

## **SUPPLY CHAIN MANAGEMENT: A NEW FRONTIER OF MANAGERIAL THOUGHT AND PRACTICE**

**VIRGINIA BĂLEANU, SABINA IRIMIE, ANDREEA IONICĂ \***

**ABSTRACT:** *Achieving and maintaining competitive advantage in an increasingly unpredictable and changeable business climate under the new rules of global competition and sustainable development became the major challenges facing the worldwide companies' management during the last decades. Our paper aims to reveal the developments of managerial thought and emerging practices that address these challenges, essentially based on the new relational view of business and the supply chain logic. Accordingly, the paper synthesizes the results of an extensive documentary research of the international literature that allowed us observing how this logic evolved and driven to the so called Supply Chain Management revolution. Also it's point out the growing interests at the world level in this field covering the complex problems of integrating the key business processes and managing them along the supply chain, with emphasis on its current shaping as a new multidisciplinary study field.*

**KEY WORDS:** *supply chain; traditional/transactional view/model; relational view/model; customer-supplier relationships; integration; supply chain management*

### **1. INTRODUCTION**

In the last few decades the world is changed faster than ever, creating not only new opportunities of doing business but also new imperatives for surviving in the global marketplace. The remarkable progress of information and communication technology (IT&C) blurred the geographical and national boundaries, overcoming the obstacles of physical distance and opening the "digital age". Some primary effects of this progress at the company level are emphasized by Alan Greenspan in an interview published in Washington Post as follows: "Technology has driven significant advances in companies' operating capabilities, enabling them to better track product orders, supplies, deliveries, and other aspects of their businesses, which allows them to meet customer's needs more quickly and at lower cost" (Berry, 1999). But the information

---

\* Lecturer, Ph.D., University of Petroșani, Romania, [ginabaleanu@yahoo.com](mailto:ginabaleanu@yahoo.com)

Prof., Ph.D., University of Petroșani, Romania, [bina2932@yahoo.com](mailto:bina2932@yahoo.com)

Assoc. Prof., Ph.D., University of Petroșani, Romania, [andreeaionica2000@yahoo.com](mailto:andreeaionica2000@yahoo.com)

availability resulting from this progress together with growing consumer incomes in many markets around the world fostered also the buying motivations shift (from basic product functionality to convenient, service-intensive and customized solutions).

Therefore, the companies had to satisfy a more informed customers, having far better choices and wanting a wide range of options they can configure to their specifications - that is more and more value demanding customers. Focusing on customer became the key to survive in the global competition. Higher level of quality, responsiveness and customization (all at a lower cost) defines the new coordinates of customer requirements. Furthermore, the customer satisfaction is based on its own perception of value and expectations about products availability, speed, consistency and flexibility of deliveries, service quality and reliability, so it is increasingly difficult for a single company to fulfil the particular specifications of its customers from different parts of the world. Accordingly, increasing attention to the effective interactions, communication channels, and relationships shifted the paradigms of industrial marketing and management giving consistence to the supply chain logic and relational view. Considered to be a major breakthrough in thought (Russell, 2007), supply chain thinking enabled new advances in conceptual and practical approaches to the above-mentioned problems laying the foundation of Supply Chain Management.

## **2. EVOLUTION IN MANAGEMENT: SHIFTING PARADIGMS TOWARD SUPPLY CHAIN THINKING**

The beginnings in development of formal management thought and its applied fields are generally associated with the scientific management principles defined by Frederick Taylor in 1911. Almost four decades after, the managerial theories and practices were based on these principles aiming in essence the production efficiency (optimally performing the production function) and resulting in important progress in the fields of production and operations management.

Following the historical course of economic and organizational evolutions, in the next four decades the managerial power axis gradually moved toward the other business functions. Thus, beginning in the 1950 years, the changes in capital markets directed attention to finance issues and fostering the development of modern financial management. Then, during the 1960 years, the efforts focused on improving the marketability of products (commercial function, respective the marketing areas). Consequently, a general marketing orientation set to run at the organizational level and new approaches of industrial marketing emerged, like in organizational/industrial buying behaviour, or analysis of distribution systems areas. Furthermore, in the next decade, the need to improve the physical distribution functions generated idea to "borrow" some practices from military logistics and adapt them to the business problems laying the foundation of the logistics management. Towards the end of this period, the new perspective opened by the systemic approach has stimulated interest in the integration of logistics activities, marking the beginning of change for internal functional integration and for the transition to the phase of integrated logistics.

In the next decade (the 1980 years), the pace and nature of change have been radically affected by the trend of expanding business in foreign markets. Against this

background, the moment of the Japanese "attack" on U.S. markets marked history through its impact on subsequent course of management thought and practice. Unexpected and long-term success of Japanese companies, which famous analysts explained by their different management, has created an unprecedented opening of U.S. firms toward the new managerial practices inspired by the Japanese model, including in the area of supplier relationships. The parallel theoretical accumulations in the same period focused mainly on two directions (improving quality, staff involvement), leading to the development of quality management and human resources management.

The last decade of the twentieth century could be seen as a period of the major challenges for management, since each of its above-mentioned fields facing new problems of globalization requiring new appropriate approaches. Due to the widespread implementation of quality management systems, differentiation by high quality products/services begins to transform from a source of competitive advantage in the standard of global market access. Thus, the companies try to differentiate themselves in terms of responsiveness to the market demands, seeking for their logistic performance improvement, mainly through adopting advanced IT solutions for logistic processes integration and customer support (Russell, 2007). Meantime, the idea that the unit of analysis and competition in the new economy is not more the firm, but the supply chain is increasingly gaining ground (Lewis, 1995; Kotler, 1999, 2000; Dyer, 2000). In the first half of the decade this idea appears as a leitmotif of many researches, reflecting the common concerns of professionals in various fields (e.g. competitive strategies, transaction costs, market structure, industrial organizations, logistics, supply, production and operations management, industrial marketing, systems engineering, IT, etc). So, if the quality management revolution emerged in the 1980 years (as the US companies faced increased competition from their Japanese rivals) and high quality became the global standard, by the year 2000 an entire culture was developed around the supply chain driving the supply chain management revolution (Bowersox et al., 2002; Friedman, 2005; Russell, 2007). It is the new frontier of emphasis in management thought and practices of the new millennium.

To conclude about the above-described evolution, it should be noted the shift of paradigms that became apparent in the last decades, following the changes of globalization. In essence, it is a shifting of views about the ways of doing and managing business in the new economy described in many works as being close related to the shift occurred in approaches to the marketing function (from transactional marketing to relational marketing).

According to Seth (Sheth, 1996), shifting from the transactional view to the relational view was fostered by at least four reasons as follows:

(1) The global competition has evidenced the competitive advantage of a good many of leading companies (mainly in the manufacturing sector) obtained through creating and managing customer-supplier relationships on strategic partnership basis.

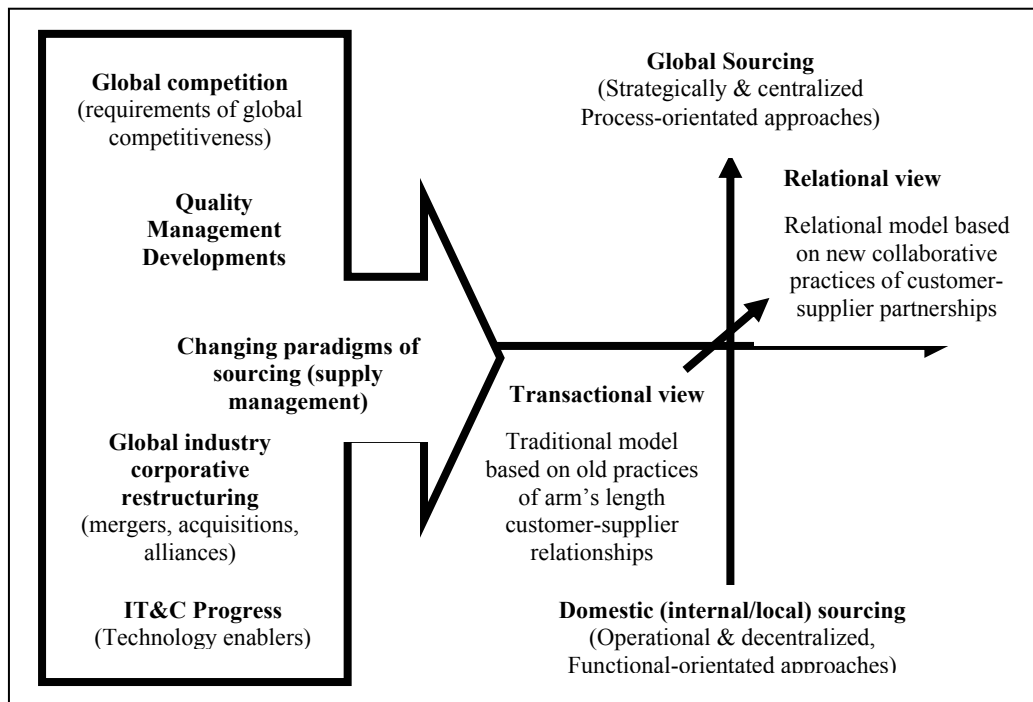
(2) The quickly adoption and spreading worldwide of quality management principles, and TQM philosophy have encouraged the "reverse marketing" starting with the external clients and moving backward into the sourcing/supply process and its procurement related practices (to reduce cycle times, inventory and associated costs).

(3) The industry restructuring (through the global mergers, acquisitions and alliances) yielded a major change in the corporate function of sourcing (transforming it from an administrative decentralized function in a strategic centralized function).

(4) The rapid progress of IT&C enabled the implementation of systems and tools for supporting decision-making process and for improving organizational performance, including in the supply field.

Based on these arguments, Seth highlights two dimensions of changing paradigms: moving from “a transaction centered to a relational-centered philosophy”, and “from a decentralized domestic sourcing to a centralized global sourcing process” (Seth, 1996, p.11). By default, referring to the changes in approaching to the sourcing function as a major driver of changing paradigms, he reveals the new strategic role of supply process for business management with emphasis on the relational side of managing supplier relationships. In parallel, the logistics developments based on the supply chain thinking revealed another important shift in approaching the organizational integration problems: from the functional-oriented approaches to the process-oriented ones. That enabled the internal (intra-firm) integration of key business processes opening the new perspective of external (inter-firm) integration along the supply chain (Stevens, 1989; Bowersox et al., 2002; Gimenez, 2004).

Considering together the above aspects, in the figure 1 are represented the main descriptors of changing paradigms.



Source: Băleanu, 2009

Figure 1. Descriptors of changing paradigms

### 3. CONCEPTUAL DEVELOPMENTS OF SUPPLY CHAIN

As we mention in the previous section, the evolution of management thought and practice was decisively marked by the globalization changes, especial in the last two decades of the twentieth century. During this period the traditional view of doing business reflected by the transactional model of practices based on vertical integration and arm's length relationships with suppliers became less and less able to sustain the competitive advantage in the new economic context. Consequently, more and more companies in developed economies began to rely on suppliers to provide valuable, high quality and customized inputs, following the basic idea that for a firm to deliver maximum value to its customers it must receive maximum value from its suppliers (Lewis, 1995; Sheth, 1996; Dyer, 2000). In other words, these companies adopted the new relational view and its related model of practices focused on virtual integration and partnerships along their supply chains. In fact, it is the essence of supply chain thinking, which evolved from the new rules of the global competition revealing the competitive advantage of inter-firm cooperation and integration.

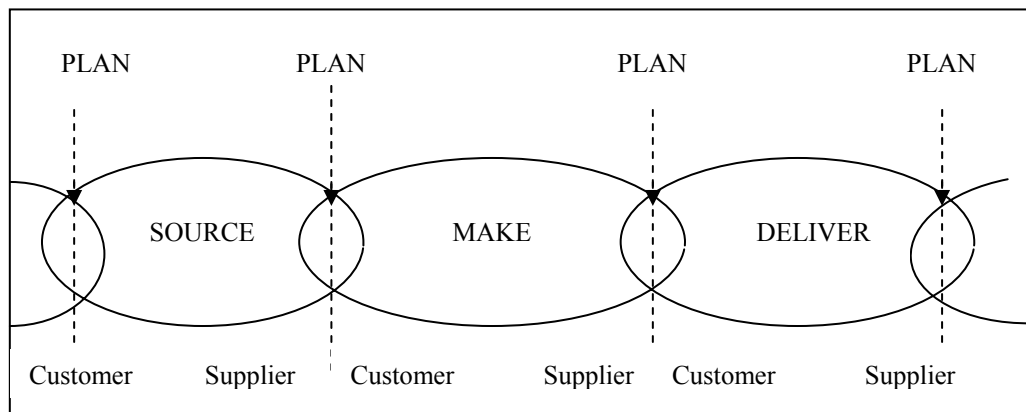
The concept of supply chain (SC) had a gradual evolution in time from functional approaches focused on the inside of organization to process approaches focused both inward and outwards that extend upstream and downstream, from the first raw material supplier to the final customer (see table 1).

**Table 1. An evolving perspective of supply chain concept**

Definitions associated to SC (in chronological order)	Authors, years
A series of connected activities refer to planning, coordinating and controlling materials, components and finished goods from supplier to customer, pursuing two distinct flows (material and information) through the organization	Stevens, 1989
A network of facilities that ensure the functions of supplying materials, transforming them into byproducts and finished products and distributing to customers	Lee & Billington, 1992
A network of organizations involved through upstream and downstream links in the various processes and activities that produce value in the form of products and services for final customer	Christopher, 1998
Two or more parts linked by a flow of goods, information and funds	Tsay et al., 1999
The whole of efforts involved in producing and delivering a final product/service from supplier's supplier to the customer's customer	Supply Chain Council, 2000
An integrated process in the context that some business entities (suppliers, manufacturers, distributors, retailers) work together to plan, coordinate and control the flow of materials, components and finished goods from suppliers to customers	Eksioglu, 2001
The sequentially-connected organizations and activities involved in creating and making a product available. It can be viewed as a value chain inasmuch as suppliers, manufacturers, transporters, and all other components of SC add value.	Russell, 2007

Source: extract from Băleanu, 2009, p.30

According to the logistic view of Supply Chain Council, each basic SC is a flexible series of joined links formed by the so-called execution processes (source, make and deliver) that transform or transport materials and/or products (Supply Chain Council, 2008). Each intersection of two execution processes is a link in the SC and each of these processes is a customer of the previous process and a supplier to the next one. Furthermore, each link (being a customer-supplier relationship) requires a particular type of planning process (plan) in order to ensure the SC equilibrium enabling its efficient functioning (see figure 2).



Source: Supply Chain Council, 2008

**Figure 2. Configuration of a basic supply chain**

Obviously, if attention focuses on the chain thus formed only between the firm frontiers, then can seem important only the internal links (customer-supplier relationships) for ensuring the equilibrium. Consequently, the management solutions of planning (and otherwise all the other ones) aimed at the SC equilibrium addressing only the causal issues of inside, while the outside ones are considered only if directly affect final link with the external customers (usually those referring to customer service). This is the general perspective that prevails in the approaches of SC developed up to the 2000 year (see definitions in the table 1 that reflect this fact, and for more details Băleanu, 2009).

The essence of SC concept, as it results from the latest approaches, could be easier to understand relative to a more familiar term – value chain. In our opinion, the key difference between the concept of value chain developed by Michael Porter (Porter, 1985) and SC is that while first focuses on the value-adding activities within the organization second focuses on value-adding processes, both inside and outside the organization. Thus, it could consider that SC extends the perspective of value chain beyond the organization's frontiers, upstream and downstream, toward its suppliers and its customers (Băleanu, 2009). Consequently, we can see SC as a whole of value chains of some individual organizations that are juridical independent but have business processes powerful interdependent. In such a perspective of SC, since manufacturing operations become increasingly specialized and complex, a producer-firm which

supplying a finished product is increasingly relying on its suppliers, which in their turn relies on the own suppliers and so on. This outlines the image of a broader system of firms/companies that are put together to meet an order to an end user, like the links of a chain. Such a view suggests that, of necessity and not optional, each company is part of at least one SC. The chains in which a company is involved are defining by (1) the producer of final product and its suppliers, which together ensure all the capabilities needed to create that product, and (2) the customers who buy the product (Committee on Supply Chain Integration, 2000). The implementation of this vision requires an inter-organizational arrangement based on recognition of interdependency and managing relationships between the involved parts. Therefore, SC operations require managerial processes crossing functional areas from inside individual firms, and their traditional frontiers, in order to make the connections needed for ensuring the integration and competitive functioning of the chain.

#### **4. THE PATH TOWARD SUPPLY CHAIN MANAGEMENT**

The recent international SC literature reflects the consensus about the fact that SC integration can be realized only if the component organizations work together (cooperate), on the basis of collaborative mutual beneficial relationships (Tompkins, 2000; Mentzer et al., 2001; Bowersox et al., 2002; Handfield & Nichols, 2002; Handfield & Bechtel, 2004; Min & Mentzer, 2004; Lambert et al., 2005; Schlegel & Smith, 2005; Stadler, 2005; Russell, 2007). There are two basic beliefs arguing for this view as follows:

(1) The cooperative behaviour, of win-win type, will reduce the inherent risks of opportunistic actions and will substantially improve the efficiency of the whole process of creating and adding value to the final customer.

(2) The redundant efforts and losses, which by their propagation along the chain negatively affect the results of this process, can be more easily identified and eliminated through collaboration.

Since requiring as essential prerequisite the collaborative relationships that are sustained only by a cooperative behaviour of win-win type, SC integration is obviously incompatible with traditional model of doing business based on adversative behaviour of win-loss type. Thus emerged "a new order of business relationships" (Bowersox et al., 2002, p.3), called Supply Chain Management (SCM).

Conceptual developments of SCM have occurred in direct connection with those of SC, so that pioneering initiatives (reflecting mainly logistics perspective) were developed in time by significant contributions from other fields. Thus, SCM has become not only an increasingly hot topic of research at the world level, but also of controversy between representatives of different academic study fields, given the traditional disciplinary boundaries and rivalries. For example, in a research work published four years ago in *Journal of Business Logistics* the authors have noted that during the preliminary discussions and literature review were confronted with no less than five other academic departments "claiming the ownership of SCM": industrial engineering, operations management, supply management, marketing and strategic management (Stank et al, 2005, p. 36). Of course, this comment reflects the partisan

view of the logistics representatives that consider SCM as naturally being a logistical matter. Even if such partisan views still exists in other fields also (including those previously mentioned), more and more of the latest works refer to SCM as to a new multidisciplinary developing study field.

In order to highlight the path toward the current stage of developing this field, we reviewed the literature from the past two decades and we drawn out a synthesis of few tries of reference for defining SCM that are presented chronologically in Table 2.

**Table 2. Different views on Supply Chain Management concept over the past two decades**

Conceptual approaches of SCM (in chronological order)	Authors (source), years
Integration of various functional areas of an organization to improve the flow of goods from the direct strategic suppliers up to the end user, along the production and distribution chain	Houlihan, 1987
A management philosophy that reflects a systemic view of SC (by viewing the chain as a single entity) based on partnership concept that involves the joint efforts of several companies directed to total goods flow management, from supplier to final customer	Ellram & Cooper, 1990
Management of relationships both between corporate functions and across companies	Ellram & Cooper, 1993
“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”.	Global Supply Chain Forum (GSCF), cited in Lambert et al., 1998, p.1
A set of approaches used to efficiently integrate suppliers, manufacturers, warehouses, distribution and sales centers, implying the production and distribution of goods in adequate quantities, at the right place and right time, in order to minimize overall system cost while satisfying the requested level of demand and customer service	Simchi-Levi et al., 2000
The systemic, strategic coordination of the traditional business functions and the tactics across these business functions within a particular company and across businesses within the supply chain, for the purposes of improving the long-term performance of the individual companies and the supply chain as a whole	Mentzer et al., 2001
The proactive management of bidirectional coordination and movement of goods, services, information and funds, from raw material to final user	Trent, 2004
Since SC is a network of companies, or independent business units, from original supplier to end customers, management of this network is a complex task having the goal to implement cross-functional business processes and integrate them with other key members of the chain	Lambert et al., 2005
„Alliances with key partners, and information technology that allows supply chain partners to share accurate information on a timely basis are the building blocks of efficient and responsive supply chain operations. Upon this foundation, the introduction of lean manufacturing and lean logistics processes, together with the integration of key business processes up and down the supply chain create SCM”.	Russell, 2007, p.59

Source: extract from Băleanu, 2009, p.38

#### 4. BRIEF CONCLUDING REMARKS

Despite the "explosion" of worldwide research interests in SCM field, the national literature covering such issues is just at the beginning. Furthermore the few



related works seem to focus on the early logistics approaches, rather than to consider their latest developments. Our paper is an attempt to overcome this shortcoming by contributing to a better understanding of how evolved supply chain thinking and resulted in current approaches of SCM as the new frontier in management thought and practice, that is "more than integrated logistics" (Russell, 2007). And, as Handfield & Bechtel showed: "In fact, the field of SCM spans multiple interdisciplinary areas, and thus must draw from a vast field of prior research in business, industrial psychology, economics, operation research, and organisational science...Rather than allowing the field to fragment into distinct areas, we need to think about how to extend our conventional notion of what constitutes SCM" (Handfield & Bechtel, 2004, pp.3, 4). This is, in our opinion, the main stream of global research efforts that should followed also at the national level in order to give substance to our researches in SCM field.

#### REFERENCES:

- [1]. **Băleanu, V.** - *Cercetarea relațiilor cu furnizorii și prestatorii companiilor miniere în vederea integrării în sistemul de management*, Teză de doctorat, Universitatea din Petroșani, 2009
- [2]. **Berry, J.** - *Greenspan Now a Technology Beliver*, Washington Post, May 7, 1999, p.11
- [3]. **Bowersox, D.J.; Closs, D.J.; Cooper, B.M.** - *Supply Chain Logistics Management* [Electronic version], McGrawHill, New York, 2002
- [4]. **Christopher, M.** - *Logistics and Supply Chain Management - Strategies for Reducing Cost and Improving Service* (2nd ed.), Pitman Publishing, London, 1998
- [5]. **Dyer, J. H.** - *Collaborative Advantage: Winning Through Extended Enterprise Supplier Networks*, Oxford University Press, New York, 2000
- [6]. **Eksioglu, B.** - *Global Supply Chain Models*, in C.A. Floudas and P.M. Pardalos (eds), *Encyclopedia of Optimization*, Kluwer Academic Publishers, vol.2, 2001, pp.350-353
- [7]. **Ellram, L.M.; Cooper M.C.** - *Supply Chain Management, Partnerships, and the Shipper-Third-Party Relationship*, The International Journal of Logistics Management, vol.1, no.2, 1990, pp.1-10
- [8]. **Ellram, L.M.; Cooper M.C.** - *The Relationship between Supply Chain Management and Keiretsu*, The International Journal of Logistics Management, vol.4, no.1, pp.1-12
- [9]. **Friedman, T.L.** - *The World is Flat: A Brief History of the Twenty-First Century*, 1st ed., New York: Farrar, Straus and Giroux, 2005
- [10]. **Gimenez, C.** - *Supply Chain Management Implementation in the Spanish Grocery Sector: An Exploratory Study*, International Journal of Integrated Supply Management, vol.1, no.1, 2004, pp.98-114
- [11]. **Handfield, R.B.; Nichols, E.L.** - *Supply Chain Redesign: Transforming Supply Chains into Integrated Value Systems*, Prentice Hall, London, 2002
- [12]. **Handfield, R.B.; Bechtel, C.** - *Trust, Power, Dependence and Economics: Can SCM Research Borrow Paradigms?*, International Journal of Integrated Supply Management, vol.1, no.1, 2004, pp.3-32
- [13]. **Houlihan, J.B.** - *International Supply Chain Management*, International Journal of Physical Distribution & Materials Management, vol.17, no.2, 1987, pp.51-66
- [14]. **Kotler, Ph.; Armstrong, G.; Saunders, J.; Wong, V.** - *Principiile marketingului*, Editura Teora, București, 1999
- [15]. **Kotler, Ph.** - *Marketing Management. The Millenium Edition*, Prentice Hall, Upper Saddle River, New Jersey, 2000

- [16]. Lambert, D.M.; Cooper, M.C.; Pagh, J.D. - *Supply Chain Management: Implementation Issues and Research Opportunities*, The International Journal of Logistics Management, vol.9, no.2, 1998, pp.1-19
- [17]. Lambert, D.M.; Garcia-Dastugue, S.J.; Croxton, K.L. - *An Evaluation of Process-Oriented Supply Chain Management Frameworks*, Journal of Business Logistics, 2005 [on line archive] ([http://findarticles.com/p/articles/mi\\_qa3705](http://findarticles.com/p/articles/mi_qa3705))
- [18]. Lee H.L.; Billington, C. - *Managing Supply Chain Inventory: Pitfalls and Opportunities*, Sloan Management Review, Spring Issue, 1992, pp.65-73
- [19]. Lewis, J.D. - *The Connected Corporation: How Leading Companies Win Through Customer-Supplier Alliances*, Free Press, New York, 1995
- [20]. Mentzer, J.T.; DeWitt, W.J.; Keebler, J.S.; Min, S.; Nix, N.W.; Smith, C.D.; Zacharia, Z.G. - *Defining Supply Chain Management*, Journal of Business Logistics, Vol. 22, no. 2, 2001 [on line archive] ([http://findarticles.com/p/articles/mi\\_qa3705](http://findarticles.com/p/articles/mi_qa3705))
- [21]. Min, S.; Mentzer, J.T. - *Developing and Measuring Supply Chain Management Concepts*, Journal of Business Logistics, 2004 [on line archive] ([http://findarticles.com/p/articles/mi\\_qa3705](http://findarticles.com/p/articles/mi_qa3705))
- [22]. Russell, S.H. - *Supply Chain Management: More Than Integrated Logistics*, Air Force Journal of Logistics [Electronic version], Vol. XXXI, No. 2, 2007, pp. 55-63
- [23]. Schlegel, G.L.; Smith, R.C. - *The Next Stage of Supply Chain Excellence*, Supply Chain Management Review, March 2005 Issue [on line archive] (<http://www.scmr.com>)
- [24]. Sheth, J.N. - *Organizational Buying Behaviour: Past Performance and Future Expectations*, Journal of Business and Industrial Marketing, vol.11, no.3/4, 1996, pp.7-24
- [25]. Simchi-Levi, D.; Kaminsky, P.; Simchi-Levi, E. - *Designing and Managing the Supply Chain: Concepts, Strategies, and Case Studies*, Irwin McGraw-Hill, USA, 2000
- [26]. Stadtler, H. - *Supply Chain Management: An Overview*, in Stadtler, H.; Kilger, C. (Eds), *Supply Chain Management and Advanced Planning: Concepts, Models, Software and Case Studies*, third edition, [Electronic version], Springer Berlin-Heidelberg, 2005, pp.9-33
- [27]. Stevens, G.C. - *Integrating Supply Chain*, International Journal of Physical Distribution & Materials Management, vol.19, no.8, 1989, pp.3-8
- [28]. Tompkins, J.A. - *No Boundaries: Moving Beyond Supply Chain Management*, Tompkins Press, Raleigh, USA, 2000
- [29]. Trent, R.J. - *What Everyone Needs to Know about SCM*, Supply Chain Management Review, March, 2004 Issue [on line archive] (<http://www.scmr.com>)
- [30]. Tsay, A.A.; Nahmias, S.; Agrawal, N. - *Modeling Supply Chain Contracts: A review*, in *Quantitative Models for Supply Chain Management*, Kluwer Academic Publishers, Boston, 1999, pp.299-336
- [31]. \*\*\* - Committee on Supply Chain Integration (USA National Research Council) - *Surviving Supply Chain Integration: Strategies for Small Manufacturers*, USA National Academies Press, Washington, D.C., 2000 (<http://www.nap.edu>)
- [32]. \*\*\* - Supply Chain Council - *Supply-Chain Operations Reference Model, Overview of SCOR Version 9.0*, 2008 (<http://www.supply-chain.org>)