

“SUPPLY CHAIN MANAGEMENT OR ADAPTIVE BUSINESS NETWORK? – COORDINATION VERSUS COLLABORATION”

Ilieş Liviu

Babeş Bolyai University, Faculty of Economics and Business Administration, 58-60 Teodor Mihali Street, Cluj-Napoca, Romania, liviu.ilies@econ.ubbcluj.ro, 0264-41.86.52/3/4/5

Crişan Emil

Babeş Bolyai University, Faculty of Economics and Business Administration, 58-60 Teodor Mihali Street, Cluj-Napoca, Romania, emil.crisan@econ.ubbcluj.ro, 0264-41.86.52/3/4/5

Abstract: You are not the only company capable to create value for your clients. For making valuable products, for performing high standard services, one company is no longer enough in this new informational era, in this new needs era. Better business performing means now to satisfy more complex needs quicker than ever. Could one company face this challenge alone? Is there another way?

Collaboration may be the answer. Maybe the most well-known term when it comes to collaboration between companies is Supply Chain.

Why Supply Chain, why Supply Chain Management (SCM)?

This article presents the answers to these questions, but also presents different approaches regarding SCM: the logistics approach regarding supply chain management, the strategic approach, the new entrepreneurial approach, supply chain as a win-win game. New paradigms regarding collaboration appeared regarding business collaboration: Adaptive Business Network (ABN). Do these new concepts imply the dead of SCM? Or are they only a new wave in SCM terminology and business orientation?

Our conclusion is that these new approach is a normal change in business: businesses are made by people and people don't like to be conducted (managed). The old-fashioned SCM was based on a coordinator versus several obedient relation. It is absolutely normal to dream at freedom and to be not very efficient while you have to play after somebody else rules. ABN is in the other side of human relations and also business relations – it insists on partnering. Everybody is a part of a chain which has as its main goal customer satisfaction, has the right to make proposals, to negotiate, and to be a winner.

Of course, ABN appearance does not involve SCM disappearance, but change in how some chains are managed, in how some chains function. We shall see for the future if an organization with several brains is more successful.

Keywords: Supply Chain Management, Adaptive Business Network, Collaboration

Introduction

The goal of this article is to bring these new concepts into the light, making a short comparison with SCM.

The first part of this paper contains details regarding SCM, SCM well-known paradigms, SCM less known paradigms.

The second part is a presentation for a new business concept: Adaptive Business Network (ABN), making connections with the old paradigm, SCM.

Supply Chain Management

Supply Chain Management definitions and paradigms

The Council of Supply Chain Management Professionals (CSCMP) is the most well-known organization regarding Supply Chain Management. CSCMP was originally founded as the National Council of Physical Distribution Management (NCPDM) in January 1963. In 1985, recognizing the growing field of logistics, the association's focus broadened as it changed its name to the Council of

Logistics Management (CLM). It stayed that way until 2004 when CLM's Executive Committee voted to become CSCMP, effective in 2005⁴⁸.

CSCMP's definition for Supply Chain Management is the next one: Supply chain management encompasses the planning and management of all activities involved in sourcing and procurement, conversion, and all logistics management activities. Importantly, it also includes coordination and collaboration with channel partners, which can be suppliers, intermediaries, third party service providers, and customers. In essence, supply chain management integrates supply and demand management within and across companies.

Bowersox, Closs and Cooper's definition: Supply chain (sometimes called the value chain or demand chain) management consists of firms collaborating to leverage strategic positioning and to improve operating efficiency. For each firm involved, the supply chain relationship reflects strategic choice. A supply chain strategy is a channel arrangement based on acknowledged dependency and relationship management. Supply chain operations require managerial processes that span across functional areas within individual firms and link trading partners and customers across organizational boundaries [**Bowersox, Closs and Cooper: 2002: 5**].

Frazzelle defines the Supply Chain as the network of facilities (warehouses, factories, terminals, ports, stores, and homes), vehicles (trucks, trains, planes, and ocean vessels), and *logistics information systems* (LIS) connected by an enterprise's supplier's suppliers and its customer's customers. Logistics is what happens in the supply chain. Logistics activities (customer response, inventory management, supply, transportation, and warehousing) connect and activate the objects in the supply chain. To borrow a sports analogy, logistics is the game played in the supply chain arena – Frazzelle says [Frazzelle: 2002: 8].

The GSCF (Global Supply Chain Forum) defines supply chain management as "the integration of key business processes from end user through original suppliers that provides products, services, and information that add value for customers and other stakeholders"⁴⁹. There are now here presented four different definitions. CSCMP considers Supply Chain Management as the management of procurement, conversion and logistics activities (planning), but also the coordination of the channel partners. Bowersox and his colleagues underline the relational character of the channel partners. Frazzelle comes and says that logistics is the game played in a supply chain arena. The final definition spreads out the area of the Supply Chain Management and identifies the subject of the Supply Chain Management as all the key business processes which add value for the stakeholders (including here the customers too). Now that we have met the paradox, there is a chance to make some improvements. But this paradox exists already for several years. We can say that these are not paradoxes, but paradigms.

⁴⁸ Their history from www.cscmp.org, page accessed at 15.05.2007.

⁴⁹ Considering their site: <http://www.fisher.osu.edu/centers/scm/research-publications/scm>, accessed at 15.05.2007.

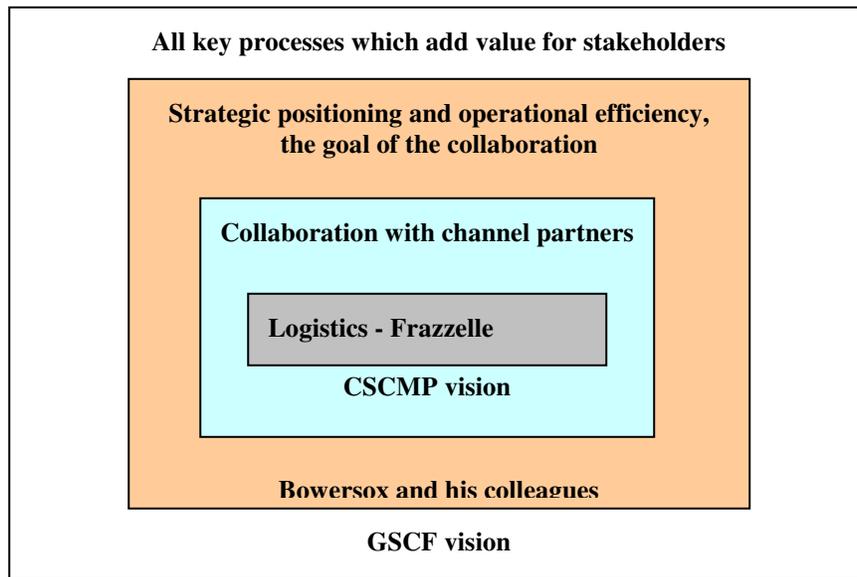


Figure 1: Four paradigms regarding Supply Chain Management

We cannot say that there are bad or good paradigms, but the lenses that you use to see the world will tell you the problems, the solutions for these problems. But a paradigm is as lenses are. Frazzelle tries to solve logistics problems saying that these are Supply Chain Management problems, CSCMP will focus also on collaboration problems, Bowersox will solve also strategic problems related to the Supply Chain, while GSCF will try to improve the performance of the Supply Chain processes, comprising logistics, collaboration, strategies, but thinking at all stakeholders affected by these processes.

Describing the history of the Supply Chain Management, Delfmann and Albers [Delfmann&Albers: 2001] identified several paradigms for this notion, but also identified the main goals and objectives of the Supply Chain Management.

They identify four Supply Chain Management paradigms, some of them similar to the previous paradigms remembered before in this this paper:

1. **The functional chain awareness school** (Houlihan’s definition from 1988): “Supply Chain Management covers the flow of goods from supplier through manufacturer and distributor to the end user”;
2. **The linkage / logistics school** (Turner’s definition: “SCM is a technique that looks at all the links in the chain from raw material suppliers through various level of manufacturing to warehousing and distribution to the final customer.”);
3. **The information school** (Johannsson’s definition:”SCM requires all participant of the supply chain to be properly informed. With SCM, the linkage and information flows between various members of the supply chain are critical to overall performance”);
4. **The integration / process school** (Lambert’s definition): “The integration of business processes across the supply chain is what we are calling SCM”.

While the first paradigm makes the link with the Porter value chain, the second focuses on logistics activities inside supply chain, the third focuses on information transfer between channel participants, while integration is the subject of the fourth paradigm.

Why supply chains? Why Supply Chain Management?

Oliver and Weber [Delfmann & Albers : 2001 : 11, Woxenius: 1998: 58] introduced the idea of Supply-Chain-Management. They motivate this evolution [Delfmann & Albers : 2001 :8, accordingly to Oliver, K., Webber, M., *Supply-chain management: logistics catches up with strategy in: Logistics. The strategic issues*, Christopher, Martin, Chapman&Hall, Londra, 1992, pag. 63-75]: “What were hitherto considered

,mere' logistics problems have now emerged as much more significant issues of strategic management... We needed a new perspective and, following from it, a new approach: Supply Chain Management.”

Considering this motivation, we can say that Supply Chain Management can never be considered as the management of the logistics of the supply chain. The new paradigm which occurred after logistics integration has a strategic feature with no doubt. Of course, the opinions may vary, as we saw for example Frazzelle considers only logistics to be the game played in the supply chain.

Why Supply Chain Management?

We can say that we see things thinking at the benefits one thing could bring to us. Because there is a chance to improve logistics performance more than this was made through logistics integration at firms level, because there is a chance to improve the chain participants' performances through information sharing more than it was possible at firms level or just because collaboration at processes level means possible better performance for each company.

Delfmann and Albers also identify the main advantage that Supply Chain Management could bring to a chain, to a value chain, if we take into account the Porter's paradigm.

Bowersox and his colleagues focuses on the logistical main advantage of a supply chain approach [**Bowersox, Closs and Cooper: 2002: 5**]. They say that the six-sigma errors level is present for actual businesses. Perfect timing at the perfect location, the right in good state product for the right quantity is no longer an impossible logistics dream. It is no longer a dream, it is the usual customer expectation, and it is a standard, even with lower costs. This is what they call the “supply chain revolution”.

1.3. New Supply Chain Management paradigms

1.3.1. SCM as an innovation

A very interesting paradigm regarding SCM is to see it as an innovation. Saad and his collaborators [**Saad, Jones&James: 2002: 173-183**] realize a very interesting analysis of the evolution of SCM through construction firms.

SCM can be seen as an example of “evolutionary and cumulative innovation, which is often described as emanating from internal programmes aimed at improving overall effectiveness”. The focus is now not only limited to increasing the internal efficiency of organizations but has been broadened to include methods of reducing waste and adding value across the entire supply chain. “It is seen as a set of practices aimed at managing and coordinating the whole supply chain from raw material suppliers to end customers and which develop greater synergy through collaboration along the whole supply chain”.

1.3.2. SCM as a win-win relation

With no doubt the game theory is a well-known tool related also to economy and it has proved it's applicability during time. This SCM paradigm could be interpreted as a more „hard” view regarding business relations.

Jorn-Henrik Thun debates the potential of cooperative game theory for SCM, giving a mathematical approach to SCM results. The game theory can be used to evaluate each firm's performance and each process' results inside a supply chain.

This approach was build-up thinking at the SCOR model (Supply Chain Operations Reference Model) developed by Supply-Chain Council – SCC. The model is a way to see supply-chains, rather than an optimization tool [Stadler and Kigler: 2005: 41].

We will present here only the general processes:

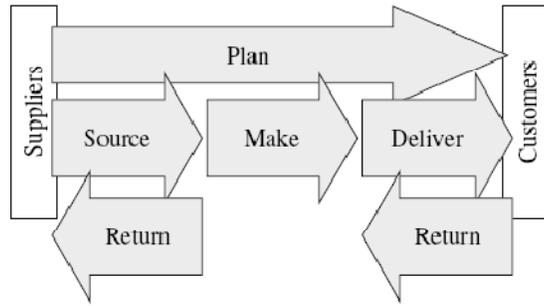


Figure 2: General processes identified using SCOR [Stadler and Kilger: 2005: 42, Poirier and Walker: 2005: 14, Bolstorff and Rosenbaum: 2003: 5].

Plan covers processes to balance resource capacities with demand requirements and the communication of plans across the supply chain. **Source** covers the identification and selection of suppliers, measurement of supplier performance as well as scheduling of their deliveries, receiving of products and processes to authorize payments. In the scope of **make** are processes that transform material, intermediates and products into their next state, meeting planned and current demand. **Deliver** covers processes like order reception, reservation of inventories, generating quotations, consolidation of orders, load building and generation of shipping documents and invoicing. In the scope of **return** are processes for returning defective or excess supply chain products.

2. Adaptive Business Network (ABN)

Business strategy has reached a turning point in which two opposing forces must be reconciled. At one end of the spectrum is the need for stable, efficient processes in a company. At the opposite end is the need for instant adaptation to rapidly changing business conditions. Efficiency without adaptability means solving yesterday's business challenges at the lowest possible cost, and adaptability without efficiency allows for quick reactions, but inflates cost structure.

The concept of the adaptive business network developed over several years as the effect of the Internet on the structure of the manufacturing industry came into focus. The concept, which offers chances for change at logistical activities level, marketing level, strategic management level, was first formally identified by Claus Heinrich in his book, *Adapt or Die: Transforming Your SupplyChain into an Adaptive Business Network* (John Wiley & Sons, Inc., 2003).

Heinrich's definition for ABN is the next one: an adaptive business network is an integrated, flexible network of companies focused on a customer need that responds in real time to changes in the state of the network. The adaptive business network involves a three-phase process that is executed repeatedly at all levels of every business including planning and execution, which are the foundations of efficiency; sensing and responding, which enable adaptability; and learning. The Smart-and-Fresh model Heinrich [Heinrich: 2003: 33-45] presents to bring into our attention the ABN concept is an example which suggests that not only technology is the new trend, but the adaptive character.

There are practically two SCM models: a linear model and the ABN model.

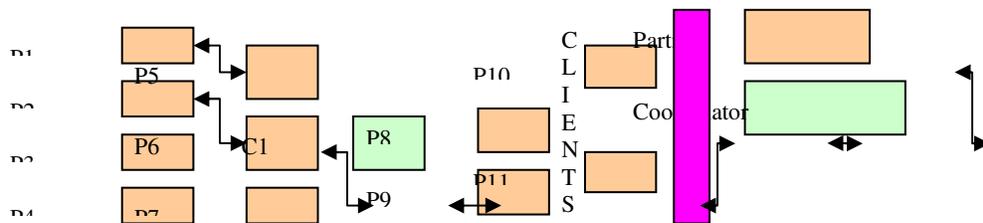


Figure 3: SCM linear model

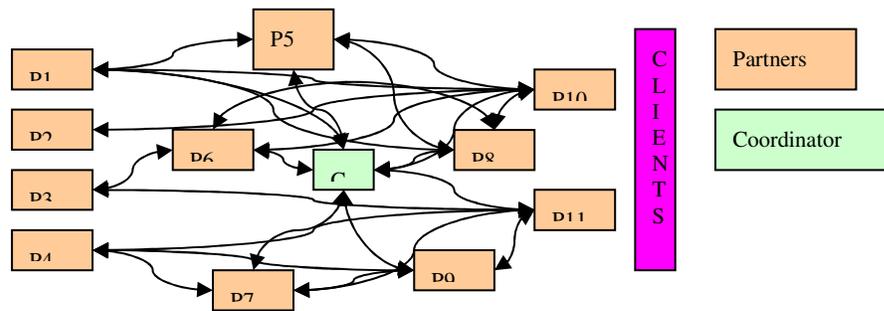


Figure 4: SCM ABN model

The main advantages that ABN brings are: communication efficiency, collaborative relationships between channel partners, instantaneous communication, and minimized bullwhip effect.

3. Conclusions

There are several ways to make business better. One alternative is collaboration and the most used term to denote collaboration relations between companies is Supply Chain Management. This new born business field has not yet finished its evolution.

In previous decades SCM was recognized as a coordinator game, a great company which builds up a chain which is going to satisfy clients.

That is no more sufficient. Companies want also independence as people do: collaborate but don't forget who you are! This is maybe the slogan which Adaptive Business Network incorporates.

References:

1. Bowersox, D., Closs, D., Cooper, B., *Supply Chain Logistics Management*, McGraw-Hill, New-York, 2002;
2. Saad, M., Jones, M., James, P., *A review towards the adoption of supply chain management (SCM) in construction*, European Journal of Purchasing & Supply Management, Volume 8, pages 173-183, 2002;
3. Frazzelle, E., *Supply Chain Strategy*, *The Logistics of Supply Chain Management*, Editura McGraw-Hill, New-York, 2002;
4. Delfmann, W., Albers, S., *Supply Chain Management in the Global Context*, Working Paper no.102, Universitat zu Koln, 2001, accessed at <http://www.uni-koeln.de/wiso-fak/planung/download>, in 22.09.2006;
5. Woxenius, J., *Development of small-scale intermodal freight transportation in a systems context*, Report 34 Chalmers University of technology;
6. Kotzab, H., Seuring, S., Muller, M., Reiner, G., *Research methodologies in Supply Chain Management*, Physica-Verlag, Heidelberg, 2005;
7. Poirier, C., Walker, J., *Business process management applied: creating the value managed enterprise*, J. Ross Publishing, United States of America, 2005;
8. Bolstorff, P., Rosenbaum, R., *Supply Chain Excellence: A Handbook for Dramatic Improvement Using the SCOR Model*, AMACOM, 2003;
9. Stadler, H., Kilger, C., *Supply chain management and advanced planning, Concepts, Models, Software and Case Studies, Third Edition*, Springer, Berlin, 2005;
10. Heinrich, C., *Adapt or Die: Transforming Your SupplyChain into an Adaptive Business Network*, John Wiley & Sons, Inc., 2003;