
Logistics Management in the Era of Supply Chain Management – A Gap in Academic Literature

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This paper aims to contribute to the decades-long debate about the relationships between logistics and supply chain management. Although the terminology has developed over time to achieve much higher level of clarity, the authors of this paper would argue that some of this evolution has also introduced new problems in reaching a unified understanding of the concepts in academia.

When supply chain management (SCM) was first introduced, it proved to be a successful concept in a short time and was picked up by numerous authors from the fields of logistics, management and business administration. When it became apparent that SCM is here to stay, a number of authors described it as a new form of logistics, some as a subset of the latter, some as a much wider concept and some couldn't decide at all. Over the timespan of 30 years, the academic community has reached a well-developed and refined understanding of SCM as a research field, whereas logistics management as a distinct concept has, it could be argued, grown slightly out of fashion.

This paper studies the question if separate treatment of logistics management is needed and how is the possible distinction formulated by various authors. Alternatively, is logistics seen fitting mostly well enough inside SCM? The specific focus of this paper is to observe and analyse the viewpoint of modern literature in the field of logistics and SCM. The paper presents a literature review of historical development and modern understanding of the concepts. In the empirical part, authors present a detailed analysis across 35 modern textbooks to evaluate the presence of various schools of thought in the debate using the typology first suggested by Larson and Halldorsson (2004).

Our findings point out that even though SCM is commonly understood as a maturing and broader cross-functionally over-arching concept in recent academic treatments, the specific role of logistics management in relation to it is much less clear as authors have rather varying viewpoints. Authors of some SCM textbooks don't emphasize or even define logistics, suggesting that the concept of logistics might be in the risk of fading, should such trend continue. It appears many authors that have previously written on logistics are now writing about supply chain management. Considering typical book of both types, this entails the switch from more specific treatment to much broader but also more generalised treatment of topics, thinning the segment of textbooks that would be more oriented towards specific tactical level tools and skills instead of strategic management issues.

In practice, both logistics managers and supply chain managers are in demand, and only a part of their competence profile is shared (this is called "intersectionism"). For that purpose, further distinguishing between supply chain management and logistics management is required. In authors' interpretation, if logistics management is to thrive as a concept, it needs to more clearly differentiate itself from SCM and embrace intersectionist view. More specifically defined and agreed logistics management is needed as a concept, competence field and university curriculum, existing side-by-side with supply chain management, to overcome general vagueness on the nature of logistics that can be observed by viewing both SCM textbooks as well as various SCM and logistics programmes across universities in the world.

Keywords: logistics management, supply chain management, logistics competencies, evolution of logistics, unionism, intersectionism.

Introduction

The concepts of logistics management (LM) and supply chain management (SCM) certainly have a lot in common: people working on and researching the fields, institutions and even many books. However, depending on the viewpoint of management level involved, functional or cross-functional approach, organisational or business network angle there can be differences – some of them perhaps more to do with academic semantics, some of them substantial practical differences.

One viewpoint is that there is enough room for jobs, logistics manager and supply chain manager, even though the job descriptions and competence requirements met

in practice are greatly varying from firm to firm, sometimes overlapping or even completely matching. Some logistics managers work next door to supply chain managers of the same company. While inside a company it is very much up to top management to define the structure, positions, responsibilities and workflow, the question of terms is more pressing for professional training and university programs. In such mess, one input to define the terms should come from academia, which would need to consider all practical needs. The main input and output factors in question are presented on figure 1.

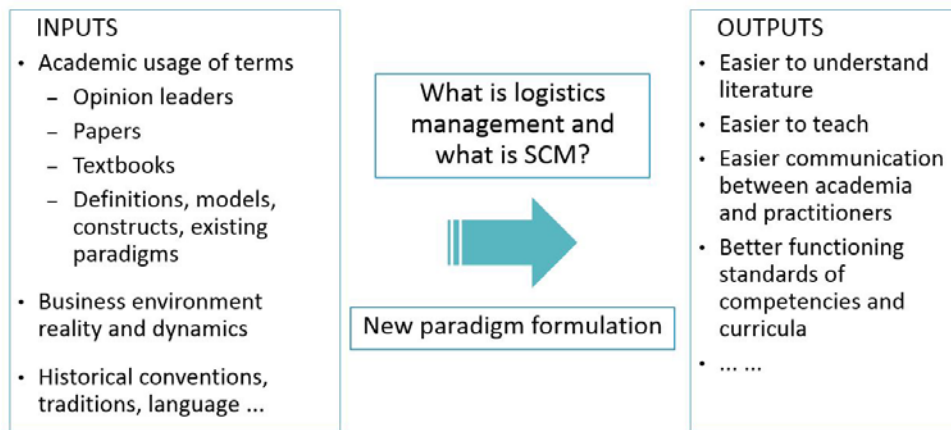


Figure 1: Main aspects involved in the process of developing common terminology in authors' view

Alternative view could be that LM and SCM are essentially the same so that there is no need for distinction for most purposes (other than perhaps marketing reasons). While this is certainly in coherence with many practical observations of the last decades, such as renaming of textbooks, curricula, institutions, job titles etc., it does impose a set of problems. First and foremost it could be that SCM in its entirety of over-arching competencies is too broad to form a good basis for teaching the concept in professional training. This could result in SCM programmes varying substantially in content from university to university (according to authors' observations this is the situation in many cases today) and could create

confusion if such programmes are suitable for all kinds of labour market needs concerning management of logistics processes. (Niine, Koppel, 2011)

One possible scenario arising from this mismatch is where the market demands calls for various specialists with narrower skill-sets along the general SCM approach, but the universities offer only SCM assuming that all-in-one approach is possible, even if no-one is able to truly meet that promise. Of course the question would remain, whether LM would be a suitable package for a more specific approach to training, perhaps one with more focus on operational and tactical rather than strategic management level, or should these emerging

niches just be filled with programs on a totally another level of narrowed-down detail, such as “warehouse management”, “maritime shipping economics” etc. It could also be that if SCM manages to cover the entirety of general training and niches are covered by more specific concepts, logistics as an in-between concept is indeed no longer required.

Still, there are a great number of “logistics management” programs in existence today, even though randomly picked pairs of them might lack strong common core. However, shouldn't it be more agreed upon and standardized? This brings us back to our main question: if separate treatment of LM is needed or is it all fitting mostly well enough into SCM (and is therefore not needed as a separate concept from career development and curriculum point of view).

The general aims of this paper are 1) to contribute to terminology development to reduce misunderstandings between teachers, students and their future employers, 2) to help identify, which relationship between LM and SCM is currently dominating and 3) to suggest ideas for paradigm development, should it turn out that “Laissez-faire” approach is not efficiently leading academia towards meeting the challenges of the 21st century business environment.

This paper observes the situation from broad academic point of view and then, more specifically, turns focus towards recent textbooks discussing LM and SCM. The research problem is to find out the level of coherence of how logistics and SCM are defined and interrelated according to textbook authors. The main goal of such research is to understand the current state of logistics management as a concept, which could, on one extreme, prove that the concept is rather sustainable and clearly differentiated from SCM, or, on the other extreme, that the concept is fading in the background of SCM. Another goal would be to test the scope and strength of LM against SCM – it could also be, though the instincts might suggest otherwise, that logistics is a stronger concept and it is SCM that has to evolve and differentiate to survive instead. As a methodological tool, the typology first

suggested by Larson and Halldorsson in 2004, which could be called Larson-Halldorsson matrix, is used in this paper to map the relationship between the two concepts.

Literature review – the essence of logistics and supply chain management

Early approaches

The history of logistics as a business concept has evolved substantially throughout the last 100 years of being used in business vocabulary. A good starting point emphasizing the relevance of the topic comes from Arch Shaw from Harvard Business School (1915): “The relations between the activities of demand creation and physical supply ... illustrate the existence of two principles of interdependence and balance. Failure to co-ordinate any of these activities with its group fellows and also with those in the other group, or undue emphasis or outlay put upon any of these activities, is certain to upset the equilibrium of forces which means efficient distribution.” It is interesting to note that even though Shaw neither used the words logistics nor supply chain, the idea itself is often quoted even today in various treatments – so there is undoubtedly a lot of common ground in the concepts.

Alongside such general framework of thought existed the understanding of logistics, or, as it was still mostly called up until 1950s and 1960s, physical distribution, as an operational area without much strategic importance. For example, Drucker (1962) is often quoted in pointing out that distribution was commonly perceived as “low-grade nuisance” more than anything else and the entire field had great unutilized potential, which he called economy's dark continent and noted to be “one of the sadly neglected, most promising areas of American Business”. Managing distribution was seen in that era more as a necessary evil than a source of business success. In the words of Ballou, “logistics was not considered the function of strategy makers” (Ballou, 1978). However, that was about to change.

Snyder has suggested four elements that contributed the most to the development of logistics in the 1950s: 1) changes in customer demand patterns towards more dispersed nature and higher variety, 2) economic pressures as logistics costs were increasing in share and threatening profits, 3) technological change relating to electronic data processing and using computer as a business tool, which put emphasis on systematic business process design and allowed purchasing, production, inventory and sales to be better linked, 4) military experience with managing huge levels of inventory, which served as a best practice and extensive information base. (Snyder, 1963).

In the 1960s and 1970s, numerous trends and the changes in the general economic climate contributed to the rise of importance of logistics both in practice and in theory. On one hand, the oil crisis and the rise of interest rates contributed to companies dedicating more focus on all forms of cost control and increasing efficiency. (Soni, Kodali, 2008). Suddenly, distribution costs had become much more important. Secondly, the competition on many markets had grown considerably, inducing the need for larger product varieties and more extensive distribution networks (Bowersox et al, 1968). However, when industries started to reach the point of supply exceeding the demand, the risks of dead stock came more apparent. This started the long trend to alter supply chains towards greater responsiveness and shorter lead times. In other words, the role of logistics was starting to be seen as a source for competitive advantage, or indeed various types of competitive advantages.

Concept evolution since the 1980s

Following into the 1980s, the environment for logistics continued to be dynamic and pushed the understanding of logistics forward on various fronts with increasing international competition, emergence of Japanese economy and their management principles, trend towards higher specialization and outsourcing, technologies such as EDI and MRP-II, new concepts such as quality management, greater means of information sharing, changes in

organisation structures, productivity improvements, emphasis on lower inventory etc. being some of the leading keywords. (New, Westbrook, 2004, Mangan et al, 2008)

This had an effect both on the performance expectations and priorities of logistics in companies as well as how logistics was treated academically. As Rushton et al (2010) have put it: “Logistics is a function made up of many sub-functions and many sub-systems, each of which has been, and may still be, treated as a distinct management operation. Both the academic and the business world now accept that there is a need to adopt a more holistic view of these different operations in order to take into account how they interrelate and interact with one another.” While it is nothing new in today’s context, such statement would have probably sounded much more innovative 40 years ago, similarly to this one by Heskett et al (1973): “Logistics is the management of all activities which facilitate movement and the coordination of supply and demand in the creation of time and place utility.”

Along rapid changes in logistics environment, the term “supply chain management” (SCM) emerged. The first authors to use the term SCM, Oliver and Webber (1982), noted: “Supply chain management covers the flow of goods from supplier through manufacturing and distribution chains to end-user. ... 1) SCM views the supply chain as a single entity; 2) It demands strategic decision making and system integration 3) It views balancing inventories as the last resort” Since then, there has been some dispute over what SCM is and what it is not, while in some approaches SCM is viewed as a functional area and in others as broader management concept. In recent years, however, SCM is mostly treated clearly as foremost a strategic concept. As Melnyk et al (2009) put it: “over time, the theory and practice of SCM has experienced a transition from a tactical to a strategic focus. SCM involves more than simply making a ‘better’ buy; it affects the ability of the firm to make and maintain a sustainable competitive advantage.”

One approach, which in hindsight might have contributed to constraining the evolution of logistics from functional to holistic cross-functional competitive advantage level, was introduced in 1984 by Porter – the ideas of value chain and value system. According to Porter (1991): “Discrete activities are part of an interdependent system in which the cost or effectiveness of one activity can be affected by the way others are performed. I term these linkages. The cost of after-sale service, for example, is influenced how product design, inspection and installation are performed. Such linkages can extend outside the firm to encompass the activities of suppliers, channels and buyers.” Such understanding has over time become the core of modern SCM. In Porter’s view, logistics is a functional area contributing to the value system, rather than the system itself.

The debate over boundaries of terminology is normal for any young concept and probably never stops to be fuelled by continuous changes in practical environment. The long-term growth in importance of SCM can be, similarly to logistics growth earlier and also in parallel, attributed to a variety of factors such as globalization, liberalization of international trade, outsourcing and increasing competitive pressure in industries to offer higher quality with not only better price, but with superior speed, flexibility and value-added services. It is essential to realize that regardless of specifics of a given product and its positioning on the market, all the aforementioned competitive advantages can be influenced not only by logistics performance but more generally the performance of supply chains. In that sense, while there is much in supply chains, that can be either directly or indirectly linked to logistics, such formulation also leaves room for issues not related to logistics in managing a supply chain strategically.

Perhaps one of the most important keywords in SCM development, in parallel to evolution of logistics, has been integration. Ellram and Cooper (1990) defined SCM as “an integrative philosophy to manage the total flow of distribution channel from supplier to

ultimate user”. Another example of a cross-functional definition is offered by Ayers and Odegaard (2008): “SCM is design, maintenance and operation of supply chain processes, including those for base and extended products, for satisfaction of end-user needs.” In another wording by Lyons et al (2012): „The consequence is that supply chains are increasingly looked upon from an holistic, multi-business, yet integrated perspective and it is from such vantage point that makes feasible the development of a supply chain strategy that can be meaningful and coherent across a series of both loose and tight network alliances.“

The idea of integration and holistic view in the supply chains can be dated back to the ideas of systems theory from the 1950s. The key point can be summarized as the observation that the behavior of a complex system cannot be understood completely by the segregated analysis of its constituent parts (Quayle, 2006). It is notable that in recent decades, while modern technology has facilitated ways to achieve much better integration via data sharing and quick information transfer, it has lowered the pressure on technology and instead pointed out that willingness to cooperate within the supply chain, understanding the available gains from it and reaching common ground in negotiations is the real bottleneck towards higher integration levels.

The need for developing integration has, similarly to logistics, also been widely accepted by authors in the field of operations management, which, not surprisingly have also started to turn more attention towards supply chain topics. In a recent edition of “Operations Management – Creating Value along the Supply Chain”, Russell and Taylor (2011) emphasize: “Supply chains require close communication, cooperation and collaboration among members to be effective. Suppliers and their customers must share information. It is the rapid flow of information that characterizes today’s supply chain management. Suppliers and customers must have the same goals. They need to be able to trust each other. Suppliers and customers must participate together in a design of a supply chain to achieve their shared goals.”

Supply chain collaboration has been described as a process that promotes inter-organisational cooperation, openness, the creation of inter-company decision-making routines, knowledge sharing and customer-supplier intimacy (Mentzer et al, 2000).

Integrated logistics vs integrated supply chains

It can be said there is a difference between integrated logistics and integrated supply chains. Soni and Kodali (2008) have emphasized it as SCM “introducing the idea of external integration in addition to internal integration”. Inside a firm, integration means that everything is working systematically and problems are holistically dealt with proper managerial actions. This applies to SCM only partially, as most supply chains are not fully vertically integrated. Due to different business environments, competitive situations, negotiating power and priorities of various chain participants, who is to determine the ideal characteristics of a supply chain in question? However, potential benefits from integration should not be discarded: „The biggest challenge facing companies today is not the internet, or globalization but integration of supply chains from vendors through manufacturers and distributors to satisfy end customers and obtain value. The goal of SC integration is to synchronize the requirements of customers with the flow of materials in order to achieve a balance between high customer service, low inventory investment and low unit costs. (Sadler, 2011)

It is logically less complex to manage any single company compared to attempting to manage the optimal output and cost balance over the entire supply chain. Furthermore, the more dynamic the market, the higher performance is expected from a supply chain on delivery speed and flexibility front – which itself is continuously questioning the status quo in many industries on a daily basis and makes SCM a truly strategic topic. As Janvier-James has put it, market uncertainty necessitates supply chains to be easily flexible to changes in the situation of trade” (Janvier-James, 2012).

This requires increasingly more effort and cooperation in the supply chains. Paradoxically, the more dynamic a market is, the more probable it is that supply chains are less stable in terms of participants, making it increasingly more difficult to develop competitive advantages that require long-term commitment to coordination and collaboration between partners. In short, the challenges of SCM are never-ending. In comparison, integration inside an enterprise, which it could be said forms the scope of logistics management, is relatively more easily achievable.

To add support to such distinction, a recently emerged and evolving concept in the field is supply chain alignment. Gattorna (1998) has noted: “alignment with both external and internal partners in a supply chain should be a priority topic in defining any supply chain strategy.” Alignment could be viewed as a more feasible goal in SCM compared to integration. Aligning with supply chain partners is both a strategic and managerial task: strategic, because it brings in long-term decisions about how operations will be structured and managerial because it encompasses decisions within an overall „game plan“ (Harrison et al 2008). To better understand the nature of alignment, the „management” part of the phrase SCM should be interpreted in a widest possible context, in our wording as an act of assembling people to accomplish goals using available resources efficiently and effectively. In our context it means that supply chains can be managed via initiating cooperation even though no single entity usually fully controls the entire supply chain. Indeed often no single person even has a thorough overview about every aspect of the supply chain of their product.

Shouldn't alignment with suppliers belong to logistics manager's scope of responsibilities? Probably not according to authors such as Rushton et al (2010) with a view “supply chain = suppliers + logistics + customers”. It seems that in contrast to pre-SCM era, when logistics was about to evolve into such holistic concept, numerous authors nowadays treat LM as subset of SCM. For example Wisner et al (2012) have expressed that SCM should be viewed balanced upon three

pillars: purchasing, operations and logistics. In this view, logistics is a key part of SCM, as is any other function that contributes to perceived value and/or cost to the product, whereas purchasing, including issues of supplier selection and relationships, cover the inter-organizational aspects not covered by logistics.

Logistics management vs supply chain management

There might be more aspects in which SCM is broader or different compared to LM. Desphande has recently suggested that current methodologies for analyzing supply chains are not sufficiently comprehensive, particularly when it comes to understanding the complexities in SCM and organization performance. Based on extensive literature review, Desphande has identified three crucial SCM dimensions: long-term relationships, concurrent engineering and strategic purchasing (Desphande, 2012). Long-term relationships give businesses a multitude of benefits: higher level of trust advances in knowledge and ease of information sharing. (Griffith et al, 2006)

Strategic purchasing means that supplier selection decisions are not only based on best product offering with optimal balance in the quality-speed-cost triangle, but more strategic aspects are considered, such as long-term financial status, strategic positioning and willingness to collaborate and coordinate actions. According to Chen and Paulraj (2004), the construct of strategic purchasing requires supplier selection to be aligned with firm's strategic orientation, with a long-term relationship focus and asks if supplier has adequate understanding of firm's strategic goals and vice versa. Finally, concurrent engineering is focused on involving supply chain partners in product design phases. The goal of it is to better manage cross-functional and inter-organizational trade-offs and include a supply chain plan already in a preliminary business plan. From customer feedback perspective, it helps to obtain information from the earliest possible stage (Desphande, 2012).

In some interpretations, SCM and logistics are more roughly split into, respectively, external and internal domains. According to Christopher (2011): "SCM is the management of upstream and downstream relationships with suppliers and customers in order to deliver superior customer value at less cost to the supply chain as a whole." In such context, internal logistics would not even properly fit the scope of SCM.

Probably the most widely known definitions for SCM and LM are provided by Council of Supply Chain Management Professionals (CSCMP, 2013) as follows:

- Logistics management is that part of SCM that plans, implements, and controls the efficient, effective forward and reverse flow and storage of goods, services, and related information between the point of origin and the point of consumption in order to meet customers' requirements. Logistics management activities typically include inbound and outbound transportation management, fleet management, warehousing, materials handling, order fulfilment, logistics network design, inventory management, supply/demand planning, and management of third party logistics services providers.
- SCM 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. It includes all of the logistics management activities noted above, as well as manufacturing operations, and it drives coordination of processes and activities with and across marketing, sales, product design, and finance and information technology.

A substantial contribution to understanding the components of SCM was suggested by Lambert et al, (1997), according to which supply chains encompass eight general

management processes that are applicable for every firm in a supply chain: customer relationship management, supplier relationship management, customer service management, demand management, order fulfilment, manufacturing flow management, product development and commercialization and returns management. In this view, the eight sub-processes are cross-functional and cross-firm by nature, forming a foundational framework of process integration. According to Lambert, a clear distinction was needed between SCM and logistics to emphasize that even the strategic meaning of logistics is only a part of SCM (ibid.)

In functional sense, Rushton et al (2010) have suggested a simple model of five components as composition of logistics: transport, inventory, warehousing, packaging and information. The authors have also specifically emphasized four areas in which SCM is different from of logistics:

1. The supply chain is viewed as a single entity rather than a series of fragmented elements such as procurement, manufacturing, distribution, etc. This is also how logistics is viewed in most forward-looking companies. The real change is that both the suppliers and the end users are included in the planning process, thus going outside the boundaries of a single organization in an attempt to plan for the supply chain as a whole.
2. SCM is very much a strategic planning process, with a particular emphasis on strategic decision making rather than on the operational systems.
3. SCM provides for a very different approach to dealing with inventory. Traditionally, inventory has been used as a safety valve between the separate components within the pipeline – thus leading to large and expensive stocks of products. Supply chain management aims to alter this perspective so that inventory is used as a last resort to balance the integrated flow of product through the pipeline.
4. Central to the success of effective SCM is the use of integrated information systems that are a part of the whole supply chain rather than merely acting in isolation for each of the separate components. These enable visibility of product demand and stock levels through the full length of the pipeline. This has only become a possibility with the recent advances in information systems technology. (ibid.)

Regardless differences in scope, the goal of logistics management and of SCM are usually stated very similarly. According to a classic approach: “Logistics involves getting, in the right way, the right product, in the right quantity and right quality, in the right place at the right time, for the right customer at the right cost” (Mangan et al, 2008).

Likewise, Chartered Institute of Logistics and Transport has defined logistics as “the positioning of resource at the right time, in the right place, at the right cost, at the right quality” (Rushton et al, 2010). This is not too different from the wording suggested by Simchi-Levi (2004): “SCM is a set of approaches used to efficiently integrate suppliers, manufacturers, warehouses and stores so that merchandise is produced and distributed at the right quantities to the right locations at the right time in order to minimize system wide costs while satisfying service-level requirements”.

In brief conclusion, it appears there is less confusion over terminology in recent approaches of front-line research as it is mostly agreed that SCM and logistics are in close view distinct, though similar, concepts. The latter is usually seen to entail a plan for material and information flow through an organization, whereas SCM is directed to expanding that plan to include suppliers and other business network participants to create synergies that are not achievable through actions inside one company alone. After 30 years, the concept of SCM, at least in terms of scope and definitions, is finally just reaching maturity. However, precisely defining logistics in relation to SCM remains a challenge and a source of misunderstandings in practice. We now turn our focus to how the

same aspects of terminology are explained to students across broad range of modern textbooks.

Methodology

The aim of this research is to analyze how modern literature of SCM and logistics treat the relationship between the two terms. There are two main hypotheses:

1. The definitions of SCM in modern day textbooks of the field are coherent to suggest relative maturity of the concept;
2. The nature of logistics is defined clearly and similarly among modern textbook authors and similarly in relation to SCM.

The question on the relationship between two concepts has been discussed for more than two decades. Not only is it of importance on academic conceptual level but also for universities for curriculum development and for practitioners to reach common understandings in the terminology. Almost 20 years ago, Lambert et al (1997) noted: “Practitioners and educators have addressed the idea of SCM as an extension of logistics, the same as logistics, or as an all-encompassing approach to business integration” A strong foundation to understanding the existing parties in the debate was laid out by Larson and Halldorsson (2004), who pointed out: “the unclear conceptual borders of SCM make it difficult to design educational programs in SCM

without large overlap with other fields such as logistics, marketing, operations management and purchasing” In their view, there are four possible relationships between the two terms (depicted on figure 2), namely:

- Traditionalism – logistics is a broad “mother” concept of which SCM has emerged as a part
- Relabeling – due to concept evolution, logistics has come a long way and finally transformed into supply chain management, which essentially is the modern viewpoint of logistics
- Unionism – SCM is a wider concept than logistics and encompasses logistics in its entirety, however, adding other challenges and decision areas into the scope that are not subcomponents of the field of logistics
- Intersectionism – SCM shares a common core with logistics. However, the field of logistics has aspects which don’t belong under the scope of SCM and similarly the other way around – there are aspects of SCM that don’t belong under what logistics is (or should be, according to the representatives of this school of thought)
- It should be noted that even though fifth approach is also imaginable – that the two fields are entirely separate – it did not appear practical for the authors and was cast aside.

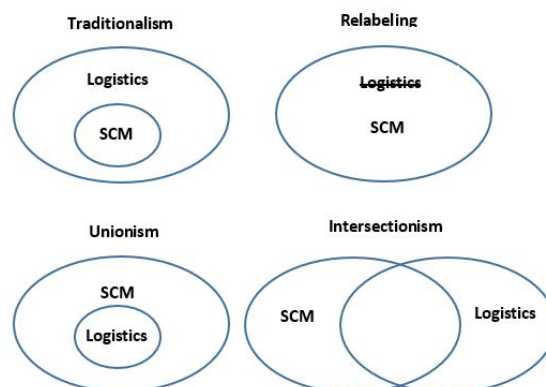


Figure 2: Possible relations between the terms according to Larson and Halldorsson (2004)

What Larson and Halldorsson (2004) did was to ask the opinion of various educators of the two topics around the world by designing and carrying out a survey that could mathematically divide the respondents' detailed answers between the four understandings. The questions used were specific enough to remove bias – the respondents evaluated the relevance of a long list of topics to the fields of logistics and SCM without being directly asked their opinion. The result of the survey showed that all four schools of thought do exist, each having a strong level of support by some educators in the world.

Based on the literature reviewed, we could speculate before-hand that hypothesis 1 is a reasonable expectation due to recent trends. However, we did consider our hypothesis 2 as a rather bold assumption, as the four-way typology is only a decade old.

The literature for the analysis was chosen for the study by using two criteria. First it had to be less than 10 years old and secondly it had to be a textbook with a general aim towards either “supply chain management” or “logistics management”. Many books in our sample are used by universities, have been successful in internet sales such as on amazon.com and are ranking high in Google Books database. We hope the final selection of 35 books surveyed forms an adequate unbiased sample of the existing textbooks, the grand total of which would probably reach a few hundred (and would still only include authors writing in English).

We analyzed 20 books from the first and 15 from the second category. This appears to reflect the situation on the current textbook landscape in the field of study mostly adequately – indeed there appear to be more books published in general about SCM than focusing on LM and sometimes the terms are merged. The first 20 were evaluated for the first hypothesis and to obtain the first viewpoint of SCM-focused authors' treatments towards logistics to then compare to the more specific

logistics treatments. For analyses of the terms, the presented definitions in text were used as well as analytical explanations and context of terminology use. Even though in some cases the authors' views were not directly stated on the matter of our research interest, we could still most of the time make reasonable interpretations according to Larson-Halldorsson matrix.

Findings from supply chain management textbooks

In this section the summary of findings from pure SCM textbooks are presented, followed afterwards by attention towards books that dedicate more detailed focus on logistics. Table 1 below presents a concise overview about the SCM literature studied. In the column “logistics”, the coding used means:

- “-“ – does not provide any specific explanation of the term logistics;
- “+” – explains partially the nature of logistics or the meaning can be deduced from context, without a proper definition being present;
- “++” – presents specific explanation on what is the authors' view on logistics.

The column “approach” refers to our interpretation on which of the four possible relationships of the terms in the Larson-Halldorsson matrix fits best the treatment in the textbook in question, where “U” represents unionism, “I” intersectionism, “T” traditionalism and “R” relabeling school.

The treatments of logistics by some authors reviewed here is firstly surprisingly shallow and secondly dismissive as a clearly inferior concept. It appears that some of the authors focusing on SCM oppose the idea of logistics having a greatly more augmented meaning today than compared to 30 years ago or indeed even aim to reverse the trend to define logistics again with a smaller, company-based or even only transport-based focus.

Table 1: 20 books of SCM involved in the study

| Author(s) | Title | Year | Logistics | Approach |
|-----------------------|---|------|-----------|----------|
| An, Fromm | Supply Chain Management on Demand | 2005 | - | n/a |
| Arlbjorn <i>et al</i> | Supply Chain Management. Sources for competitive advantages | 2010 | + | U |
| Ayers, Odegaard | Retail Supply Chain Management | 2008 | + | U/I |
| Basu, Wright | Total Supply Chain Management | 2008 | + | U |
| Blanchard | Supply Chain Management – Best Practices | 2010 | + | U |
| Bozarth, Handfield | Introductions to Operations and Supply Chain Management | 2008 | + | U |
| Chopra, Meindl | Supply Chain Management | 2007 | + | U |
| Cohen, Roussel | Strategic Supply Chain Management | 2005 | + | U |
| Emmett, Crocker | Relationship-driven Supply Chain. Creating a Culture of Collaboration | 2006 | + | U |
| Haksever, Render | Service Management. An Integrated Approach to Supply Chain Management | 2013 | ++ | U/I |
| Hugos | Essentials of Supply Chain Management | 2006 | ++ | U |
| Ivanov, Sokolov | Adaptive Supply Chain Management | 2010 | ++ | U/I |
| Monczka <i>et al</i> | Purchasing and Supply Chain Management | 2009 | + | U |
| Morris, Pinto | The Wiley Guide to Project Technology and Supply Chain Management | 2007 | + | U |
| Quayle | Purchasing and Supply Chain Management | 2006 | + | U |
| Scott <i>et al</i> | Guide to Supply Chain Management | 2011 | - | U |
| Sehgal | Enterprise Supply Chain Management | 2009 | - | U |
| Stadtler, Kilger | Supply Chain Management and Advanced Planning | 2008 | + | U/I |
| Wisner <i>et al</i> | Principles of Supply Chain Management: a Balanced Approach | 2012 | + | U |
| Yücesan | Competitive Supply Chains. A Value-Based Management Perspective | 2007 | + | U |

It is clear that if the main headline is “supply chain management”, then on the one hand authors need to promote their concept and reasonably differentiate it in terminology too. On the other hand, SCM was indeed born in the age of growing understanding of logistics and the part that is shared by the two concepts is essential. The real question still up for debate is how big this common ground is. The more logistics is narrowed down to, i.e. the more substantially greater the authors present SCM to be, the less there would be reason to treat logistics as a separate academic concept. On the other hand, it could be said that if logistics would be defined and agreed upon with more breadth and precision, it would stand its ground much better. In our view (reflected in table 1), the former is the view of unionists whereas the latter leaves more room for intersectionism. Such difference brings us to conclude that only 4 of the studied books were more open to or supportive of intersectionism,

whereas the rest supported unionism. As expected from pure SCM-focused treatments, there were none “traditionalists” and only seldom could one spot the idea the fields “logistics” and “SCM” can be / have historically been seen as synonyms.

We have therefore divided our SCM textbooks into two categories based on their approach – there are authors which more clearly support unionism approach and authors whose opinion on the matter based on the book is less clear.

Unionist treatments

Arlbjorn *et al* (2010) define SCM as “... concerned with transformation of demand information to physical delivery of goods and services. /.../ The management ideal is to provide a differentiated management of intra- and inter-organisational activities and processes with the purpose to fulfill customers’

requirements.” Additionally, the authors explain the components of SCM in six component issues: product, technology-based, organisation, competition, relation-ship-based and global issues. The authors don't define logistics per se, but include an overview of concept development, which shows logistics as an intermediary form of integration, later surpassed by the integration offered by SCM, which is the viewpoint of unionism.

According to Basu and Wright (2008), supply chain should not be treated purely as a series of separate operations and organizations but as a complete end-to-end product-based cradle-to-grave process. The authors emphasize that “the objective is to be cost-effective across the whole supply chain, which requires a system-wide approach to optimization.” Concerning LM, the authors seem to be unsure and inconsistent. On one hand, they promote the 2007 definition by Council of Supply Chain Management Professionals (CSCMP), but according to their interpretation, this makes the two concepts more or less synonymous (at least when manufacturing and supply organizations are concerned). However, on another occasion, the term logistics is used in context to mean nothing more than an operational field of cargo transport. In summary, they do explicitly state to support the unionist viewpoint.

Blanchard is building his approach both on SCOR process model by Supply Chain Council and on CSCMP definitions (which supports unionism) without further going into details on the scope of definition or logistics role in relation to it. In his view, the key components of SCM are identifying supply chain process reality and overcoming flow bottlenecks, designing proper processes to meet the set needs and empowering people. The term logistics is used heavily in the book representing mostly management of physical and information flows. (Blanchard, 2010)

Bozarth and Handfield (2008) approach SCM through operations management viewpoint. The chapter of logistics was only added in the 2nd edition of the book, which is probably already more proof than needed to suggest in their view SCM is wider than

logistics. They have also based their approach on unionist CSCMP definitions of SCM and LM. However, in contrast it should be mentioned that according to authors' view, logistics is treated with much more narrow focus. Judging from chapter structure, even though logistics has a separate chapter, the topics of forecasting and even inventory management stand separately rather than under logistics section. This, it could be said, is a more extreme treatment of logistics, close to just being another name for transport.

In one of the more widely known books of the field, Chopra and Meindl (2007) start with emphasizing that SCM consists of strategy design elements, supply chain planning and operational elements. Their approach is rather remarkably unionistic, as the term logistics is used sparingly and is explained as the strictly functional aspects of facilities, inventory and transportation.

The textbook by Cohen and Roussel (2005) stands out by not including any specific definition of SCM, even though the book is titled „Strategic Supply Chain Management“. It could be speculated if they reckoned the existing definitions to be too vague or contradictory to prove of specific value. The book does explain SCOR model as one approach to the problem scope. In content, authors leave no doubt that logistics is only one function in supply chain framework (“End-to-end supply chain management is not just about logistics”). As logistics is not specifically defined, the approach of the authors is more probably unionism than intersectionism.

Emmett and Crocker (2006) make it clear from the start that “SCM is a philosophy and a way of looking at how to better manage across functions. If we try to make supply chain management a functional department, then we will run the risk of subordinating the benefits of the approach and getting locked into power plays and the playing of serious schoolyard politics; such matters being commonly found in and between existing organizational functional silos/departments. Supply chain management by definition is all about integrating, coordinating and control, across internal and external functions.” Interestingly, the authors

point out that “logistics, which originally encompassed the whole supply chain, is now being understood by many companies as a new name for transport or for warehousing/stores or for distribution. Logistics can therefore be a confusing word. Additionally, some people use the term logistics to describe their own internal company process, and use the supply chain term, when they are dealing with external suppliers/customers.” The authors don’t really specify their own normative understanding of logistics.

In “Essentials of Supply Chain Management”, Hugos (2006) describes SCM as significant evolution of the fields of logistics and operations management and presents a personal definition for SCM as “the coordination of production, inventory, location, and transportation among the participants in a supply chain to achieve the best mix of responsiveness and efficiency for the market being served.” Hugos represents pure unionism in stating: “logistics focuses its attention on activities such as procurement, distribution, maintenance, and inventory management. SCM acknowledges all of traditional logistics and also includes activities such as marketing, new product development, finance, and customer service. In the wider view of supply chain thinking, these additional activities are now seen as part of the work needed to fulfill customer requests.”

Monczka et al (2009) are approaching SCM through defining supply chain orientation. “A supply chain orientation is a higher-level recognition of the strategic value of managing operational activities and flows within and across a supply chain. / ... / Supply chain management, then, endorses a supply chain orientation and involves proactively managing the two-way movement and coordination of goods, services, information, and funds from raw material through end user. According to this definition, supply chain management requires the coordination of activities and flows that extend across boundaries.” The authors are describing logistics as: “logistics managers are responsible for the actual movement of materials between locations. One major part of logistics is transportation management,

involving the selection and management of external carriers (trucking companies, airlines, railroads, shipping companies) or the management of internal private fleets of carriers.” This leaves little room for interpreting it otherwise than strict unionism with logistics viewed only on operational and tactical management levels.

According to Morris and Pinto (2007), “SCM is a set of approaches utilized to efficiently and fully integrate the network of all organizations and their related activities in producing, completing and delivering a product, a service, or a project. SCM approaches such as partnering, information, and risk sharing can greatly reduce the impact of these uncertainties.” The role of logistics in this picture is only briefly mentioned: “New opportunities for businesses to improve operations even further now rest largely in the supply chain areas of purchasing, distribution, and logistics” With no more specifics on the nature of logistics given, this could be classified as yet another pure unionist.

Quayle (2006) argues that “SCM is the management of all activities in order to satisfy the ultimate consumer, covering almost all business activity, including marketing, manufacturing, purchasing, logistics, and, more generally, such activities as finance and personnel” and that “supply chain must reach beyond traditional logistics boundaries, to form partnerships with the aim of creating a seamless flow of goods and information”.

“A Guide to Supply Chain Management” by Scott et al (2011) is yet another book basing its approach on SCOR process model and approaching logistics as not much else than a functional area to arrange physical flows. Quite similarly, according to Sehgal (2009), „SCM consists of managing the flow of resources across the enterprise for efficient business operation.“ Sehgal goes on to present a list of core supply chain functions, which does not contain the term logistics, although including many traditional subtopics of logistics. However, according to Sehgal’s „supply chain planning functions“, logistics is only viewed as a sum of transport and warehousing planning. Again, even inventory

management has been left separate from logistics.

In addition to the popular SCM definition by CSCMP, Wisner et al present a formulation by Singapore-based Logistics & Supply Chain Management Society: “The coordinated set of techniques to plan and execute all steps in the global network used to acquire raw materials from vendors, transform them into finished goods, and deliver both goods and services to customers.” The authors add: “In theory, supply chains work as a cohesive, singularly competitive unit, accomplishing what many large, vertically integrated firms have tried and failed to accomplish.” Logistics is mentioned by authors as a functional area but no specific definition of LM given. (Wisner et al, 2012)

Yücesan models supply chain as a platform to coordinate physical, information and financial flows on three pillars: processes of value-adding activities; organizational structures encompassing not only a range of relationships from total vertical integration to networked companies, but also performance measurement and incentive schemes to make relationships sustainable; and enabling technologies. The book does not go any deeper on explaining the scope of logistics. (Yücesan, 2007)

Other treatments

An and Fromm have compiled their book without actually defined SCM or logistics. (An, Fromm, 2005) The term “logistics” is used sparingly in the book, to say the least, so the viewpoint on the Larson-Halldorsson matrix can't be determined from the text.

Ayers and Odegaard (2008) have compared various viewpoints in the debate between two terms, some of which are more broad, planning-oriented definitions, some more operational focused. The decidedly take a wider look across functional boundaries and compare 11 SCM definitions before presenting their own. The authors feel a broad view of SCM is required that emphasizes the strategic role of SCM and hence their preferred definition relies on the phrase “(management of) product life-

cycle processes”. In this view, the flows of materials, information and money belong to the scope, as well as their own addition, the flow of knowledge, to support supply chain processes and lead to growth through innovation. The authors have not defined logistics. Their approach to a multitude of SCM definitions indicates that their interpretation is either unionism or intersectionism. They point out that each definition has to be understood in its practical context, therefore suggesting that part of this debate will never be fully settled.

Haksever and Render (2013) note that “SCM as a field of study and practice can be considered as an outgrowth or expansion of logistics management. To a certain extent this is true; some of its tools and techniques are borrowed from logistics management, some from operations management and operations research. / ... / LM activities typically include inbound and outbound transportation management, fleet management, warehousing, materials handling, order fulfillment, logistics network design, inventory management, supply/demand planning and management of third-party logistics services providers. / ... / However, SCM is broader in scope and takes more strategic approach to supply chain operations including the traditional logistics activities.” For our methodological purposes, such view gives enough specific credit to logistics so that it could be treated closer to intersectionism than to unionism.

A substantially more systematic and elaborate approach has been presented by Ivanov and Sokolov in “Adaptive Supply Chain Management” (2010). According to authors' view, “SCM studies human decisions in relation to cross-enterprise collaboration processes to transform and use the SC resources in the most rational way along the entire value chain, from raw material suppliers to customers, based on functional and structural integration, cooperation, and coordination throughout.” The authors present a thorough explanation to their intersectionist viewpoint by stating: “logistics deals mostly with local functions for implementing the physical transition of material flows and SCM deals with the value-adding chain as a whole and concentrates on

the managerial links between the local functions for implementing the physical transition of inbound and outbound material flows. /.../ In other words, logistics takes care of providing the right goods, in the right place, at the right time, in the right volume, in the right package, in the right quality, with the right costs, and SCM takes care of balancing the supplies along the entire value-adding chain subject to the full customer satisfaction. / .../ As examples of logistics problems, warehouse management, transportation optimization, procurement quantity optimization, local inventory management, cross-docking design, inter-modal terminals design, etc. can be named. Accordingly, manufacturing deals with optimizations in assembly lines, production cells, etc. As examples of SCM problems, distribution network design, demand forecasting, collaborative inventory management, supply coordination, supply monitoring, and controlling can be identified. In practice, the logistics and SCM problems interact and are tightly interlinked. This is impossible to consider logistics and SCM in isolation from each other. SCM and logistics mutually enriches themselves. SCM is a very important part of logistics. In its turn, logistics is a very important part of SCM.”

Another detailed overview of the nature of SCM is presented by Stadtler and Kilger (2008), in which the main keywords are integration and cooperation: “the task of integrating organizational units along a supply chain and coordinating material, information and financial flows in order to fulfill (ultimate) customer demands with the aim of improving the competitiveness of a supply chain.” Although logistics is treated as a functional “building block” that forms the foundation of SCM next to marketing, operations research, purchasing etc., credit is also given to a wider more philosophical understanding of logistics through presenting the five principles of logistics thinking (originally described by Pfohl in 2004), which are: thinking in values and benefits, systems thinking, total cost thinking, service orientation and striving for efficiency. Such approach makes logistics as an area stand

relatively higher compared with many authors but differentiating between unionism and intersectionism is again difficult.

To sum up the 20 textbooks, the common theme is presenting SCM as a holistic concept that reaches across companies and functions and strives for success through cooperation and integration. On the level of definitions, hypothesis #1 could be considered as proven. There are, however, some differences in the structure and content of the books, which is understandable due to huge scope, offered by the very definition, but still makes the entire topic appear slightly vague. This is partially remedied by a number of authors that have found support structure for their approach from SCOR model, which does serve as a relatively good backbone. Another problem for SCM textbooks, however, is that the wide definitions of SCM demand inclusion of so many topics, it is challenging, to say the least, to treat every aspect with appropriate level of detail.

Findings from logistics textbooks

Now moving onto the textbooks focusing on logistics, the reason for research has become clearer – if there would be substantial common ground and distinct difference from SCM treatments, and then it would demonstrate logistics undoubtedly as a sustainable paradigm itself. However, our results across 15 logistics textbooks reveal a much more colorful picture, as can be seen in the final column of table 2 below.

It must be firstly noted that when the main term studied in the book relates to “logistics”, the terminology debate meets notably more attention than in the first part of our research. Such multitude of opinions can be interpreted logically in two ways. Either some of them are in the wrong or mostly everyone is right in a sense as only specific viewpoints are treated by respected authors instead of broader nature of logistics. We would personally lean mostly towards the latter. Still, this means that the scope of logistics remains vague.

Table 2: 15 books on logistics involved in the study

| Author(s) | Title | Year | SCM* | Approach |
|--------------------------|--|------|------|----------|
| Branch | Global Supply Chain Management and International Logistics | 2009 | + | R |
| Christopher | Logistics and Supply Chain Management | 2011 | ++ | I |
| Dinitzen, Bohlbro | Value-Added Logistics in Supply Chain Management | 2010 | ++ | U/I |
| Simchi-Levi <i>et al</i> | The Logic of Logistics. Theory, Algorithms, and Applications for Logistics and Supply Chain Management | 2005 | + | R |
| Waters | Supply Chain Risk Management. Vulnerability and Resilience in Logistics | 2007 | ++ | R |
| David, Stewart | International Logistics: The Management of International Trade Operations | 2010 | ++ | U/I |
| Farahani <i>et al</i> | Logistics Operations and Management. Concepts and Models | 2011 | - | n/a or I |
| Fernie, Sparks | Logistics & Retail Management | 2009 | - | n/a or I |
| Ghiani <i>et al</i> | Introduction to Logistics Systems Management | 2013 | - | n/a or I |
| Gudehus, Kotzab | Comprehensive Logistics | 2009 | - | R/I |
| Harrison, van Hoek | Logistics Management and Strategy | 2008 | ++ | U/I |
| Langevin, Riopel | Logistics Systems Design and Implementation | 2005 | - | U/I |
| Lun <i>et al</i> | Shipping and Logistics Management | 2010 | - | n/a or I |
| Rushton <i>et al</i> | Handbook of Logistics and Distribution Management | 2010 | ++ | U/I |
| Schönsleben | Integral Logistics Management | 2007 | ++ | I |

*The marking system here is similar to table 1 turned towards the treatment of the nature of SCM.

Branch (2009) defines logistics as “the time-related positioning of resources ensuring that material, people, operational capacity and information are in the right place at the right time in the right quantity and at the right quality and cost. He continues: “This embraces the ultimate objective of global supply management, which is to link the marketplace, the distribution network, the manufacturing and assembly process and the procurement activity...” The author does not define SCM per se, but from context it is rather clear that the author uses it interchangeably with logistics management. Therefore we have identified our first case of relabeled. This is not to say that there are not detailed differences in the context of how the author uses the terms at all, just that these are not evident enough and the author does not emphasize them.

Christopher (2011) starts his latest edition of his renowned textbook by stating: “SCM is not just an extension of LM, but rather that it is about managing relationships across the complex networks that today’s supply chains have become.” It is worth emphasizing

that Christopher treats logistics as a strategic discipline: “Logistics is the process of strategically managing the procurement, movement and storage of materials, parts and finished inventory (and the related information flows) through the organization and its marketing channels in such a way that current and future profitability are maximized through the cost-effective fulfilment of orders.” The question whether Christopher’s approach is of that of a unionist or rather intersectionist is not perfectly clear, however, the definitions are distinct enough to lean towards intersectionism.

Dinitzen and Bohlbro (2010) set out with making sure the terms are well defined: “LM is the process of managing and coordinating the flow of materials and information within the company and between the company and its partners. A distinction is made between that part of the task that lies within an individual company and that part that involves coordination and collaboration between several companies. The former is logistics while the latter is SCM. SCM consists

of the planning and control processes from raw materials to end user through the coordination and linking of partners in a supply chain.” Therefore the responsibilities of logistics are of similar expected outcome but of narrower scope and dealing with partly different tasks. The authors stress that one key difference is the management level. “In contrast to the logistics strategy, SCM involves several companies and their ability to coordinate their individual logistics strategies.”

Simchi-Levi et al (2005) present mathematical optimization models for logistics, which is only one specific perspective on the enormous field of SCM. The authors note that the perceived difference of terminology much depends on the author but in their own approach they do not distinguish between logistics and SCM.

Similarly in “Supply Chain Risk Management. Vulnerability and Resilience in Logistics”, Waters (2007) deals with logistics from a specific angle, risk management. From such focus, it makes more sense not to deal extensively with solving indirect terminology debates and so from risks point of view, the two terms are interchangeable. In authors’ own words: “In reality, SCM might emphasize the importance of integrating activities, but this has been a developing theme of logistics for decades. The choice of terms is largely a matter of semantics, and here we stick to the convention that the two terms refer to exactly the same function.”

David and Stewart (2010) follow the definitions of CSCMP. “The scope of SCM is much broader than the scope of logistics. Not only does it include all the tactical and managerial decisions, on which logistics and operations managers tend to focus, but it also includes strategic issues that are traditionally the domain of top management positions. /.../ International logistics professionals focus on the tactical aspects of a global supply chain, activities which are inherent to the movement of goods and paperwork, activities that constitute basis for import and export activities”.

Farahani et al (2011) present a detailed view on different aspects of logistics without

much analyzing SCM. In such view, evidently, there are distinct differences in the concepts and similarly to many others, the authors have built the book around the definition of CSCMP. The content of the book also includes detailed and more technical aspects of logistics not usually treated in typical SCM books, such as vehicle routing problem, warehouse design and optimization of uncertain logistics networks. Therefore it appears the authors’ would agree that for conceptual purposes logistics is a sustainable field in itself.

Fernie and Sparks (2009) have further focused their view of logistics on retail operations only. The authors don’t aim to deal with the entirety of SCM and therefore don’t define it, but instead they build on five stated components of “logistics mix” - storage facilities, inventory, transportation, unitization and communication. The book presents detailed aspects of managing operations in all mentioned fields to support strategy of a given retail environment.

In the foreword to “Introduction to Logistics Systems Management” by Ghiani et al (2013), Marc Goetschalckx notes: “while logistics management requires an integrated, holistic approach, its treatment in courses and textbooks tends to be either integrated and qualitative or mathematical and very specific. This book bridges the gap between those two approaches by providing a comprehensive and modelling-based treatment of the logistics processes”. The approach to logistics by Ghiani et al is comprehensive indeed, treating LM from both operational, flow network as well as integrated system management point of view. It is, peculiar, how the book avoids dealing with the term SCM almost entirely. However, intersectionism is the most likely interpretation.

Gudehus and Kotzab (2009) aim to present respectable range of topics one would expect from comprehensive treatment of logistics, and end up with near 900 pages. In their view, “... logistics has to design, set up, operate and optimize systems, which generate physical goods and immaterial services. These tasks overlap with production planning, process technology, industrial engineering, operations

research, informatics and other fields of technology and economics. Logistics in the broadest sense includes also purchase and sales.” The authors discuss supply chains mostly from network optimization point of view and the book doesn’t touch some topics treated in an average SCM book. While it therefore appears to us that their approach classifies as clear intersectionism, the authors declare something more along the lines of relabeling: “In daily business, SCM is confined to the selection of cost-optimal logistic chains for current orders. To remain competitive, the company, which pays the delivery costs, must permanently optimize its supply chains. When demand changes, the supply chains have to be adapted or new logistic structures have to be designed and implemented.” The authors don’t expand on the long-term horizon or perspective business aspect of SCM in contrast to the “daily business” viewpoint they have based their book around.

Harrison and van Hoek (2008) are on the opinion that „logistics and SCM are sufficiently different for separate definitions to be needed“, and also that „SCM is wider than logistics“. The authors define SCM as “planning and controlling all of the business processes – from end-customer to raw material suppliers – that link together partners in a supply chain in order to serve the needs of the end-customer.” The viewpoint appears to be between unionism and intersectionism but it is definitely a different form of unionism compared to some SCM authors that would rather marginalize the meaning of logistics.

Langevin and Riopel (2005) have defined altogether 48 aspects of logistics decisions across three categories: strategic planning level (such as customer service objectives and standards, outsourcing), network level decisions (such as physical network design and communications network design) and operational decisions (demand forecasting, inventory management, order processing, warehousing etc.). The authors are declaring support for the CSCMP definitions.

Lun et al treat LM with shipping industry and transport process context. (Lun et al, 2010) The book presents another set of

examples of specific logistics issues which are only seldom discussed under SCM label and such approach is in our interpretation intersectionistic.

Rushton et al take a rather philosophical view in the debate by stating: “There is, realistically, no ‘true’ definition that should be pedantically applied, because products, companies and systems differ. Logistics is a diverse and dynamic function that has to be flexible and has to change according to the various constraints and demands imposed upon it and with respect to the environment in which it works. These many terms are used, often interchangeably, in literature and in the business world. One quite widely accepted definition that uses some of these terms also helps to describe one of the key relationships: Logistics = Materials management + Distribution. An extension to this idea helps to illustrate that the supply chain covers an even broader scope of the business area including supply of raw materials and components as well as the delivery of products to the final customer. Thus: Supply Chain = Suppliers + Logistics + Customers.” While this appears as unionism, it is again evident that the depths of which some of the distribution-related topics are treated in this book are rarely dealt with that level of detail in a typical SCM textbook. For practical purposes, then, it might as well be labelled intersectionism. By authors’ own words: “The scope of logistics has continued to grow rapidly, and this is reflected in the content of the book. We have included key aspects of supply chain philosophy and practice, but have tried to retain the focus on distribution and logistics.” (Rushton et al, 2010)

Finally, Schönsleben (2007) offers somewhat different definitions for logistics and SCM. “Logistics in and among companies is the organization, planning, and realization of the total flow of goods, data, and control along the entire product life cycle”, whereas “SCM is the coordination of strategic and long-term cooperation among co-makers in the total supply chain, both in production and procurement and in product and process innovation”. This is the only textbook we could

identify as pure intersectionist just from definitions without further interpretations required.

In summary, the real indicator of intersectionism in our view is the depth with which the topics are approached. This would mean that the sum of all reviewed textbooks quite clearly lend support intersectionism. Let's take another look. Four books supported relabeling. In case of Simchi-Levi et al (2005) and Waters (2007), this is due to specific viewpoints to the topic matter, which does not absolutely demand distinct differentiation between LM and SCM. In case of Branch (2009), this could be due to more practical handbook-style approach that does not attempt to theoretically cover everything the terms used might imply. Probably both arguments would apply for Gudehus and Kotzab (2009) and this was the case of stated relabeling, whereas by content, the book appears substantially more detailed than any generic SCM textbook (not that we'd want to marginalize or be dismissive towards books that aim for higher coverage of aspects over specific detailed treatments).

Briefly put, there appears to be a distinct difference between typical SCM textbook and the book that puts more emphasis on the details of logistics in a specific context or from a specific viewpoint. This is how intersectionism should reflect the matter. It appears authors writing on logistics are mostly searching suitable niches to differentiate from SCM. It could be paraphrased that in defining logistics management, "bigger is not better" anymore as it can't compete with the scope of SCM.

It could also be said that if viewed from far enough, the concepts most evidently appear similar and differences are only revealed when specific aspects are taken into focus. Hence it is encouraging that there is an ongoing search for these niches, although there are, on average, nowadays less books on logistics than there are books on supply chain management. The substantial issue, however, is that the nature of logistics in relation to SCM is not as clear as it could be and authors have sometimes substantially varying ideas of how this differentiation should be best formulated.

Conclusions

First of all, it appears evident that the understanding of SCM has harmonized and is rather coherent among modern textbook authors. References to international definitions such as ones by CSCMP and SCOR are widespread. These treatments leave no doubt that traditionalism and relabeling are out of the picture and unionism is, from the SCM "flagship" point of view, the dominant approach. The field of SCM appears much more mature than still in 2004 when Larson and Halldorsson published their research. The range of topics covered under SCM title, however, varies to some extent and this is mostly due to the wide range of topics involved by definition. If a perfect SCM textbook exists then it can be perfect in the sense of "nothing to take away" rather than "nothing more to add", which would be impossible to reach.

Secondly, SCM authors treat logistics as a functional component of SCM with varying degrees of breadth ranging from pure transport arrangement (extreme unionism) to integrated management of material and information flows through the supply chain (which could be determined as soft unionism or also intersectionism). More specified understanding of logistics is often lacking in SCM books both in content as well as even in definition.

The textbooks discussing logistics entail more terminological disagreement and have less of a common denominator. Some authors still support relabelling, while others are unionists or intersectionists and in some cases no attention is turned towards the nature of SCM at all. We could not identify any case of traditionalism, i.e. the view that SCM would form a subset of logistics management. It could also be said that the relabelling cases we noted were more related to specific practical viewpoint to the topic matter rather than being theoretical declarations. Still, such approaches contribute to the remaining confusion.

The treatments of logistics vary to notable extent and while this demonstrates logistics as similarly rather broad concept, it is another factor of confusion. On one hand there are authors who attempt to grasp the full scope

of the term in the textbook, on the other hand there are books that treat only certain viewpoints to logistics (such as optimization models or practical trade handbooks or operations management tools) with the content not being too clear just judging by the title. So the problem of logistics having many faces is similar in textbooks as it is in curricula over the world. At any rate, a typical book on logistics covers a set of more specific issues with much greater detail compared to typical SCM book. In

other words, when details are concerned, many authors still prefer to discuss it as “logistics” rather than SCM. Considering this, the practical conclusion is that the books on logistics fill a multitude of different niches which are not filled by most SCM books and therefore the actual textbook field is best to be described as intersectionistic, but not in a clearly defined sense how Larson and Halldorsson described, as shown on figure 3.

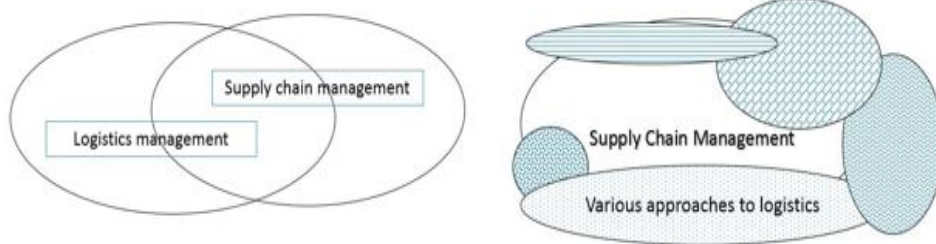


Figure 3: Clear intersectionism (left) and currently observed intersectionism (right)

When purely definitions are concerned, it is difficult to argue with unionists. In our view it is mostly established today that SCM entails some topics that fall outside the scope of logistics management. The debate continues on whether there is some bit of logistics management that would not belong under SCM. Judging by the textbooks, it could be argued that there is rather a lot of room there and so intersectionism appears a feasible and preferable approach for the future, combining the typical generalized SCM treatment (more topics, less depth) with specific studies of component issues treated as “logistics” and focused more on operations analysis and tactical management rather than strategic management. This would further distinguish between the roles of supply chain manager and logistics manager and we feel that it is needed – currently both roles are still rather vaguely understood in practice. The economy requires both people to analyze supply chains, manage supplier and customer relationships and search for ways of value chain cooperation (supply chain managers) as well as people who directly manage physical and information flows and

know the technical details, specific technologies and have other specific competencies that the general supply chain manager would not have (logistics managers). This can be a task for the same person only in a small company. As for university curriculum, such merger into a single competence profile it is not practical.

Therefore, logistics shouldn't be dismissed and even though SCM is by definition greater than logistics, it does not mean that there is no need to teach logistics in universities (often right next to supply chain managers) nor that there is no need to write books about logistics (again side-by-side with books on SCM). For some, this might sound as a trivial point, but when we look around, we see many authors becoming obsessed with SCM and too many books on basically the very same thing while there is a relative shortage of books presenting logistics in a holistic manner. This is, by the end of the day, counterproductive due to the risk of logistics fading to the background, as some SCM proponents are still using belittling of logistics (not the actual practical field, as details are always important for the true professional, but the term as a theoretical

concept) as a marketing point for their own concept. This might as one extreme consequence lead us to the situation where the academia is preparing too many generalist-type managers (because SCM covers everything, right?) but too few specialist-type logistics managers.

All in all our conclusion is that logistics treatments do bring more details to the table, but the scope should be more clearly formulated and agreed upon for future development next to supply chain management to help refine competence models, develop international standards and offer better input to universities for curriculum development. In

practice, moving towards more clear intersectionism should be the priority and in the long term it would benefit all the stakeholders.

As a final thought, we'd like to agree with Ivanov and Sokolov (2010) when they wrote: "Actually, the elaboration of a unique viewpoint on this aspect should not be counted on. Sometimes, these discussions appear very similar to discussions on interrelations of theatre and cinema in the 1940-1950s. Nevertheless, both the theatre and the cinema exist now. So both the logistics and SCM will exist in the future."

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