in an official manner in the business activities used by the client.
- The pressure of competition reduces the size of the labor force while they have knowledge. Getting knowledge requires time and money to make money and money. While employees now have less time to do this.
- The ever-increasing trend of employees to early retirement and more displacement will lead to its disappearance.
- A change in the strategic direction may lead to a loss of knowledge in a particular context. Re-entering this policy leads to the need for re-knowledge of this knowledge, however, that there may be no longer the same size as the past of employees with that knowledge.
- The current trend towards outsourcing to many businesses, such as engineering, information technology and operations, trust and reliance on other organizations may potentially reduce the value of its customers. Knowledge management systems can help businesses to style purchasing choices or design a solution or solution.

Researchers believe that knowledge management systems in a supply chain are the formal / informal set of heterogeneous collection of CRM, EPR applications, databases, spreadsheets, documentation, processes and training programs that relies on old information and business paradigms. Knowledge management and supply chain, as well as order management at the intersections of industries around the world. The pressure to create added value for customers is reduced by cost reduction and shorter

cycle times at the strategic operations center of each industry. Knowledge management and supply chain are essential to achieving company goals. In today's competitive environment, these supply chains compete with each other; hence the cohesion of the chain members is crucial for gaining competitive advantage in the market. In this regard, knowledge management has an irrefutable role in promoting chain integrity and thus improving its performance.

## **6. Conclusion**

Given the advent of knowledge management and its crucial role in creating competitive advantage as well as survival in a competitive environment, large and small industries need this, and neglecting the importance of this issue creates a lot of problems for them. It is also necessary to acquire knowledge of individuals and to manage and control the input and output channels and to pay attention to the knowledge infrastructure of the requirements for the implementation of KM in the organization. In this paper, we have tried to raise the need for attention to knowledge management in supply chains.

Today, there are other supply chains that compete with each other, so organizations must try to improve the overall supply chain competency in an integrated manner in coordination with other members of the chain. On this path, the issue of integrated knowledge management of the capital, either in improving the functional characteristics of the chain and what matters is the promotion of gender equality. In fact, knowledge management systems are critical to supply chains, and companies, through sharing information in the supply chain, reduce the time cycle of goods, services and costs, and deliver more value to both their domestic and foreign customers and in this way, they gain competitive advantage in the market.

For knowledge flow in the supply chain, the three components of connecting supply chain components, the transfer of knowledge to all its members and the creation of a comprehensive supply chain culture for encouraging and collaborative efforts to share knowledge. Finally, in recent years, with the development of information technology and e-commerce development and the importance of the issue of knowledge management for companies, various supply chain components have undergone many changes and the supply chain has actually entered a new stage in its evolution.

## References

1. Angerhofer B. J., Angelides Marios C.; System dynamics modeling; In Supply Chain Management: Research Review, Proceedings of the 2000, Winter Simulation Conference, 2000.  
Akkermans H. A.; "Developing a logistics strategy through participative business modelling;" *International Journal of Operations & Production Management*, 15 (11), 1995.
2. Al Gahtani, Saeed (2004). "Computer Technology Acceptance Success Factor in Saudi Arabia: An Exploratory Study", *Journal of Global Information Technology Management*, Vol 7, No 1, PP. 5-29.
3. Beamon, B. M. 1999. Designing the green supply chain, *Logistics Information Management*, 12: 332-42.
4. Brans, J. P.; Mareschal, B. & Vincke, P. H. 1986. How to select and how to rank projects: The PROMETHEE method, *European Journal of Operational Research*, 24: 228-238.
5. Carter, C. R.; Kale, R. and Grimm, C. M. 2000. Environmental purchasing and firm performance: an empirical investigation, *Transportation Research Part E: Logistics and Transportation Review*, 36: 219-228.
6. Diabat, A. and Govindan, K. 2010. An analysis of the drivers affecting the implementation of green supply chain management, *Resources, Conservation and Recycling*, 55: 659-667.
7. Davenport, T., "Think Tank. Making the Most of an Information-rich Environment: The Future of Knowledge Management", handbook, available at: [www.itconsultancy.com](http://www.itconsultancy.com), 1999.
8. Davenport, T., De Long, D. W. and Beers, M. C., "Successful knowledge management projects", *Sloan Management Review*, Vol. 39 No. 2, p. 43-58, 1998.
9. Davenport, T. H. and Prusak, L., "Working Knowledge: Managing What Your Organisation Knows", Harvard Business School Press, Boston, MA, 1998.
10. Desouza K., Chattaraj A., Kraft G., "Supply chain perspective to knowledge management: research propositions", *Journal of Knowledge Management*, Vol. 7, No. 3, p. 129-138, 2003.
11. Desouza K., "Intelligent agents for competitive intelligence: a survey of application", *Competitive Intelligence Review* Vol. 12, No. 4, p. 57-63, 2002.
12. Douligeris C., Tilipakis N., "A Knowledge Management Paradigm in the Supply Chain", *Euromed Journal of Business*, Vol 1, No 1, p. 66-83, 2006.

13. Eltayeb, K.; Zailani, T. & Ramayah, S. 2010. Green Supply Chain initiatives among certified companies in Malaysia and environmental sustainability: Investigating the outcomes, Resources, Conservation and Recycling, 55: 495-506.
14. Fletcher L., Polychronakis Y., "Capturing knowledge management in the supply chain", EuroMed Journal of Business, Vol. 2 No. 2, p. 191-207, 2007.
15. Fortes J., "Green Supply Chain Management: A Literature Review", Otago Management Graduate Review, Vol 7, No 2, p. 51-62, 2009.
16. Jain J., Dangayach G. S., Agarwal G., Banerjee S., "Supply Chain Management: Literature Review and Some Issues", Journal of Studies on Manufacturing, Vol 1, NO 1, p. 11-25, 2010.
17. Hervani, A. & Helms, M. 2005. Performance measurement for green supply chain management. Benchmarking, an International Journal, 12: 330–353.
18. Kogut B., Zander U., "Knowledge of a firm: combinative capabilities and the replication of technology", Organization Science, Vol. 3, No. 3, p. 383-397, 2002.
19. Liebowit J. "Knowledge Management Learning from Knowledge". CRC Press, 2003.
20. Markus L. "Toward a theory of knowledge reuse: types of knowledge reuse situation and factors in reuse success", Journal of Management Information System, Vol. 18, No. 1, p. 57-93, 2001.
21. O Leary D., "Knowledge management systems: converting and connection", IEEE Intelligent Systems, Vol. 5, p. 30-43, 2008.
22. Raisinghani S. M., Meade L. L., "Strategic Decisions in Supply-chain Intelligence Using Knowledge Management: An Analytic-network-Process Framework", Supply Chain Management: An International Journal, Vol. 10, No. 2, p. 114–121, 2005.
23. Sabri H., Ehap and Benita M., (2000) "A moultiobjective approach to simultaneous sterategic and operational planning in supply chain design ", Omega, Vol. 28, pp. 581-598.
24. Simchi Levi, D., Kaminsky P., (2000) Designing and managing the supply chain, New York, Mc Graw Hill.
25. Tiwana A., Balasubramaniam R, "A Design Knowledge Management System to Support Collaborative Information Product Evolution", DSS Systems J, Vol. 31, No. 4, p. 241–262, 2001.
26. Wadhwa S., Saxena A., "Knowledge Management- based Supply Chain: An Evolution Perspective", Global Journal of e-Business and Knowledge Management, Vol. 2, No.2, p. 13-29, 2005.
27. Wu C., "Knowledge creation in a supply chain", Supply Chain Management: An International Journal, Vol. 13, No. 3, p. 241–250, 2008.

28. Xu, Z. 2005. An Overview of Methods for Determining OWA Weights, *International Journal of Intelligent Systems*, 20: 843-865.
29. Yvonne P, Michelle J., "The Balanced Scorecard: A New Zealand Perspective", Beverley R Lord, Vol. 17, No. 1, p. 49 – 78, 2005.

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