Supply Chain Management: Some Reflections to Improve its Influence in Business Strategy[1]

1. Carlos Raúl Arredondo
Ph. D. en Economía y Negocios
Investigador. Universidad Católica Argentina
Buenos Aires, Argentina
Rol del autor: intelectual
carlos_arredondo@uca.edu.ar
https://orcid.org/0000-0002-5978-2727

2. José Antonio Alfaro Tanco
Ph. D. en Administración de Empresas y Contabilidad
Profesor titular. Universidad de Navarra
Pamplona, España
Rol del autor: comunicativo
jalfaro@unav.es
http://orcid.org/0000-0001-8502-974X

Abstract: Supply Chain Management (SCM) is a nearly new discipline of management that can be seen in different ways. However, only a strategic approach of SCM that leads to subsequent tactical decisions and operational implementation will provide the benefits that SCM promises. A presentation of the evolution of SCM from its beginnings as part of Operations Management (OM) to an independent field in management has the objective of determining its correct scope. Therefore, we examined papers where the research agenda of both OM and SCM —from the beginnings of these disciplines to these days— has been discussed in order to show the evolution of SCM as a field of high relevance in OM. We emphasize the strategic nature of SCM and the importance to be considered in this way. We argue that is a narrow view thinking of SCM as directly related to logistics as its main focus, since this logistic vision creates a bias that limits the real scope of SCM. In order for this strategic vision of the SCM to be implemented correctly, it is crucial to know both how the role and the profile of SC managers should be.

Keywords: business strategy, Latin America, Supply chain management, supply chain management evolution, supply chain management strategy.

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Introduction

History —in terms of evolution of research approaches and subjects of interest— has had its role in helping to frame the right questions to ask when teaching, researching or practicing (Wren, 1987). To analyze the evolution of Operations Management (OM) we can go back to the time of the industrial

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revolution, or even before. In fact, Sprague (2007) travels a path of the evolution of om that starts in the 16th century to the present day based on the 16 articles covering operations that were published in the special issue of the Journal of Operations Management (JOM), in 2007, about the evolution of the field of operations management. As Factory Management in its beginning, the field evolved first to an industrial management and then to production management. The inclusion of services broadened its frontiers to the actual concept of Operations Management (OM). In this way, several important facts were outlining the profile of OM.

We consider extremely important to understand what is or what have to be Operations Management. Though, it is also crucial to understand what management is. So, what do managers do? It is crucial the difference between operative and non-operative decisions. The former are those decisions that can be taken based on certain information, a good engineer with a spreadsheet, for example, can arrive to a solution and apply it. The latter exists in the domain of uncertainty, there is not a unique solution hence, no matter what decision you choose, you cannot arrive to a full solution; the "right" decision does not exist. Managers have to deal with these kind of problems, the non-operative ones, since their decisions will be based on what consequences (problems) —derived from those decisions— they want to live with. That is what management is about. This consideration is important because, especially in OM, elapsed a period when operations research had the domain of OM under the figure of OM/OR (operations management/operations research). In this period of more than 30 years, OM had an unquestionable growth based on engineering decisions, more than on managerial ones (Ackoff, 1979; Buffa, 1980; Chase, 1980; Meredith *et al.*, 1989; Voss, 1984, 2007; Wren, 1987).

We can situate this period between post-World War II and the 80s. From that time various scholars claim for a change, proposing a new approach of the field, addressing the operation problems from theoretical approaches to more managerial ones. The consequence was an important shift in the applied methodology.

OM was oriented from its origins to production; hence, topics and the most important issues remained for several decades focused on production problems. It is also in the 80s that a break is observed and services, technology, and integration appeared as important issues (Miller *et al.*, 1981; Pannirselvam *et al.*, 1999).

This journey along the history and evolution of OM considers the progress made regarding topics, the transition from production management to a strategic view of operations, changes in the methodology directly related to the necessity of linking theory with practice, and scholars with managers, because as a scientific discipline, operations and SCM continues to look for practical relevance and theoretical impact for its research and interrelationship with others fields of knowledge (Coughlan *et al.*, 2016) to finally get out of the firm's frontier, thus linking operations with providers, customers,

and the rest of stakeholders —participants of the whole business—, that is, the Supply Chain Management concept.

We explore different approaches of SCM, starting from this discipline as a synonymous of logistics, to later address scm as a strategic approach and a philosophy of management. Once we establish the origin of scm, we will discuss the strategic role of this field in the organization and the importance of linking the scm strategy to the business strategy. To carry forward this strategy we will stablish the role of the SC manager and their relationship with other areas of the organization and its stakeholders, among other characteristics.

From the beginnings of OM to SCM

This revision of OM evolution is not exhaustive, it rather aims at understanding the line of thought that guided OM into what is known as SCM, establishing the basic concepts that originated this new discipline.

Before the Industrial Revolution, production was poorly organized, being reduced to agriculture, livestock, and mining. Then, in the 16th century, Georgius Agricola wrote "*De re metallica*" (*On the nature of metals*), a book that catalogs the state of the art of mining, refining, and smelting metals.[2] This work has numerous woodcuts that provide annotated diagrams illustrating equipment and processes of that time described in the text, as well as information on the organization of work, management issues, and tools to be used, being probably the first OM textbook (Voss, 2007).

Lewis (2007) goes back to the 19th century to rescue the works of Charles Babbage, centering the body of his work on the book *On the Economy of Machinery and Manufactures*. Babbage is an OM pioneer, whose work is arguably linked with Adam Smith's *Inquiry into the Nature and Causes of the Wealth of Nations*, hence having a leading role in the contributions to the Industrial Revolution.

Evidently, the Industrial Revolution is a milestone for OM. Those first attracted to Taylor's writings were engineers who had seen his experiments and publications appear in the transactions of the American Society of Mechanical Engineers (Wren, 2011), and had read his first book, *Shop Management*. In 1911, Taylor published his seminal work, "*The Principles of Scientific Management*," in which he laid out the process of scientifically studying work in order to increase workers' and organizational efficiency (Giannantonio & Hurley-Hanson, 2011). Taylor's work went beyond OM, and he is considered one of the most important contributors to management. Smith, Babbage, and Taylor are exemplars of a widespread phenomenon during the 19th and early 20th centuries (Sprague, 2007), although Taylor shift from studying machinery to examine workers, their work, and their management. In this way, from the ending of 19th century up to WWII, knowledge moved to a new approach: Productivity Revolution.

[2] Voss (2007) worked with the first English translation of the book by Hoover and Hoover (1950).

Gilbreth (Frank and Lilian) and Ford were other two important protagonists in the development of OM at the beginnings of 20th century, the former with the study of movements, the latter with the assembly line. Henry Ford and Charles Sorenson developed a comprehensive manufacturing strategy by combining standardized parts with an assembly line in 1913 (Bayraktar *et al.*, 2007). Much more, it is well known that Ohno's Toyota Production System rescued principles laid down by Ford.[3] Based on this progress, the period between 1890 and 1920, where the works by Taylor, Gilbreth, and Gantt were consolidated, was later defined as "scientific management." However, despite the great depression of the 1930s, the period from 1920 to 1960 can be considered in many ways as the "golden age" of the development of US industry (Bayraktar *et al.*, 2007).

Beyond Taylor's and Gilbreth's work —focused on machinery and workers— the OM paradigm required other explanations, being Elton Mayo who revealed other important aspects of operations. While efficiency through different techniques was the focus of OM, Mayo discovered that other factors had great influence. His experiments at the Hawthorne factory, between 1924 and 1927, showed the importance of the human behavior for OM, thus provoking a shift in the efficiency paradigm (Brown, 1998).

Years later, WWII triggered a race that the US was not prepared for, since this country had a quasi-obsolete fleet, no merchants (or very few ones) nor destroyers to protect them, and a not well-developed industry, especially in the field of precision optics. However, the applications of Taylor's "task study" allowed the US to revert this situation. In less than 3 months, unskilled workers were converted into first-rate welders and shipbuilders (Drucker, 1993). It was then necessary for the US industry to shift from the commercial to the military role. After WWII, factory management and production management were the center of the development of operations. A singular fact happened in 1959, when, almost simultaneously, the Carnegie foundation and the Ford foundation published two studies related to education. The conclusion of both was similar, the sounded education in business was not happening and business schools had to change their goals and methods. As a result, the OR/OM era began, and industrial and production engineers began to move from engineering schools to business schools.

The American Production and Inventory Society (APICS), founded in 1957 by "practitioners" in production and inventory control, played an important role in the evolution of the field. Singhal and Singhal (2007), in the special issue of the JOM on the evolution of OM, wrote that the work by Holt, Modigliani, Muth, and Simon —HMMS— contributed to the renaissance of the field of OM as we know it today. These authors showed how aggregate production planning would evolve to the actual concept of sales and operations, establishing links between strategic and tactical decisions in a firm. According to them, aggregate production planning links operation with strategy, but do more for organizational

[3] Taiichi Ohno devoted a chapter of his book *Toyota Production System* to the Ford System.

integration by linking operations with other areas. It also drives inter-organizational coordination by linking the organization outside its frontiers, including the concepts of SCM in OM.

In the years following the end of WWII, OM got immersed in an identity crisis. The applications of operations research as the core of OM affected the natural evolution of the field, making it lose considerable interest among people (Meredith *et al.*, 1989). On this regard, Buffa (1980) showed three main phases of OM in the decades after WWII: i) a period comprising the 1950s, where OM was called "Industrial Management" or "Factory Management", characterized by a descriptive approach; ii) a period of two decades (60s and 70s), known as "Management Science/Operations Research" or MS/OR, focused on applying a hard quantitative scientific methodology, where scholars were far from managers; and iii) a third period known as "Operations Management," where OM begun to be a functional field of study within management sciences.

The model for OM had to be changed, thus several researchers claimed for a necessary transformation in the orientation of the field. At the beginnings of the 80s the works of Buffa (1980) and Miller *et al.* (1981) positioned OM in what it was and what it had to be. Like others, Buffa situated the beginnings of OM in the works by Smith, Babbage, first, and Taylor, later, which were centered basically on production. The difficulty in that decade for OM to definitively establish its identity was a broken bridge between the descriptive phase that held way in the 50 and the almost exclusively OM/OR established (Buffa, 1980). OM/OR gave OM its scientific methodology, and the flourishing of this discipline —from the 60 to the 80s— as a scientific field supported by OR put it on the top of the management disciplines, although making it lose its identity. Hence, it was difficult to differentiate between OM and MS/OR. Chase (1980), in the same line, claimed for more case study and less laboratory techniques. In response, a great advance in inventory, scheduling, aggregate planning, quality control, and capacity planning, among others, was observed, although mostly as isolated subsystems, therefore, as stated by Buffa (1980) "[...] we view the field as a collection of seemingly unrelated subsystems rather than a whole system [...]." (p. 2)

According to Chase (1980), OM research was mostly micro-oriented and suggested system-wide studies. For his part, Miller called for improvement in the communication between OM researchers and managers (Miller *et al.*, 1981). In addition, Buffa called for an OM research agenda that related to the "practical world," recommending that OM researchers made their research results understandable and acceptable to practitioners (Buffa, 1980). Buffa's and Chase's articles appeared in the inauguration of the JOM, whose editor, Lee Krajewski, also claimed for less OR and more empirical research. With the advance of computer systems, material resource planning (MRP) acquired a central place since the 70s, then being enhanced to MRP II. It is through the next stage of MRP when OM contributed to the management integration with the development of enterprise resource planning (ERP), another important milestone for OM.

In the 70s, new approaches to OM came from Japan. The MRP, conceived basically as a push system, was challenged by an opposite view. The just-in-time (JIT) philosophy proposed a pull system where the focus was set in quality. The US felt the invasion and quickly the adaptation of the JIT philosophy to US industry occupied the agenda of OM.

Voss (1984), in a British view of the same crisis, attempted to enlighten on the difference between production and operations management (P/OM) and operations research (OR), explaining OR as a discipline in its own right, with applications in marketing, finance, personnel, accounting, and P/OM. According to this author, OR is concerned with modeling and optimizing, while P/OM is concerned with procedure and process and may occasionally use OR-based procedures when deemed appropriate.

The 1980s were important for OM history. Indeed, both the JOM, voice of the Operations Management Association (OMA), and the International Journal of Operations & Production Management (IJOPM), voice of OMA-UK, were set up. On the other hand, the concept of JIT was approached. In addition, works on the topics of process design/technology and manufacturing strategy had attracted more attention than in the earlier period (Filippini, 1997). According to Heizer (2006), cited by Bayraktar *et al*. (2007), although efforts in OM mainly focused on cost reduction during early 1980s, within the next decade the focus shifted to quality through collaboration of information systems and leanness.

The 90s, however, witnessed a significant and welcomed change. The creation of the Production and Operations Management Society (POMS), back in 1989, and their "[...] objective in publishing this journal [POMS journal] is to improve practice," represented a critical period of research in OM during the 90s, when empirical research started to appear in substantial quantity. This period can be seen as the "growth" phase of empirical research in OM.

Another important change can be seen in the evolution of research in the field of services. In the period from 1992 to 1998, nearly 75% of the published articles were production-oriented, whilst the 1998-2006 period witnessed an equilibrium between service and production articles. Until the mid-90s, empirical research was focused on specific and stand-alone topics, with potential in the interfaces between OM and other areas, such as accounting, finance, human resources, management, information systems, and marketing. In this context, the growth in SCM networks research, not only interdisciplinary but inter-organizational, was necessary for analyzing real-word operations management problems (Gupta *et al.*, 2006).

The Journal of the Operations Research Society of America, created in 1952, made a call for a special issue in 1996 with the objective of broadening the range of research articles published in OR within the field of OM. In the preface, the authors recognized the new directions in OM's methodology toward a wide range of interdisciplinary and empirical approaches (Cohen & Magazine, 1996). Ultimately, OM research shift to the topics that were indicated since the 80s and 90s as of substantial importance to the development of the field. Arriving to these days, and based on the analysis of more

than 300 articles form IJOPM, the focus is put on SCM, operations strategy, performance management, service operations, lean management, resource planning systems, quality management, and product design/development (Taylor & Taylor, 2009). Hence, we cannot deny the importance and contribution of OR/OM to actual OM.

The 90s depicted a shift toward a more strategic focus from the micro-focus noted by Chase in the 1980s (Pannirselvam *et al.*, 1999). On this regard, a study on the 1980-2006 period found that the intellectual structure of the field made statistically significant changes between the 1980s, the 1990s, and the 2000s, evolving from a pre-occupation with narrow and tactical topics toward more strategic macro-topics (Pilkington & Fitzgerald, 2006). On the other hand, an exhaustive analysis of OM publications from 1987 to 2003 shows how the discipline has evolved from an axiomatic approach toward an empirical and interpretative view, and from artificial reconstructions toward direct observations and perceptions of people (Craighead & Meredith, 2008).

As we can see through this journey on the evolution of OM, many have been the elements that, by emerging as new trends, were knitting the threads of what is now known as SCM. Figure 1 shows the journey across OM history and a reference view centered on topics, methods, journals, researchers, and schools. Probably it is not the only way to reconstruct its history, but in an informative way it shows how researchers viewed and proposed OM and what it has become now.

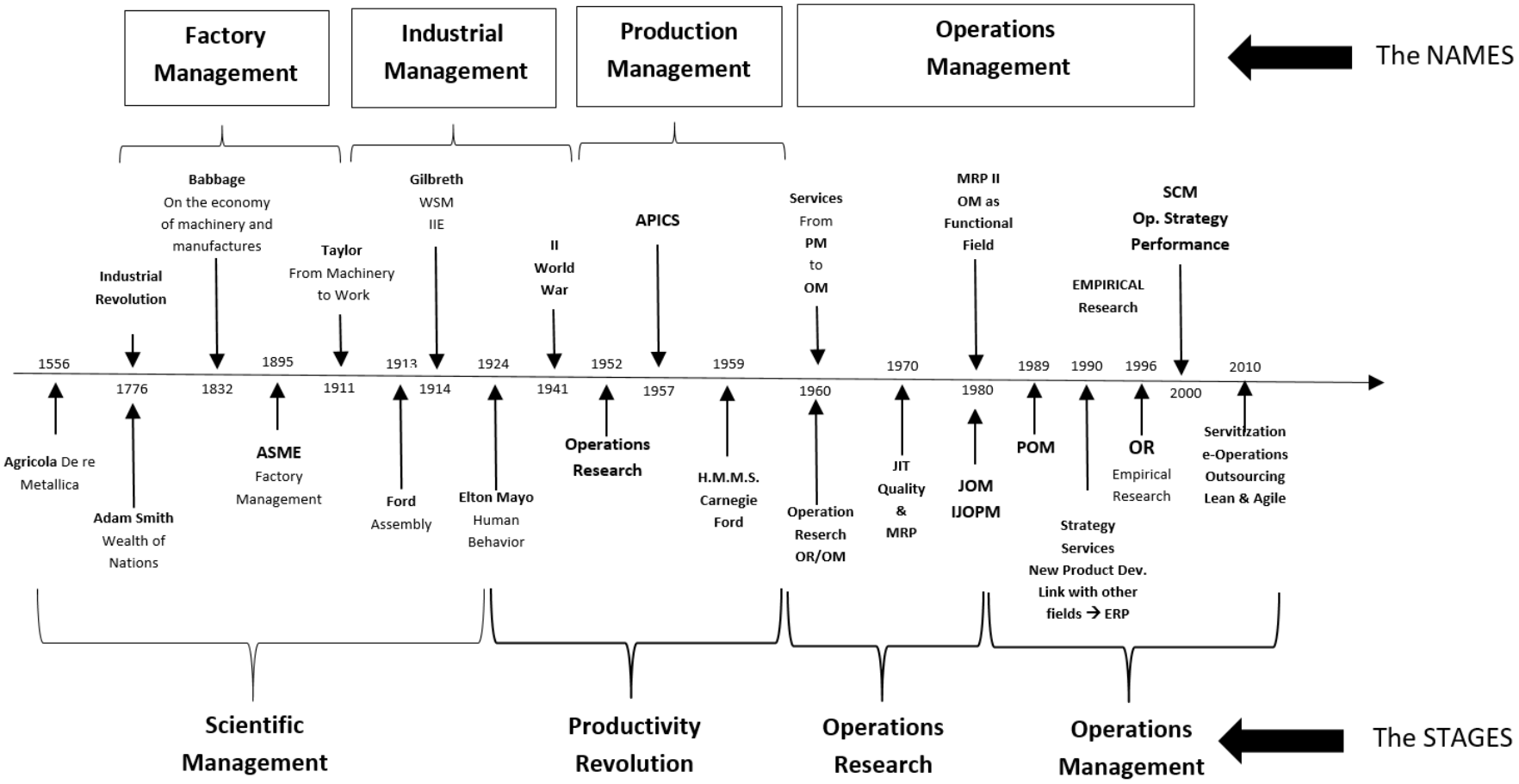

Figure 1. Stages in the journey across OM history. Source: authors.

The appearance and development of SCM

Traveling across the literature on OM, specifically on SCM, it seems difficult to find a connecting thread between both areas. We mentioned before that we can trace the origins of SCM in the work by HMMS, who brought, as cited by Singhal and Singhal (2007), two paradigm changes: i) unrelated and non-managerial individual's functions emerging as part of an integrated systems of managing production; ii) aggregate production planning as the central role of operation management by establishing a link with supply chain and internal integration.

Another milestone in the development of the actual concepts of SCM is the systemic approach of the organization resulting in a more integrated view, known as "systems dynamics," which gave way to a more holistic understanding of the factors involved and to the interrelation inside and outside the frontiers of the organization (Forrester, 1958).

Between 1982 and 1986 there was a great increase in areas of product design, strategy, and quality, confirming —in a way— the predictions made by Miller *et al.* (1981), though the work by Amoako-Gyampah and Meredith (1989) —nearly from the same period— shows that 70% of publications cover inventory control and scheduling as topics. Pannirselvam *et al.* (1999) examined the status of operations management academic research in the 1990s, comparing research trends at that time with past research directions in terms of the topics and the methodologies applied.

Amoako-Gyampah and Meredith (1989) signal new topic areas based on the 17 issues classification presented by Chase (1980), where we can find SCM for the first time. This new areas are new product development, technological management, technology choice, environmental concerns, and SCM. Nevertheless, by 1997 SCM is not within OM agenda, as we can observe in the work by Filippini (1997), who used the term supply chain referring to an evolution of purchasing, and mentioned the interaction with customers and suppliers.

A conclusion of the citations and co-citations from the IJOPM between 1994 and 2003 is that emerging subjects within the field include SCM, among others. The hot topic during the 1990s —manufacturing strategy— lost most of its interest in the 2000s, while all the other topics that became relevant between the 80s and 90s continued to gain interest, especially SCM and quality. In such way, SCM appears to be moving away from the more tactical interests of OM, namely inventories, processes, and measurements, even cutting back its interest toward strategy in favor of more tactical and macro issues, such as supply chains and research methodologies (Pilkington & Fitzgerald, 2006).

The work by Taylor and Taylor (2009), which studies the period from 2004 to 2009, indicates a strong presence of SCM in the researcher agenda. As cited by these authors, "To summarize, the three prior studies suggest that several topics are at the forefront of the OM research agenda, especially SCM, operations strategy, performance measurement, and possibly lean systems" (Taylor & Taylor, 2009, p. 1320).

Looking backwards to the evolution of OM, we can appreciate the emergence of SCM at some time between 1980 and 1990. In regard to the events in the evolution of OM that triggered the appearance of the SCM concept, we mainly find the following:

1. The tendency of internal alignment claimed since the 1980s, in short, recognizes the importance of coordinating the different functions inside an organization beyond better performance (Amoako-Gyampah & Meredith, 1989; Buffa, 1980; Chase, 1980; Filippini, 1997; Larson *et al.*, 2007; Meredith *et al.*, 1989; Miller *et al.*, 1981). This internal alignment is translated into a "holistic approach" of OM, establishing links among the basic management systems —organizational structure, planning, management control, communication and information, and evaluation and rewards— in order to facilitate decision-making processes (Groff & Clark, 1981). In this context, interdisciplinary and inter-organizational research become necessary for analyzing real-word operations management problems (Gupta et al., 2006) and both the internal and external supply chain, known as the "extended supply chain" (Houé & Guimaraes, 2017).
2. The development of logistics as an important issue for management is a more integrated view of typical OM issues such as inventories, supply, and distribution. We can notice that the internal alignment we referred before is a must if we see logistics under the integration paradigm (Larson *et al.*, 2007).
3. Purchasing many times has been related to supply. Both in the academy and the professional world supply management and SCM were treated as synonymous. Therefore, it is important to understand the relation between supply and SCM, which is still a supply-oriented view of the incipient SCM discipline (Filippini, 1997).
4. Time compression (Beesley, 1996; La-Londe & Masters, 1994; Mason-Jones & Towill, 1998).
5. The strategic view of operations that shows the necessity of interacting with other stakeholders, especially, but not exclusively, with customers and suppliers.

The origins of SCM are mostly supported on the logistics reality. This is how SCM is strongly identified with logistics although they are not the same. Strategic view, internal integration, and relationships beyond the enterprise frontier represent the building blocks of SCM. Figure 2 shows a frame of the evolution of SCM.

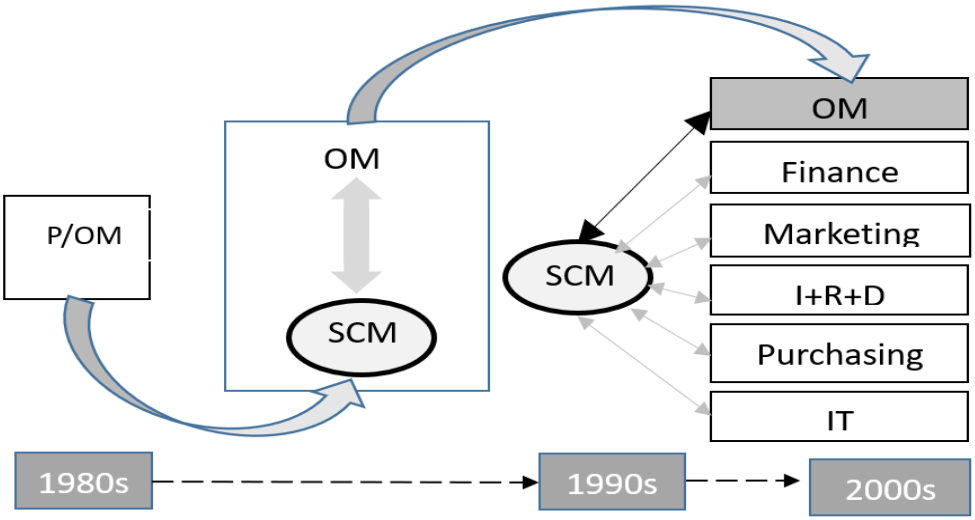

Figure 2. Evolution of SCM. Source: authors, based on the literature.

Strategic view of SCM

Which is the correct approach to the SCM concept? During the last 20 years (or more), we could assist to a variety of definitions and concepts about SCM, which are normally linked with logistics or purchasing. There is a tendency to relate SCM with administrating de flow of products or services. This interpretation is not wrong at all, but it is not the essence of SCM.

It sounds interesting to look back to when the concepts of SCM began. Forrester, who introduced a theory of distribution management, recognized the integrated nature of organizational relationships (Forrester, 1958). He is, probably, the first in studying the interaction among firms, as this author identified key management issues and illustrated the dynamics of factors associated with the phenomenon referred to in contemporary business literature as SCM (Mentzer *et al.*, 2001).

The relationship between SCM and logistics as well as between SCM and OM is not a minor issue. In fact, in many firms, there is a misunderstanding of both concepts, being common that they are used as equivalents. If we focus on a logistic view of SCM we can realize we are in an operational field of SCM. In the same way, if we try to confine SCM into the world of OM we will be leaving out strategic relations with areas outside OM that are essential for a complete SCM strategy. This misalignment around the relation between logistics and SCM is presented by Larson, who identifies four conceptual perspectives from practitioners: i) a *traditionalist* perspective, where SCM is part of logistics; ii) a *re-labeling perspective*, where SCM replaces logistics; a iii) *unionist perspective*, where logistics is part of SCM; and iv)an *intersectional perspective*, where logistics and SCM are related and have commonalties (Larson *et al.*, 2007). The intersectional approach of SCM is where the ultimate goals of this discipline will be reached, and where the strategic focus is present.

Some essential areas for research that could clarify managers when and how could be more suitable for their companies to align the SCM strategy with business strategy are still fragmented and uncompleted. According to Houé and Guimaraes (2017), "supply chain management is at the heart of business strategy," (p. 5) thereby the SCM strategy should be taken into account when the organization outlines its business strategy (Akın-Ateş *et al.*, 2018; Bag *et al.*, 2018). On the other hand, how to operationalize these strategies, as well as SCM practices and success factors for their implementation, is sometimes disconnected from the business strategy.

This strategic view of SCM indicates its direct relation with business goals. Therefore, not considering the "long term" approach that goes against the "short term" objectives affects significant opportunities for firms to enhance their financial performance, create strategic advantages, and achieve mutually beneficial performance outcomes (Obied-Allah, 2015).

As such, the impetus to integrate is not necessarily to make a process more efficient or capitalize on economies of scale. Instead, integration occurs when supporting firm goals or objectives. In this regard, strategically integrating may have a stronger relationship with improved performance since the foundation for integration is not operational in nature, but rather the foundation is to support an underlying strategy (Ralston *et al.*, 2015).

To obtain the results promised by SCM we should consider its three hierarchical dimensions: i) a SCM strategy linked with business strategy considering SCM as a management philosophy, thus establishing the basis or the strategy; ii) SCM as a set of activities to implement such management philosophy at the tactical level of SCM; and finally, iii) SCM as a set of managerial processes, which is the operationalization of the SCM philosophy (Mentzer *et al.*, 2001).

As a management philosophy, SCM is directly associated with a system approach where the focus is the whole chain, rather than a particular organization, and cooperation is at the core of the strategic view toward a strong customer orientation. Collaboration involves multiple firms or autonomous business entities to engage in a relationship aimed at sharing improved outcomes and benefits. To achieve these improvements in performance, businesses need to establish an appropriate level of trust, share critical information, make joint decisions, and, when necessary, integrate supply chain processes (Soosay & Hyland, 2015).

Based on the above, SCM strategies need to be oriented around these fundamental topics. There is no doubt about the business nature of such conditions, hence the absolute necessity that both strategies — business and SCM— be strongly linked. Consequently, the participation of the latter in the former strategy is imperative.

What identifies SCM is the coordination that the whole chain requires with the purpose of achieving the overall performance. This overall performance implies a long term perspective, regardless of the role of each player in the chain, collaborating to create a win-win condition (Simamora *et al.*, 2016). Normally,

the whole chain involves more than one organization and the level of vertical integration in a chain can affect the implementation of the SCM strategy, but not SCM concepts.

This efficiency has to be found or obtained through the different areas within the organization and through the chain. Consequently, reducing the SCM to a full coordinated logistic approach including vendors and customers is a narrow view, far from what SCM tries to be. SCM concentrates upon relational rather than transactional factors (Cavinato, 1992). Besides, SCM includes areas such as research and development, product design, plant location, in all aspects (Ferdows, 1997; MacCormack *et al.*, 1994; Mentzer, 2008), as well as any other area that need to be coordinated with the objective of making the final product or service have a lesser cost or providing a better service level to final customers. There is definitely a need for the integration of business operations in the supply chain that goes beyond logistics (Cooper *et al.*, 1997a).

Even if it is obvious by definition, SCM is the management of the supply chain, not only its existence, which represents a big difference, especially if we understand what we are trying to manage among organizations. This SCM mining is really about value chains or value networks, which is broader than supply chain (SC), as it involves more than supplying. Thus, we draw a definite distinction between supply chains as business phenomena and the management of these supply chains. The former is simply something that exists (often also referred to as distribution channels), while the latter requires management efforts by organizations within the supply chain (Mentzer *et al.*, 2001).

The 1994 definition provided by The International Center for Competitive Excellence is adopted in this paper given its clarity and specificity: "Supply chain management is the integration of business processes from end user through original suppliers that provides products, services and information that add value for customers" (Cooper *et al.*, 1997b, p. 2). Hence, the participation of the SCM strategy in the business strategy is essential for a successful implementation.

These strategic SCM approach considers an integrated (internal and external) behavior, sharing information among the members of the SC, sharing risk and rewards, process integration, setting the same goals, and partnership for long-term relations, all this under the cooperation and system approach umbrella. In fact, supply chain strategies can be used to support the implementation of competitive strategies (Qi *et al.*, 2011; Sweeney *et al.*, 2015). Nevertheless, these conditions ought to be in a SCM aligned with a firm's business strategy. Other factors derived from the cooperation paradigm play a fundamental role and should be considered as well. These factors derived from the nature of SCM are *trust* and *commitment*. Collaborative activities, such as information sharing, joint relationship effort, and dedicated investments, lead to trust and commitment, which, in turn, lead to improved satisfaction and performance (Nyaga *et al.*, 2010).

However, this integration and collaboration between stakeholders has its own difficulties, as previously mentioned, since relationships between two parties are rarely equal, therefore there will be issues of power balance, control, and dependency to resolve or cope with by each party. The relative

position of power, and the extent to which this power extends, may influence the level of cooperation or conflict between parties (Johnsen & Lacoste, 2016) and thus affect the real spirit of collaboration, where companies find cultural conditions and common long-term objectives that lead them to work collaboratively without the presence of an asymmetric power relationship. This type of relationship, then, must migrate to a deeper concept, that of partnership, in order to mitigate the bargaining power. For that to happen, firms must lower barriers, work together to reach a common goal, put aside their individual problems and needs, and develop a team mindset that thereby mitigates asymmetries (Cowan *et al.*, 2015). Although power will not always prevent collaboration, it will often prevent true partnering as it affects surplus-value sharing (Chicksand, 2015).

As in marketing, mostly applied to customers and products, the widely used concept of segmentation is relevant to SCM and has to be considered with special care when configuring the SCM strategy. The supply chain is more than just a chain, it is a network, where not all members behave the same way, have the same needs, or share the same business strategies or culture. Consequently, organization culture plays a critical role in shaping the behavior of the SC through collaboration (Bag *et al.*, 2018), and so understanding those characteristics will give rise to the construction of different segments, where different modes of action will be applied to conceive the SCM strategy, shaping different supply chains strategies in a "dynamic alignment" (Gattorna, 2006). Therefore, through segmentation, firms with similar cultural conditions are regarded as risk-takers by fostering collaboration. This results in high levels of trust among supply chain actors. Finally, it is worth mentioning that the lack of a truly collaborative culture leads to dissatisfaction and low performance, and vice-versa (Cadden *et al.*, 2015).

The Supply Chain Manager role and profile

The strategy concept we have dealt with so far has to be managed somehow. Therefore, we need to create a body of knowledge that can be useful for practitioners. Otherwise, if we do not transmit a clear message to practitioners, we will be on the other side of the river without a bridge to connect scholars' theory with managers' necessities.

Are the functions or the responsibilities of a supply chain manager clear? If, as we established, SCM is strategic, how does the supply chain manager participate in the business strategy?

For the SC managers to fulfill their mission it is important to determine their role within the organization. The SCM is the management of a whole chain or net, therefore, to ensure the manager meets or enforces the strategic targets for the SC requires a special element, that is, managing the chain outside the organization.

The skills for the management of contemporary logistics are defined from the supply chain orientation, which requires human management skills and a systems view of the business, not only technical skills related to specific functional areas (Abreu & Alcântara, 2015).

It is difficult that an organization aligns its supply chain if it is not internally aligned. As discussed before, the need of a multidisciplinary approach lies in the evolution of OM, a cornerstone for the development of SCM. Nowadays the importance of internal integration is well known; this is, different areas working together toward the company's objective, opening the water light compartments or silos often caused by the organization itself in search for overall efficiency as a sum of partial efficiencies, sometimes caused by the influence or power exercised by some managers for their own benefit or the benefit of the areas under their responsibility. For a correct implementation of SCM, Jespersen and Skjøtt-Larsen (2005) suggests changes in the traditional organization from a functional structure to a matrix-like structure, where functions become integrated. A process rather than a function approach direct the efforts on meeting the customer's requirements. In this way, the overall organization revolves around these processes. It is worth mentioning that the customer focus not always happens in companies where the silo mentality prevails (Cooper *et al.*, 1997a). Under this paradigm, the role of the SCM should be of mandatory coordination, both internally and externally.

Based on the above, the supply chain manager should hold a staff position within the organization. As a consequence, he or she has to manage different skills, as the principal mission is to coordinate and obtain the necessary collaboration (internal and external) of the different areas and organizations within the SC (Arredondo & Alfaro-Tanco, 2019).

This SC manager should better manage soft skills rather than hard ones, for example, communication and teamwork (Prajogo & Sohal, 2013). It is also mandatory this person has a holistic view of the business and of the strategic role bestowed by the top management, considering that, on one side, he/she is the nexus between the organization and stakeholders, those identified as partners in the coordination or cooperation (depending on the SCM engagement degree), and on the other side, has the fundamental role of internally aligning decision-making processes of the various areas of the organization with the defined strategy. Hence, the communication degree and the level of coordination inside and outside the organization play a key role in successful strategy implementation. Thereby, the role of the SC manager is similar to an orchestra's director, who prepares the strategy in a previous stage, then defines the role of each member of the orchestra, and finally coordinates the execution.

Once the organization is internally aligned it ought to open its channel to the chain. Here, managers in the chain need to be in touch with each other, helping the SC manager in the coordination of the chain. Again, the SC manager is the enabler that make things happen.

The way in which the SC manager achieves his/her objectives without a formal power over the areas that must coordinate is the real challenge. Hence, the importance of this manager's profile. Clearly, we mean not necessarily a logistics manager is the one to be assigned, although the need for internal and external coordination that logistics positions have always required is favorable. However, the risk is in the

counter-message of an organization that relates SCM directly with logistics; the same happens when there is a hierarchical dependence between the logistics manager and the SC manager.

Lambert *et al.* (2008) suggest that the domain of supply chain management is characterized by the following criteria: i) it needs to be cross-functional, ii) it needs to be process-oriented, and iii) it needs to include all activities for managing interactions with customers and suppliers.

Multicultural knowledge, knowledge of the general business scenario, technical knowledge in SCM, training and monitoring of work teams (including multifunctional), change management, conflict resolution, breach of functional barriers, interpersonal and communication skills, ethical awareness, and social responsibility are the main skills, competencies, and functions expected from modern SC managers (Abreu & Alcântara, 2015).

Derived from this approach on how the SCM strategy has to be presented, it is necessary to pay special attention to the incentive or compensation systems applied to managers. The direct relation between the SCM strategy and the business strategy is underlined through this important issue. The alignment between goals, incentives, and SCM initiates with the internal alignment must ensure that incentives for the different areas are not contradictory with respect to particular objectives fulfillment. Once incentive programs are in line with the business as a whole, we will have reached a necessary but not sufficient condition toward SC integration. The role of the SC manager in this previous stage is to achieve the alignment of reward programs for managers in order to harmonize the SCM strategy with the business strategy. Otherwise, it will be impossible to consolidate cooperation, since managers will give priority to their particular compliance objectives despite this does not favor the SC strategy.

Main implications for Latin America

SCM in Latin America has been influenced by practices mostly applied by multinational organizations with subsidiaries in the region. The SCM body of knowledge —more developed in the US and Europe— was not always transferred, although its implementation indeed was. As a result, we have witnessed a degraded version of the SCM, where logistics integration is nearly an equivalent of SCM.

Conferences, seminars, and courses on SCM in Latin America have a very strong, if not entirely, logistics component. As we said, this heritage has affected not only practitioners. Thereon, Ruiz-Torres *et al.* present a review of Latin America-oriented SCM literature, showing that the reference to SCM and logistics is reiterative, as they suggest in the scope of SCM: "Note that supply chain management is broadly defined to include sourcing, logistics, transportation, distribution, and inventory management" (Ruiz-Torres *et al.*, 2012, p. 21). Their work also shows how scarce and dissipated is the SCM literature focused on the Latin American region. Another example can be found in the work by Young and Esqueda (2005), who introduce a the literature review that first addresses the evolution of global SC, and then the complexity of the global SCM, skipping afterward to logistics in Latin America, completely forgetting about SCM. Once more, SCM in

Latin America is presented as a logistics problem, although the central issue in that paper is related to the vulnerability of the SC.

Notwithstanding the aforementioned reality, we reinforce the importance of deeply developing all the aspects related to an integrated logistics within the context of proper implementation of the SCM concept. Consequently, we consider it relevant to redefine the Latin American view of SCM from a narrow concept around the improvement of logistics coordination to a broader strategic notion, where integrated logistics, among others, will surely have a key role in the SCM strategy implementation.

Conclusions

Throughout this paper, we have proposed SCM as a philosophy of management. Scholars and practitioners have presented different approaches around the SCM concept, many of them establishing a strong connection between logistics and this body of knowledge. This view of SCM negatively affects the internal and external integration of firms, although it represented a milestone for the correct development of SCM as a strategic concept, which has been emerging due to the evolution of OM.

We explored the beginnings of SCM and the evolution of OM discipline, discovering various topics that gave path to the birth of SCM, among them, internal alignment, the importance of coordinating the different functions inside organizations, customer orientation as a strategic consideration, the importance that integrated logistics provided to OM, time compression, the evolution of purchasing, and the strategic view of operations that has shown the need of interacting with other stakeholders.

SCM evolved into a self-area of knowledge which, by its nature, is strongly related to other fields of research in management. SCM can be analyzed from different points of view, however, only a strategic approach to SCM resulting in subsequent tactical decisions and operational implementation will provide competitive advantages for companies. Firms may need to rethink why they integrate among themselves, as well as how integration, both internally and externally, could affect their performance.

SCM goes beyond the physical integration of products or services and its objective is to achieve superior performance through different levels, allowing more value to be delivered to final customers. It is from this insight that companies will define how to interact at different levels in order to achieve their goals —which goes beyond the individual boundaries of each company— and then determine how benefits will be distributed among participants.

In this scenario, the role of SC managers is crucial, and their participation in the SCM strategy as part of the business strategy becomes instrumental, since they contribute to the correct design of reward programs for managers, align the organization through the SCM strategy, and manage the existing relationships within the SC.

Finally, we have established the scant development of SCM in Latin America. After reviewing the most important journals, we could not find specific studies in which this field has been addressed particularly for Latin America, or at less its strategic orientation.

Managerial implications

Understanding the dynamics of SCM from the perspective of the internal organization provides tools for company managers and executives to better understand how organizations' strategies should be aligned in order to obtain enhanced results in their ways of establishing and maintaining relationships with the other members of the chain.

For companies, it is of the utmost importance to make correct interpretations regarding their SCM. This tour across the evolution of SCM helps managers to understand from what position to address the strategic aspects of the SCM, becoming a guide for companies to be more efficient by working together and defining the levels of coordination and cooperation that can be achieved with suppliers or clients. Additionally, this work sought to broaden the understanding of the internal aspects that must be considered before and after defining the SCM strategy out of the limits of the company. In this context, the role and profile of the SCM manager will provide a guide for the correct selection and allocation of tasks, which, as we have already mentioned, include aspects of both internal alignment and external coordination.

Next Steps

Considering that the current interpretation of the SCM by companies in Latin America has not encompassed the strategic vision that we suggest should be adopted, deepening the analysis of the current situation of this field in Latin America will contribute to improving the performance that companies could obtain from the correct application of a collaborative SCM strategy. For this reason, we suggest studying some of the constructs we have presented in this paper, emphasizing the integration of the internal and external SCM, as well as the role that the SC manager should play in the coordination of both.

We consider an important following step is to examine the degree to which companies in Latin America integrate their business strategy with that of the SCM and how, through incentive systems, managers operationalize such strategy.

Disclosures

Authors declare no institutional or personal conflicts of interest.

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