THE DOMAIN AND SCOPE OF SCM’S FOUNDATIONAL DISCIPLINES –
INSIGHTS AND ISSUES TO ADVANCE RESEARCH

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Over the last two decades, supply chains and supply chain management (SCM) have emerged as increasingly important areas of business practice and academic scholarship. First recognized in the 1980s (Oliver and Webber 1982), SCM has attracted intense interest and focus on the part of both practitioners and academics. As with any concept, SCM’s development has been accompanied by calls for its more specific understanding and most recently by this journal, for contributions that describe and document its domain and scope.

Recent conceptualizations of SCM detail its role within and across organizations and identify it to include specific activities as well as strategy (Gibson, Mentzer, and Cook 2005). According to the Council of Supply Chain Management Professionals (CSCMP):

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

In this definition, SCM encompasses the planning and management of multiple management activities, including activities common to the field of purchasing (i.e., “sourcing and procurement”), functions typically covered under the discipline of operations management (i.e., “conversion”), “logistics management activities”, as well as activities

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The CSCMP, formerly the Council of Logistics Management (CLM) and the National Council of Physical Distribution Management (NCPDFM), was formed in 1963 with an objective to develop the theory and understanding of the supply chain processes and to foster professional dialogue and development in the field. It is considered by many to be the preeminent professional organization for academic and practitioners in the logistics and supply chain management fields (www.cscmp.org).
otherwise the focus of marketing channel management (i.e., "collaboration with channel partners"). In addition, the CSCMP definition includes the planned "cooperation" of management activities across not only multiple functional disciplines but also business partners across the supply chain. According to CSCMP, SCM integrates these various activities and processes through "supply and demand management within and across companies" (www.cscmp.org).

Defining SCM to incorporate purchasing, operations management, logistics and marketing channels of distribution within and across companies provides more specific understanding of the domain and scope of SCM. Relatedly, a framework of multiple disciplines may serve as a unifying mechanism for advancing existing research in a field, as well as an agenda for future research (Jones 1983). However, as to SCM's goal to integrate these domains, some scholars have observed that "there is little evidence of a move towards the emergence of an integrated approach to the field" and that "the SCM field is fragmented along narrow discipline areas" (Burgess, Singh and Koroglu 2006, p. 716). Following upon the CSCMP definition and addressing the need for an integrated approach, the objectives of this paper are to:

1. describe and overview the nature of research within SCM utilizing a framework of scientific inquiry that highlights relevant dimensions of academic research (see, Kuhn 1962),

2. similarly describe and overview the nature of research in those functional domains identified by the CSCMP definition: purchasing, operations management, logistics and marketing channels of distribution,

3. analyze and assess relevant aspects of this research in an effort to uncover insights and issues for advancing SCM research, and

4. following upon these insights and issues, offer a number of proposals for future research progress in the field.

Drawing upon selected literatures we overview and document accepted definitions and the domain of interest for research for each area, the units and levels of analysis applied to research occurring within each, prevalent theories and methods for such research (Kuhn 1962) and key trends occurring in this research. These findings are then analyzed and their implications for SCM's future development assessed and discussed.

Together, our description and analysis highlights the nature and ongoing changes of research occurring in SCM and in those domains it aspires to integrate. This effort points to a number of insights and issues for advancing SCM research and informing its integration goals. Following upon these insights and issues we offer a number of proposals for advancing research in the field.

THE STATE OF SCHOLARSHIP IN SUPPLY CHAIN MANAGEMENT

Since first being recognized in the 1980s, supply chains and supply chain management have garnered the interest of scholars from a number of different disciplines. Many SCM scholars suggest that the field would benefit considerably from agreement on a definition, scope, and on what constitutes appropriate modes of inquiry (Burgess, Singh, and Koroglu 2006; Gibson, Mentzer, and Cook 2005; Lambert, Garcia-Dastugue, and Croxton 2005; Larson, Poist, and Halldorsson 2007; Mentzer et al. 2001; Min and Mentzer 2004). In this section, drawing upon selected literatures, we overview the nature of research in the field. We highlight definitions employed to describe the field, topics of interest that are the subject of research, units and level of analysis applied in this research, prevalent theories and methods for informing this research as well as key trends.

Definition. The supply chain is generally conceptualized as a network of companies from suppliers to end-users, which have the intention of integrating supply and demand via coordinated company efforts (Lambert, Garcia-Dastugue, and Croxton 2005). The origin of the term "supply chain management" is thought to reside in the work of consultants during the early 1980s (Oliver and Webber 1982). A review of the supply chain management literature's development during the late 1980s and the early 1990s reveals a lack of definitional consensus illustrated by the interchangeable use of neologisms: logistics management (Lambert and Stock 1993), network sourcing (Wijnstra and van Stekelenborg 1996), supplier-base reduction (Balsmeier and Voisin 1996), and inter-organizational integration (Cooper, Lambert, and Pagh 1997). This development failed to create a consensus in SCM's definition (Skjott-Larsen 1999; Mentzer et al. 2001). In the late 1990s, to some extent, supply chain management supplanted the term "logistics" (Rogers and Leuschner 2004).
In an attempt to clarify confusion surrounding the term, CSCMP announced a modified and more detailed definition of SCM as well as a statement that clarifies its scope and boundaries. This definition is broader than those put forward by researchers to date (Chan and Lee 2005; Croxton et al. 2001; Mentzer et al. 2001). Although differences exist in terms of the scope of SCM among such definitions, there are many commonalities. Each relies for example, on terms such as coordination and integration, and emphasizes the harmonization of operations among supply chain members. A further commonality is their focus on cross functional business processes with the objective of providing sustainable value for the entire supply chain.

Interestingly, in these definitions one finds that SCM is not described as a free-standing functional area but rather aims for cross-disciplinary integration by acknowledging the work within, and integrating efforts across, traditional business functions. Agreement or consensus as to which organizational functions are included or excluded remains a source of ongoing debate (Gibson, Mentzer, and Cook 2005; Larson, Poist, and Halldorsson 2007). Equally interesting, such integration is now recognized to extend beyond traditionally defined functional boundaries. The rationale behind such a broadened yet focused domain and scope of SCM lies in the acknowledgement of its role as a concept that integrates multiple organizational functions and/or academic disciplines, including the functions of purchasing, operations management, logistics, and marketing channels management as well as finance, accounting, sales, organizational behaviour, human resources, etc. For example, in their review of SCM literature, Burgess, Singh, and Koroglu (2006), identify an encompassing number of disciplines including marketing/services, logistics, purchasing, strategy, psychology/sociology, finance/economic, information/communication, and operations management as relevant to SCM. The CSCMP definition of SCM addresses integration of multiple disciplines, specifically the disciplines of logistics, marketing channels, purchasing, and operations management. In light of this, and for the purposes of the current study, focus is given to these four academic disciplines.

**Domain of interest.** Drawing upon the seminal work of innovative scholars such as Forrester (1958) and Heskett (1962; 1973), in the early 1980s researchers focused on understanding the system integration of business processes within the firm, and then subsequently between members throughout the supply chain. Emphasis was given to reengineering the chain in order to meet customer requirements and improve customer service (Lee, Padmanabhan, and Whang 1997). SCM research has since evolved to encompass a combination of trends in the management literature, such as industrial markets, integrated materials management, systems integration, the ‘quality’ revolution, management of relationships, and business process integration and management. SCM research has also embraced concepts drawn from marketing (such as customer relationship management, buying strategies), industrial economics (such as make-or-buy, procurement, supplier/customer evaluation), operations management (such as inventory management, production planning), logistics (such as distribution planning, transportation management), international business and organizational management (such as teams and internal coordination, strategic issues, organization and procedure, partnering and strategic alliances), and information technology (such as electronic data interchange, enterprise resource planning, online bidding, bar coding, RFID).

During the late 1990s, researchers attempted to describe the domain of SCM based primarily on the view of SCM as “… an integrative philosophy to manage the … channel from supplier to the ultimate user” (Cooper, Lambert, and Pagh 1997). This led to the proliferation of multiple SCM frameworks to guide academic research and management implementation (Bowersox, Closs, and Stank 1999; Cooper, Lambert, and Pagh 1997; Mentzer 2001; Srivastava, Shervani, and Fahy 1999; Supply-Chain Council 2003). Larson and Halldorsson (2004); Burgess, Singh, and Koroglu (2006); and Larson, Poist and Halldorsson (2007) illustrate the multiple perspectives which continue to exist regarding the breadth and depth of SCM. The existence of these multiple frameworks and the overlaps that are typically found across them (Lambert, Garcia-Dastugue, and Croxton 2005) has led to the need (as acknowledged by these authors themselves) to clarify exactly what SCM is, the extent of its scope and the extent of its integrative capabilities. More recently, an interest in the related topics of metrics (Min and Mentzer 2004; Chen and Paulraj 2004) and behavioral issues (Maloni and Benton 2000; Handfield and Bechtel 2004) have become prominent as well. This need to address what functions and/or processes are included within the domain of SCM, as well as associated measurement and behavioral conditions is similar to this journal’s observation that “there is still uncertainty as to what SCM is and what functions and/or processes should be included within it” (*JBL Special Issue Call for Papers 2005*).

**Unit and level of analysis.** The predominant unit of analysis in early SCM research was the dyad, emphasizing the management of boundary-spanning activities, as illustrated by Harrington, Lambert, and Sterling (1992) and Gassenheimer, Sterling, and Robicheaux (1996). As the field evolved in the late 1990s, the conceptual unit of analysis became predominantly the network as firms increasingly recognized their role as part of a number of supply chains,
having multiple customers and multiple as well as alternative suppliers (Kopczak and Johnson 2003). Despite this acknowledged conceptual evolution from dyad to network, a dyadic unit of analysis in research continues to be evident in empirical SCM research (Sachan and Datta 2005). Current interest in differing units of analyses continues as SCM research aims to provide analytical depth of the supply chain. Apart from differing units of analysis, SCM research has encompassed a range of analysis levels including tactical, operational, strategy and strategic orientation.

**Theory and methodology.** To date, SCM’s theoretical research has been grounded in existing theories. This is understandable to a considerable extent because SCM is at the confluence of many other disciplines (Rich and Hines 1997). Drawing on these fields to inform its integrative philosophy, SCM necessarily incorporates the various theories (Handfield and Bechtel 2004) and methods (Cheng and Grimm 2006) found in each of these other disciplines. These include theories from strategy (such as Porter’s value chain) as illustrated in the work of Stank, Davis, and Fugate (2005), transaction cost theory (Williamson 1975) as illustrated in the work of Mikkola and Skjoett-Larsen (2003), knowledge and resource based theories of the firm (Penrose 1959) as illustrated in the work of Rungtusanatham et al. (2003), general systems theory (von Bertalanffy 1950; 1968) as illustrated in the work of Stevens (1989), and agency theory (Jensen and Meckling 1976) as illustrated in the work of Blanco and Eliram (1997), to name a few.

Researchers have also drawn on various methodologies for examining SCM. These include qualitative, contextual, analytical, and quantitative approaches (Sachan and Datta 2005). As a result of the continued pursuit of a definitional consensus and the need for a guide for SCM implementation it is not uncommon to find the use of exploratory research methods such as conceptual literature reviews, pilot surveys accompanied/followed by more specific and detailed surveys, case studies and interviews (Frankel, Naslund, and Bolumole 2005). More recently, SCM methods also include analytical mathematical methods such as simulation (Kahn, Maltz, and Mentzer 2006), mapping (Kotzb, Grant, and Friis 2006), and modeling (Goldsby, Griffin, and Roath 2006; Garcia-Dastugue and Lambert 2007).

**Key Trends.** In summarizing the state of the SCM field today, it is noteworthy that it has achieved a remarkable expansion and recognition of its domain and scope in a very brief period of time. Based upon the developments occurring in individual related disciplines, SCM has thus dynamically expanded to include activities previously the domain of purchasing and operations management, flows common to logistics, and functions addressed in marketing channels management, among others. Importantly, while these fields remain vital in their own right, the impactful emergence and development of SCM has yielded an overarching domain that aspires to provide for their common integration and coordination.

**TABLE 1**

<table>
<thead>
<tr>
<th>Definition</th>
<th>Domain of Interest</th>
<th>Unit and Level of Analysis</th>
<th>Theory and Methodology</th>
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<tbody>
<tr>
<td><strong>Phenomenon.</strong> The network of companies, or independent business units, from supplier to end-users</td>
<td>Managerial behavior and decisions essential to the development and functioning of a supply chain</td>
<td>Unit. Dyad to networks</td>
<td>Theories. Value chain theory, transaction cost theory, knowledge and resource based theory, general systems theory, and agency theory</td>
</tr>
<tr>
<td><strong>Management.</strong> Planning, coordinating and managing, sourcing, procurement, conversion, and logistics through collaborating with channel partners</td>
<td>Inclusive of system integration, business process management, re-engineering, and supplier/customer relationship management</td>
<td>Level. Tactical, strategy and strategic</td>
<td>Methodology. Descriptive qualitative contextual approaches and analytical quantitative (deterministic stochastic) models</td>
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THE NATURE OF RESEARCH IN PURCHASING, OPERATIONS MANAGEMENT, LOGISTICS AND MARKETING CHANNELS OF DISTRIBUTION

In this section, drawing upon selected literatures within each discipline and with an eye toward understanding the implications of research within these disciplines for SCM's scholarly advancement, each of the academic disciplines of purchasing, operations management, logistics and marketing channels of distribution is overviewed. As with the field of SCM, emphasis is given to each discipline’s definition, topics of interest, units and level of analysis, prevalent theories and methods of research as well as key research trends.

Purchasing

Definition. Early research in purchasing tended to emphasize the tactical and clerical decisions involved in purchasing products and supplies. During the 1990s purchasing evolved and began to be viewed as part of a broader management function referred to as procurement or “the systematic process of deciding what, when, and how much to purchase; the act of purchasing it; and the process of ensuring that what is required is received on time in the quantity and quality specified” (Burt and Pinkerton 2003, p.64). As a management function, procurement included: purchasing, consumption management, vendor selection, contract negotiation and contract management (Poirier 1999, p.64). At the beginning of the 2000s, the terms “purchasing” and “procurement” became synonymous (Monczka, Trent, and Handfield 2002).

Today, many researchers are taking a broader view of purchasing that emphasizes supply management; i.e., “the identification, acquisition, access, positioning, and management of resources the organization needs or potentially needs, in the attainment of its strategic objectives” (Cavinato 2001; Kaufman 2001). While there is no agreement on the exact scope of supply, consensus was achieved with regard to supply as a series of linked relationships that add value at various levels and it involves satisfying services and information requirements, in addition to materials requirements (Kaufman 2002).

Domain of interest. Early research in purchasing addressed topics associated with “adversarial” or “arms length” exchange through transaction management (Baily and Farmer 1985), thereby viewing purchasing predominantly as a firm-based set of activities focused on improving internal supply network efficiency. Consequently, much of the research attention (e.g., Caddick and Dale 1987; Farmer 1972; Speckman 1981) until the late 1980s was operational and generally, explored the most efficient approaches to acquire direct or strategic materials as well as indirect materials or MRO’s (Maintenance, Repair, and Operations) (Poirier 1999). The methodological underpinning of purchasing scholarship prior to the 1990s tended to simplify the buyer-supplier interface, as evidenced in the utilization of portfolio approaches. For example, in a seminal piece, Kraljic (1983) introduced a comprehensive purchasing portfolio approach classifying a firm’s purchases into four categories based on profit and supply risk. The Kraljic matrix was the dominant approach to what is considered “operational professionalism” (Cox 1997; Gelderman, Arjan, and van Weele 2005).

From the late 1990s on, researchers took a broader view of purchasing and emphasis was given to “managing the supply” of services and related information in addition to materials. Determining material requirements usually does not necessitate extensive conceptualization, since customers and/or internal experts determine their required specifications (Schildhouse 2005). On the other hand, sourcing services and information is typically a collaborative effort where purchasing must not only work with external suppliers and customers, but with internal subject-matter experts in order to clearly conceptualize requirements. The need to understand collaborative working relationships with “key” suppliers generated interest in exploring the use of the Internet and technology developments (Giunipero and Handfield 2004) and “lean supply” approaches (Harland, Lamming, and Cousins 1999).

Other emerging domains of interest among supply management scholars include the management, development and integration of suppliers (Antonette, Giunipero, and Sawchuk 2002) and the design and implementation of firm and supply chain performance enhancement strategies (Petersen, Handfield, and Ragatz 2005; Sharland, Eltantawy, and Giunipero 2003). These emerging domains of interest mirror a shift away from multi-sourced adversarial supply relationships towards single or dual sourcing which rationalized the supplier bases used by firms (Martinez-de-Albeniz and Simchi-Levi 2005).

Carter and Ellram (2003) reported several changes in the categories of purchasing topics over time, which reflect the aforementioned evolution from purchasing to supply management. According to the authors, one-third of the
contributions to "purchasing performance" and the "status" and "recognition" of the purchasing function were made during 1975-1979. The majority of the contributions to "inventory and production management" were made in the 1970s and 1980s. Materials Requirements Planning (MRP) -related studies appeared from 1977 to 1984, while the majority of Just-In-Time (JIT) contributions were made from 1986 to 1994. In the 1990s the emphasis on the strategic impact of purchasing emerged. For example, almost all of the contributions dealing with supply chain issues were made after 1994, emphasizing the broadening of purchasing and its integration with supply management and supply chain management. This development also mirrors the general recognition of the supply chain concept by purchasing scholars.

**Unit and level of analysis.** Early purchasing research emphasized the individual firm's internal purchasing function as the unit of analysis and measured purchasing department performance in terms of cost savings. With the increased recognition that the success of purchasing depends on the extent to which its performance fits the needs of the business and on the consistency between purchasing capabilities and the competitive advantage sought by the business, the 1990s saw the unit of analysis expanded to include assessment of dyadic relationships. From the mid 1990s purchasing and supply management has been externalized beyond the immediate buyer/supplier relationship to consider networks of supply, notably in the work of Burt and Doyle (1994), Hines (1994), Lamming (1993), and Nishiguchi (1994), who particularly focused on Japanese based co-ordination of supply chains extending beyond the immediate supplier.

Expansion of the unit of analysis employed by researchers in purchasing has also been accompanied by changes in the level of analysis. The 1990s brought a change in the focus of purchasing from the 1970-1980s non-strategic (i.e., tactical/clerical) to include strategic considerations with an emphasis on total cost savings, value-added activities and partner-assisted network improvement (Burt and Pinkerton 2003; Giunipero, Handfield, and Eltantawy 2006). Today, purchasing/supply management can be practiced and researched on three levels (Kocabasoglu and Suresh 2006): 1) internal planning and developing a purchasing strategy (lowest level); 2) supportive role whereby purchasing achieves other functions' objectives or the organization's plans (middle level); and 3) the function is of strategic value, wherein purchasing and supply managers need to partake, have a say, and provide their input in the organization's strategic processes and organizational level planning (highest level).

**Theory and methodology.** Underpinned by institutionalist economics, purchasing initially focused largely on cost reduction in its consideration of supply relationships (Woodcock and Chen 2000). For example, transaction cost theory was utilized to examine purchasing's contribution to internal efficiency (i.e., cost savings) by reducing raw materials costs and selecting suppliers offering the lowest prices. In the early 1990s, operations management literature played an important role in shifting the discussion in purchasing to relationship management as a means of gaining competitive advantage by utilizing interdependence theory. Lamming (1993) proposed a model for "lean" supply as a means of developing and exploiting relationships between customers and suppliers. Subsequent theoretical developments in the area of relationship management (Harland, Lamming, and Cousins 1999; Hines 1994; Lamming 1993; Macbeth 1995) hypothesized that firms will more readily attain long-term cost reduction (via product or process re-engineering) by forming closer working dyadic relationships with "key" suppliers. Other researchers used agency theory, management theory, resource-based theory of the firm, decision theory, and gaming theory to analyze the impact of purchasing/supply strategies on performance.

Prior to the 1990s, typically, purchasing/supply research relied upon descriptive methods to identify best practices and benchmarking. However, during the 1990s and early 2000s that approach was criticized for a simplification which failed to capture vital aspects such as the context of networks, the interdependencies between products (Ritter 2000), and the concern for sustainable competitive advantage through interfirm relationships (Wagner and Johnson 2004). Emphasis on supply management during the late 1990s motivated researchers to extend their methodological strategies using triangulation, by collecting data from second tier suppliers and/or multiple sources in the same supply chain (Carter and Ellram 2003). Although descriptive and benchmarking research is still widely used today, researchers from the 1990's on employed a variety of methods and modeling techniques ranging from qualitative contextual approaches to analytical quantitative ones.

**Key trends.** The most influential trend in purchasing is the recognition to expand the focus of the discipline and thus define and explore topics that reflect such a notion. Accordingly, the strategic integration of purchasing and supply with other functions in the firm (Wisner and Tan 2000) has become a particularly important area of scholarship. For example, with the realization of the importance of coordinating the supply of goods, services, and information with other functional areas (rather than focusing on buying the least expensive materials), most purchasing scholarship shifted from "purchasing" to "supply management" and/or "integrated purchasing strategy". Today, effective purchasing does not
necessarily involve maximum internal efficiency or least total cost. Rather it addresses the fit with the needs of the business and strives for consistency between its capabilities and the competitive advantage being sought throughout the supply chain, particularly with respect to buyer-supplier relationships.

Sourcing principles for materials can, generally, be applied to sourcing other resources, such as services and information; however, conventional methods of quality measurement and supplier assessment and selection do not apply. Reliance on chemical, physical, and dimensional measurements, market grade, sampling, commercial standards, and formal specifications and drawings (Monczka, Trent, and Handfield 2002) in the exploration and delineation of sourced services is difficult, if not impossible. Rather, reliance shifted to resources’ functionality and usage specifications, and to more strategic measures such as collaborative learning, as well as reductions in cycle time and the new product development cycle, which reflect supply chain performance rather than departmental or firm performance. Thus, many researchers today assess purchasing and supply strategies’ contribution on the basis of their contributions to a broader (i.e., supply chain wide) conceptualization of success (Wisner and Tan 2000).

### Table 2

<table>
<thead>
<tr>
<th>Time Period</th>
<th>Definition</th>
<th>Domain of interest</th>
<th>Unit and Level of Analysis</th>
<th>Theory and Methodology</th>
</tr>
</thead>
<tbody>
<tr>
<td>1990’s</td>
<td>Institutional</td>
<td>Collaborative supplier relationships</td>
<td>Unit. Individual to dyad. Level. Tactical to strategic.</td>
<td></td>
</tr>
<tr>
<td>Early 2000’s - Today</td>
<td>A component of SCM</td>
<td>Supply base rationalization enhancing a firm's overall competitive position</td>
<td>Unit. Individual to dyad to network. Level. Tactical to strategic; including strategic network improvement.</td>
<td><strong>Theories.</strong> Transaction cost theory, interdependence theory, management theory, decision theory, the resource-based theory of the firm, and gaming theory. <strong>Methodology.</strong> Descriptive, qualitative contextual approaches, analytical quantitative (mathematical and empirical) models, and purchasing portfolio approaches.</td>
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Operations Management

**Definition.** Since its inception in the 19th century, operations management (OM) has historically had a definitional problem (Meredith 2001; Sprague 2007). This so-called "identity crisis" could be attributed to the fact that, unlike other management functions, OM has been a "moving target" defined by the "pragmatic challenges of immediacy" (Meredith 2001; Slack, Lewis, and Bates 2004). Originally, OM was known as factory management and included all the other business functions. The establishment of individual business functions such as accounting, finance, and marketing in the 1950s led to the establishment of a new terminology, production management, signifying the original association of OM with the physical production process within a firm. More recently, due to the recognition that most of the OM concepts are transferable to service firms as well (Meredith, 2001; Singhal, Singhal, and Starr 2007), production management has been replaced by a broader term, operations management. So, apparently, while OM had the disciplinary advantage given its history, it has subsequently suffered from a definitional impediment, mainly due to its integrative as well as cross-disciplinary nature that touches many other disciplines.

At its current state, academicians define OM as the "design, direction, and control of processes that transform inputs into services and products for internal, as well as external, customers" (Krajewski, Ritzman, and Malhotra 2006; Silver 2004). Alternatively, APICS, the association for operations management, defines OM as "the field of study that focuses on the effective planning, scheduling, use, and control of a manufacturing or service organization through the study of concepts from design engineering, industrial engineering, management information systems, quality management, production management, inventory management, accounting, and other functions as they affect the organization" (Blackstone and Cox 2004). But, given that the essence of OM is to add *value* during the transformation processes, it is concerned, in a broader sense, with the efficient and effective management of organizational resources that are crucial to the strategic direction as well as the competitiveness of an organization.

**Domain of Interest.** Though it is difficult to pinpoint the origin of the field of OM, it could be seen, at least, as concomitant to the era of industrial revolution (Chopra, Lovejoy, and Yan 2004; Singhal, Singhal, and Starr 2007). The years following the industrial revolution led to the advent of standardization, inventory control, quality control, scientific management, assembly lines, and work studies (Ford and Crowther 1922; Harris 1915; Roethlisberger and Dickson 1939; Shewhart 1931; Taylor 1911). During the Second World War, OM flourished through the adoption of mathematical modeling techniques that focused on: (1) the efficient allocation and control of resources, and (2) the optimization of system performance. This era also evidenced the growth of mass production systems and statistical quality control (Singhal, Singhal, and Starr 2007). The field of OM grew further following the Second World War. But, most OM research during 1950s and 1960s focused on the development of algorithms and analytical methodologies to solve optimization problems within a wide range of functional areas – including operations, finance, economics, and marketing (Bertrand and Fransoo 2002; Chopra, Lovejoy, and Yan 2004). Numerous "quantitative" OM techniques including linear programming under uncertainty, queuing theory, simulation, facility location and layout, line balancing, scheduling, and project management were developed during this period (Filippini 1997; Singhal, Singhal, and Starr 2007). This quantitative model-based research arm of OM was, and is, popularly known as management science/operations research (MS/OR).

Though MS/OR techniques were widely adopted well into the 1970s (Filippini 1997; Rungtusanatham et al. 2003), they encountered various practical hurdles because of their limited applicability and value to businesses (Bertrand and Fransoo 2002). Subsequently, pioneers within the field called for a research agenda that had: (1) a "strong" relation to the "practical world", and (2) focused on more "management-oriented" and "macro-oriented" OM topics (Ackoff 1979; Buffa 1980; Chase 1980; Miller and Grahm 1981). As a response to this call, at least a small group of OM researchers started to focus on themes such as total quality management (TQM), just-in-time (JIT), and manufacturing strategy. Though MS/OR techniques covering scheduling and inventory control accounted for most of the published research, a "slight" change in the research focus on "macro-oriented" concepts was clearly evident in the analysis of OM publications during the 1980s (Amoako-Gyampah and Meredith 1989; Hill, Scudder, and Haugen 1987). Additionally, during this period, the OM discipline also witnessed a significant increase in empirical research and practice-based modeling approach to better understand issues that were of concern to practicing managers. This refocusing of research topics was instrumental to the subsequent growth of OM.

The 1990s saw a substantial growth in the adoption of empirical research studies increasingly focusing on operations strategy, JIT, quality, and supply chain management (SCM). In fact, the empirical research articles in operations strategy and SCM showed a steep increase since mid-1990s (Gupta, Verma, and Victorino 2006; Rungtusanatham et al. 2003).
On the contrary, research on popular MS/OR topics including scheduling, inventory management, facility layout, and process design showed a significant decline in interest (Pannirselvam et al. 1999). The beginning of the 21st century saw OM researchers conducting theory-driven empirical research that focused on “macro-oriented” business topics such as total quality management, supply chain management, lean manufacturing, and service operations. More recently, supply chain management has become the dominant theme within OM research (Gupta, Verma, and Victorino 2006; Kouvelis, Chambers, and Wang 2006; Slack, Lewis, and Bates 2004). Among others, researchers have dealt with specific topics including supply chain design and coordination, uncertainty and the bullwhip effect, capacity and sourcing decisions, sourcing strategies, supply cost issues, logistics partnerships, and the effects of postponement (Kouvelis, Chambers, and Wang 2006; Rungtusanatham et al. 2003). In the broader sense, as illustrated in CSCMP’s definition of SCM, most of the topic areas that are related to the “transformational” nature of OM fall well within the purview of SCM research.

**Unit and level of analysis.** Before the adoption of empirical research methodologies within OM, most of the studies were related to micro issues within a single firm. In most cases, the same set of issues was not tested across multiple firms. So, generally speaking, the modeling and simulation researchers focused on “micro” issues within a single firm until the 1980s. Given that operations was primarily concerned with the transformation process within a firm, earlier empirical research also focused on a single firm as its unit of analysis. Due to OM’s equal applicability to manufacturing as well as service firms, the unit of analysis varied considerably, from a plant or factory or machine shop, to a bank, and to a health organization (Rungtusanatham et al. 2003). The recognition of the importance of supply partners has recently extended the unit of analysis beyond a single business unit to the dyadic or “inter-organizational” level (Paulraj, Lado, and Chen 2008) and, in some cases, triads or even the entire supply chain (Kouvelis, Chambers, and Wang 2006).

Historically, given that OM was associated with the tactical/operational control of processes that transform inputs into services and products, it was dominated by the application of abstract mathematical techniques that studied “micro-oriented” and “isolated” research topics (Fillipini 1997). With the call from pioneers to focus on “macro-oriented” and “management-oriented” topics, the level of analysis has gradually become strategic through the study of topics that are closely associated to the management of operations (Scudder and Hill 1998; Rungtusanatham et al. 2003). Today, the level of analysis is increasingly external as well as strategic in nature due to the rapid proliferation of inter-organizational and inter-disciplinary research that focuses on analyzing global supply chain networks (Buhman, Kekre, and Singhal 2005; Gupta, Verma, and Victorino 2006).

**Theory and methodology.** While practice-oriented OM research flourished into the 21st century, the field was criticized for the inadequacy of its theory (Schmenner and Swink 1998). Accordingly, OM scholars were called to embark on theory-driven empirical research (Amundson 1998; Handfield and Melnyk 1998). In response to this call, OM scholars have adopted diverse theories as the basis for grounding their research as well as developing hypotheses. Such theories include theory of production competence (Cleveland, Schroeder, and Anderson 1989), theory of performance frontiers (Clark 1996), and theory of swift, even flow (Schmenner and Swink 1998) were developed and adopted by OM scholars to study various OM phenomena. But, realizing the fact that OM does possess a dearth of theories relative to other functional areas due to its traditional model-based as well as field-based research (Amundson 1998), researchers have utilized theories from other disciplines including economics, sociology, strategic management, and organization theory. More specifically, OM researchers have adopted theories including, but not limited to transaction cost economics (Grover and Malhotra 2003; Holcomb and Hitt 2007; Williamson 1991), resource based view (Barney 1991; Chen, Paulraj, and Lado 2004; Holcomb and Hitt 2007), and organizational learning (Powell, Koput, and Smith-Doerr 1996). More recently, in line with the rapid proliferation of inter-organizational studies, OM researchers have started to adopt collaborative advantage (Kanter 1994), relational view (Chen, Paulraj, and Lado 2004; Dyer and Singh 1998; Paulraj, Lado, and Chen 2008), network theory (Jones, Hesterly, and Borgatti 1997), and social exchange theory (Anderson and Narus 1990).

OM, as a field, has been striving to understand why a given operation (managing or service) is better (i.e., productive, efficient, and/or effective) than another (Schmenner and Swink 1998). Accordingly, most of the research conducted has directly focused on the development of “a set of laws” that can explain the improvement of an existing operation (Deming 1982; Goldratt 1989; Hall 1987; Skinner 1974). In other words, OM research has predominantly dealt with diverse topics including: quality, flexibility, product development, modularity, process management, theory of constraints, lean, agility, and just-in-time; which can be collectively categorized to address the basic notion of “swift and even flow” of materials through a process (Goldsbey, Griffis, and Roath 2006; Gunasekaran and Ngai 2005; Robinson and Malhotra, 2005; Schmenner and Swink 1998). These concepts all have a process as well as system orientation, and as such can be intuitively extended to address dyadic, triadic, or even entire supply chain issues.
OM research efforts, for many years, had adopted axiomatic model-based research methodology (Bertrand and Fransoo 2002; Rungtusanatham et al. 2003). These studies involved both normative as well as descriptive approaches using mathematical optimization and simulation techniques (Bertrand and Fransoo 2002). The 1990s saw a substantial growth in the adoption of empirical methodology to study a multitude of OM phenomena. This growth was well documented by empirical, synthesis-focused research (Scudder and Hill 1998; Pannirselvam et al. 1999). Since the adoption of empirical research within OM, most of the studies were predominantly positivist in nature (Filippini 1997; Pannirselvam et al. 1999). Recently, in their quest to build theory, OM researchers have started to increasingly embrace interpretivist and qualitative approaches including rigorous case study analyses (Danese 2007; Voss, Tsikriktsis, and Forlích 2002; Wu and Choi 2005). In summary, current research efforts in OM not only adopt diverse research methodologies including conceptual, practice-oriented “quantitative” modeling, and positivist as well as interpretivist empirical approaches, but, also embrace research replication as well as triangulation.

**Key Trends.** As a field, OM has aligned itself to focus more on strategic issues (quality management, lean manufacturing, and SCM) within manufacturing as well as service organizations. Accordingly, OM scholars have followed suit. More importantly, the past few years have seen a dramatic increase in empirical as well as practice-oriented modeling research within SCM. The recent period has seen a significant surge in research efforts pertaining to emergent topics including supply chain risk management (Kouvelis, Chambers, and Wang 2006), integration of upstream and downstream functions (Frohlich and Westbrook 2001), inter-disciplinary and inter-organizational coordination (Gupta, Verma, and Victorino 2006), agile supply chains (Goldby, Griffis, and Roath 2006), and service supply chains (Machuca, Gonzalez-Zamora, and Aguilar-Escobar 2007). Another crucial and timely topic, which resonates with the increasing concerns of various stakeholders, is the integration of environmental management into supply chain operations (Linton, Klassen, and Jayaraman 2007).

**Logistics**

**Definition.** As described in the literature, logistics provides industrial firms with time and space utilities, and refers to the inbound and outbound flow and storage of goods, services, and information within and between organizations (Caputo and Mininno 1998). Prior to the 1950s, the typical firm executed its logistics activities purely on a functional basis; no formal concept or theory of integrated logistics existed (Bowersox 1969). As recently as the very early 1980s, logistics was primarily concerned with the outbound flow of finished goods and services, with an emphasis on physical distribution and warehousing. During the 1980s, industry globalization (Sharman 1984) and transportation deregulation (Stock and Lambert 2001) led to an expansion of logistics beyond outbound flows to include recognition and related conceptualization of both materials management and physical distribution as important elements. Accordingly, in 1986, CLM (now CSCMP) defined logistics management as: “the process of planning, implementing, and controlling the efficient, cost-effective flow and storage of raw materials, in-process inventory, finished goods, and related information flow from point of origin to point of consumption for the purpose of conforming to customer requirements (www.cscmp.org).” This 1986 re-definition illustrated an important theoretical evolution from purely functional to a process-oriented conceptualization. During the 1990s, accelerated market changes due to shrinking product lifecycles, growing requests for customization, responsiveness to demand, and increased reliance on information technology enhanced this evolution and led to another re-definition as “the process of strategically managing the procurement, movement and storage of materials, parts and finished inventory and related information flow through the organization and its marketing channels” (Christopher 1998).
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<th>Theory and Methodology</th>
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<tr>
<td>1990s</td>
<td>Process</td>
<td>Resource and performance optimization, manufacturing strategy, manufacturing</td>
<td>Unit. Focal Firm.</td>
<td>Theories. Natural science, strategic management, and economics theories including:</td>
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<td></td>
<td></td>
<td>competence, lean and agile manufacturing, quality, product and process design,</td>
<td>Level. Strategic, tactical, and operational.</td>
<td>production competence, swift &amp; even flow, transaction cost, resource-based, and dynamic</td>
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<td></td>
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<td>competitive advantage.</td>
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<td>capabilities theory.</td>
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<tr>
<td></td>
<td></td>
<td>process design and development, inter-organizational studies.</td>
<td>Level. Inter-organizational, strategic, and</td>
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<td>tactical.</td>
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In the 2000s, developments in international trade, supply chain management, technology, and business process re-engineering again led to re-evaluation of the logistics concept. During this period, CLM annually reviewed its definition of logistics and revised that definition several times: 1) in 2001, as “that part of the supply chain process that plans, implements and controls the efficient, effective flow and storage of goods, services, and related information from the point of origin to the point of consumption in order to meet customer requirements;” 2) between 2001 and before 2003, as “that part of the supply chain involved with the planning, implementing and controlling of the efficient, effective flow and storage of goods, services, and related information from the point of origin to the point of consumption for the purpose of conforming to customer requirements” (www.clm1.org); and 3) most recently (2003) as “that part of supply chain management 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" (www.cscmp.org). Many academic textbooks (Murphy and Wood 2004, p. 6) and most articles in the field typically adopt the CSCMP definition of logistics and logistics management, while other recent examples provide an alternative yet related definition "logistics refers to the responsibility to design and administer systems to control movement and geographical positioning of raw materials, work-in process, and finished inventories at the lowest total cost" (Bowersox, Closs, and Cooper 2006, p. 22). CLM definitions in the 1980s and 1990s compared to the 2000s reflect CSCMP's attempts to capture and clarify differences between, and the scope of, logistics management as an individual, broad process and later as a narrower sub-component of supply chain management.

**Domain of interest.** Early logistics research focused on the management of transportation and warehouses (Borsodi 1927). In the 1950s and 1960s, the rise of the "corporate" or "marketing" philosophy "the marketing concept" drew logistics researchers' attention to increasingly focus on the cost components of marketing (Parker 1962), and then in the 1970s on the associated issue of customer service (LaLonde and Zinszer 1976). Concurrently, Schiff's (1972) recognition of the vital role of accounting and financial information to logistics activity further emphasized and formalized the linkages between these functions. Researchers then logically extended their conceptualization of the physical and financial flows to the topics of cross-functional integration in the 1980s and collaborative and re-engineering efforts in the 1990s. Such integration expanded logistics scholars' interest in materials management activities within purchasing and manufacturing, as well as their more historical focus on topics of physical distribution.

Broadly speaking, logistics research today addresses supply chain logistics, concerned with the flow of goods; and service response logistics, concerned with the co-ordination of non-material activities necessary for the fulfillment of the service in a cost - and customer service - effective manner. As such, drawing from a recent review of such topics (Stock and Broadus 2006), a number of observations may be drawn while acknowledging the limitations of categorization that the authors note, albeit from a large sample size. Specifically, in the 1999-2004 timeframe, the most heavily researched topics were decision support systems, miscellaneous transportation, supply chain management, and inventory; noteworthy yet less researched topics were international logistics, purchasing/procurement and materials management, general logistics and channels of distribution. Compared to three prior research studies in 1992-1998, 1987-1991, and 1970-1986, the topics of transportation, warehousing and storage, DRP, JIT, Kanban, and MRP have experienced downturns in interest (Stock and Broadus 2006).

Generally speaking, logistics research has evolved from an emphasis on internal, operational and functional areas (i.e., transportation, inventory, warehousing, order processing) to an emphasis on the efficiencies to be realized by the cross-functional integration of manufacturing, marketing, finance/accounting, human resources, etc. The field is also responding to recent calls for performance measurement of the logistics system, its sub-systems, and the implications for overall firm performance - particularly with regard to the efficiencies that may be gained from extending functional integration across the entire supply chain. Such evolution is documented by the shift in emphasis of the dissertation research noted above. Logistics research has paid less attention than operations management to the transformation operation itself, and less than purchasing and supply management to inter-organizational relationships with the upstream supply network. Rather, logistics research has remained focused on keeping materials moving in a chain of supply from upstream suppliers, through one part of the organization to another and through downstream channels of distribution to customers. Logistics has also paid little attention to behavioral, softer aspects of inter-organizational business.

**Unit and level of analysis.** Logistics research has typically focused on the individual firm and its profitability; this research perspective reflects logistics' focus of control. By the 1990s, the initial steps to broaden the logistics unit of analysis in research began to emerge. Specifically, the expanded research perspective recognized the trend toward reduction of organizational slack (of which inventory is an example), and yielded an important call to investigate the close coordination of, and information exchange between, supply chain partners (Caputo 1996; Vollman, Berry, and Whybark 1997). In the mid 1990s, recognition of the importance of inter-firm relationships (i.e., strategic partnerships and cooperative agreements) more concretely extended the logistics unit of analysis beyond the boundaries of the individual firm (Langley and Holcomb 1992) to (mostly) the dyad. With increasing emphasis on end-to-end logistics integration and the linkage of multiple dyads, the conceptual focus of logistics research further shifted in the 2000s to its present focus on the network (or supply chain) as its primary unit of analysis, although a dyad focus remains clearly evident as well (Sachan and Datta 2005).

Paralleling this broadening have been shifts in the level of analysis from a focus on the management of operational and/or tactical activities; to optimizing logistics operations to attain efficiency of the flow of goods; and to service response logistics. The historical operational/tactical level of analysis gave way to an emphasis on logistics' role in
strategy development and execution in the 1990s as collaborative efforts and re-engineering became prominent initiatives. Today, the level of analysis includes an external, strategic orientation which considers the value added activities involved in the process of "bringing a product to market." An increasing emphasis on market-focused service performance links operations management and operations research and logistics via activities such as inventory management, forecasting, order fulfillment, production and demand planning, and delivery planning/co-ordination (Anderson and Lee 1999; Chopra and Meindl 2001; Christopher 1998; Lee and Whang 2000).

Theory and methodology. Surveying theories applied in logistics research, Stock (1995) concluded that logistics benefits from borrowing from other theories as it is suited to approaches which "adopt multidisciplinary methodological pluralism." Although logistics has benefited from application of insights from mathematics to psychology, theories of particular relevance include those having origins in economics, organizational strategy, and marketing including transaction cost theory, resource-based theory, relational contracting theory and dyadic coordination theory. Recently, there has been a shift towards the application of enterprise focused theories such as strategic management theory, which emphasizes the development of collaborative advantage (Contractor and Lorange 1988; Dyer 2000; Dyer and Singh 1998; Kanter 1994; Nielsen 1988); and interdependent, mutually beneficial relationships fostered through strategic collaboration (Ahuja 2000; Borys and Jemison 1989; Lado, Boyd, and Hanlon 1997; Miles and Snow 1986; Thorelli 1986). Reflecting its evolution to include more systemic and strategic considerations, logistics has most recently begun to integrate systems and network theory (Dyer and Singh 1998; Kale, Singh, and Perlmutter 2000; Lorenzoni and Lipparini 1999), which considers the dyad and/or network instead of individual firms as the unit of analysis.

Logistics research has also evolved and expanded in its use of research methods to match the greater scope and integration of its interests (Craighead et al. 2007). Some research tends to be more positivist in nature, utilizing variations of quantitative approaches, while others tend to be more interpretative, and as such qualitative in nature. Frankel, Naslund, and Bolumole (2005) examined articles published in the Journal of Business Logistics between 1999 and 2004 and found a variety of data gathering techniques and forms of analysis including literature reviews, interviews, personal observation surveys/questionnaires, focus groups, case studies, experiments and content analysis. They identified a number of trends including the increasing use of rigorous case analysis, multi-method (triangulation) approaches and use of the Internet for data collection.

Key Trends. The field of logistics has also undergone important developments and changes that are influential on scholarship. Reflecting its independent origin, logistics has most impactfully redefined itself over time to both acknowledge its broadened and strategic functional importance to the firm, and also as a related component of SCM. Both perspectives have merit given the acknowledged critical role of logistics in SCM (i.e., logistics is recognized as an integrative support mechanism to enhance efficiencies across the supply chain) as well as the separable functions which define the field itself. Together, these developments and changes represent important advances for the field that will likely pay dividends by elevating the understanding of logistics itself as well as enhancing SCM scholarship.

Marketing Channel Management

Definition. The very earliest formal conceptions of marketing channels tended to focus on the functions performed by a distribution system and the associated utility of these functions and the overall system. Reflecting their presence in industrial and transitional economies, marketing channels gradually came to be viewed as the set of interdependent organizations involved in the process of making a product or service available for use or consumption (Coughlan et al. 2001). This institutional-oriented perspective draws attention to those members (e.g., wholesalers, distributors, retailers, etc.) comprising the distribution system and engaged in the delivery of goods and services from the point of conception to the point of consumption (Anderson and Coughlan 2002). The management of such institutions through marketing channel management involves the planning, organizing, coordinating, directing and controlling efforts of channel members.

Today, according to El-Ansary (2005) and others, the institutional perspective of marketing channels and their management is giving way to a more customer-focused view of the channel. Reflecting marketing channels within newer experienced-based economies and involving value adding chains and larger networks of members, this emerging perspective emphasizes marketing channels as providing for the conception, promotion and delivery of positive customer experiences.
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Domain of interest. Consistent with the functional conception of marketing channels, early research in channels, circa the 1950s and 1960s (Alderson 1957), adopted a holistic perspective and focused on identifying the various functions provided by a marketing channel and explaining when and why these functions have utility (Anderson and Coughlan 2002). Paralleling modern emphasis of the institutions occupying a channel, contemporary research in marketing channels has focused on a focal organization, its ongoing management among these institutions, and the managerial behavior and decisions essential to its development and functioning.

Two distinct managerial-based literatures have emerged within marketing channels over time: 1) power and conflict management and more recent emphasis on 2) collaborative relationships including their structure, governance and overall management. Detailing scholarly contributions to the literature as of the end of the last century, Frazier (1999, p. 226) reports that considerable progress has been made in our understanding of managerial behavior and decisions surrounding the development and functioning of a marketing channel:

"...the knowledge that has accumulated in relation to how interfirm power originates and is then applied, how control of the channel relationship is facilitated, and what intrachannel conflict and channel member satisfaction are based on is impressive. Recent efforts to better understand how strong, long-term channel relationships develop -- including the impact of trust commitment and relational norms on channel interactions are noteworthy. Furthermore, some progress has been made in our understanding of organizational decisions relating to vertical integration, the use of multiple channels, distribution intensity and bureaucratic structuring."

The author observes, however, that while the current knowledge base provides a reasonable foundation of thought, a variety of issues still exist regarding constructs and topics examined in prior research. In particular, Frazier (1999, p.226) details that the role of power in channel relationships is often confused. Interfirm monitoring efforts have received little attention. Few of the various different facets of interfirm communication have been examined in any depth. Intrachannel conflict and its impact on long-term channel relationships have been largely overlooked. The relationship marketing paradigm as applied to distribution channels has been pushed beyond its practical and natural boundaries. Important factors likely to shape channel integration, distribution intensity, and bureaucratic structuring remain largely unexplored.

The use and management of multiple channels have been barely touched on. Physical distribution processes and technologies have not received the attention they should in research on channel organization and management. Further, according to Frazier many important managerial issues relating to the structure and management of channels of distribution have yet to be addressed in empirical channels research, particularly: (1) how resource allocations to channels should be made across global product markets; (2) how functions are shared-split between channel members; (3) what combination of push and pull strategy is appropriate for firms using indirect channels; (4) when and how the Internet should be used as a sales-distribution channel; (5) how coordination is achieved among distributors in integrated supply networks; (6) how goals are set, plans are developed, and performance appraised among channel members; and (7) how distributors should operate their businesses (Frazier 1999, p. 226).

More recently, Anderson and Coughlan (2002) report a number of important contributions to the marketing channels literature including those focusing on market channel structure, governance, and relationship management. Observing the basis of such focus, these scholars observe that to enhance effectiveness and efficiency across the various functions performed by members of a marketing channel, each attempts to influence others to operate in a coordinated fashion and in a manner that recognizes that their interdependence creates common interests. Because structure, governance and relationship management reflect how firms garner and then exert influence over one another in order to be successful and to compete against other marketing channel systems, each has become a dominant focus of research.

A review (Leonard 2003) of recent contributions to the literature substantiates the observations of Anderson and Coughlan (2002). These include contributions that inform our understanding of the systemic nature and qualities associated with larger channel systems, the role of dual channel structures, marketing channels and logistical functions and their interplay with supply chain processes, the emergence of electronic (e.g., Internet) channels of distribution, the nature, qualities and performance of interfirm relationships, the governance of such relationships, the use of interfirm influence and power, channel performance and the choice of channels by consumers among other topics.

In terms of the future, as the traditional domain of marketing channels set around the institutional perspective of channel constituents gives way to a more customer-focused definition, it is likely that the domain of marketing channels research will further expand to include additional related topics of interest (El-Ansary 2005).
Unit and level of analysis. Consistent with the functional perspective of marketing channels, early research adopted the entire channel system and its functions as the primary unit and level of analysis. As the field evolved to a more institutional perspective, research similarly evolved to capture a particular channel institution’s perspective (most often the view of the manufacturer as the focal firm or “channel captain”) and its efforts at designing and managing the channel. Viewing the channel as most often dominated by the manufacturer and being a strategic asset, inquiry has focused on informing the question of what is the best marketing channel for a particular firm’s product or service (Coughlan et al. 2001).

As both the nature of marketing channels and research attempting to understand such phenomenon has evolved, the unit and level of analysis adopted by researchers have similarly evolved. This evolution has led to current emphasis on dyads and the context of relationships, with some emphasis on triadic and larger network and system-based configurations involving both strategic as well as more day-to-day managerial activities. In the future, increasing emphasis of customer-focus marketing channels will likely call for adoption of units and levels of analysis that comply with those held by the customer.

Theory and methodology. Channels researchers have drawn upon a variety of theories and research methods to inform and conduct their work. In addition to descriptive field research intended to portray the practices and performance outcomes associated with channels, scholars have also employed quasi-experimental settings to isolate and examine phenomenon associated with the workings of a channel. Analytic models, both mathematical and empirical, have also serviced such inquiry.

Beyond a multitude of research settings and methods, scholars have also borrowed from a number of different theoretical frameworks. As inventoried recently by Anderson and Coughlan (2002), these include from economics explanations attendant to transaction cost analysis, agency theory, game theory, analytical models of competition and market response and evolutionary economics; from sociology, theories of dependence/power and group processes and institutional theories of legitimacy; from psychology, theories of social influence, interpersonal relationships and conflict; from marketing and strategic management, theories of trust, competitive advantage and path dependence and from other areas, political economy and life-cycle theories, to name a few. Given this eclectic state of affairs, these scholars contend that the field of marketing channels research is currently in a pre-paradigmatic state with little agreement about how to frame issues and what the appropriate mode of inquiry is. Such a state poses both opportunities and challenges for the future. Given the lack of consensus, on the one hand, researchers examining channel phenomenon have considerable freedom to proceed in a manner of their choice. At the same time, the lack of consensus (and at times competition among differing perspectives and methods) has made it more difficult to achieve consensus and thus to accumulate findings that yield robust generalizations concerning important phenomenon. Despite these challenges, as may be observed across time, results from these multiple perspectives and methods are beginning to converge with some agreement in findings and explanations about what issues in marketing channels merit further inquiry (Anderson and Coughlan 2002).

Key trends. Within marketing channels, paralleling a shift in the larger discipline of marketing from focus on transactional exchange to include exchange relationships, perhaps the most impactful development in recent times has been the field’s emphasis of relational (e.g., collaborative) versus competitive (e.g., arm’s length) interactions among institutions comprising the marketing channel. This change has fundamentally altered the scholarly landscape and practice of marketing channels and marketing channel management.

Accompanying the field’s emphasis of relationships and collaborative interaction has been a broadening of its institutional perspective from that of an individual institution (and its channel) to that of dyads and larger and more complex units of analysis including triads, networks and systems of institutions and their relationships. This evolution has also been accompanied by the expansion of marketing channel concepts and theory which is informative to understanding the evolution of the organization and management of a dominant institution’s channel at a point in time, to concepts and theory helpful for understanding the organization and management of relationships and larger configurations of relationships comprising a marketing channel over time.

Together, these two trends represent considerable progress in understanding the institutions, and functioning of, marketing channels and marketing channel management – and will likely enable better understanding and explanation occurring within the field.
TABLE 5
MARKETING CHANNELS AND MARKETING CHANNEL MANAGEMENT

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INSIGHTS AND ISSUES FOR ADVANCING FUTURE SCM RESEARCH

Our overview of supply chain management and the related disciplines of purchasing, operations management, logistics and marketing channels of management highlights significant developments and changes occurring in each of these fields and reveals insights and issues regarding future SCM research. In this section we discuss these insights and issues from a broad, cross-disciplinary perspective and offer accompanying proposals for progress (PFP) that may serve to enrich future SCM scholarship.

Implications for Defining SCM

“Integration” - SCM’s Focal Concept. Common to most definitions of SCM is the goal of integration. The CSCMP definition explicitly identifies this goal and other definitions similarly identify it as SCM’s primary objective. Thus the phenomenon of integration may be considered SCM’s focal concept of interest. Given this characteristic, SCM research would benefit from in-depth examination of the concept of integration and its related aspects.

PFP: Given the goal of SCM to “integrate” and “coordinate” the various domains it defines itself to encompass, it would benefit from in-depth research that specifically examines “integration” and related concepts.

“Planning and management” of the functional domains. In addition to integration, definitions of SCM (including that by the CSCMP) identify the “planning and management” of those functional domains it defines itself to encompass as part of its role. Such a role, however, to be effective necessarily requires SCM to possess functional expertise in each of these domains. Thus, an important goal of SCM research should be to insure development of a body of knowledge commensurate with that which is present in each of the respective functional domains.

PFP: If SCM aspires to “plan” and “manage” the various domains it defines itself to encompass, it will need to develop a body of knowledge commensurate with that which is present in each of the respective domains.

The Depth and Breadth of SCM. Given SCM’s goals of integrating the functional domains it defines itself to encompass as well as their planning and management, it is important that research in SCM draw upon and incorporate existing knowledge in these disciplines. In particular, SCM research should avoid being redundant to prior research conducted in marketing channels, purchasing, etc. on topics of interest. Advancing knowledge in the field of SCM is likely to be more beneficial when it furthers such knowledge versus replicating it.

PFP: Knowledge development in SCM should draw upon existing knowledge in the domains that it aspires to integrate in ways that do not duplicate such efforts.
Implications for SCM’s Domain of Interest

Scope and Related Complexity. The expansion of SCM’s scope acknowledges the importance of increased supply chain length, geographical complexity, and communication sophistication, while remaining focused on the mandate to improve cost performance, service delivery and value enhancement. Acknowledging SCM as an integrative philosophy which spans from “supplier to end user” creates considerable complexity with regards to future SCM scholarship. For example, the purchasing field has recently observed that managing collaborative activities concerned with services and information requirements is different from that concerned with materials flows (Monczka, Trent, and Handfield 2002). This observation has significant potential for future SCM scholarship because it offers multiple layers of conceptualizations, measurements, and analyses (i.e., for both intangible and tangible aspects of the required resources). As future SCM research considers and resolves these expanded scope issues, it should also not lose sight of evolutionary changes which occur within its sphere of study. For example, the shift in power from manufacturer to retailer and its related issues of governance and industry competition, require attention. Moreover, a firm’s place in the supply chain provides a differing viewpoint with regard to such attendant challenges and solutions – and thus future research.

PFP: The expectations of SCM scholarship implies the development of appropriate levels of analyses which include - albeit to differing extents - the focal firm, dyads and networks.

Scope and Consumer Perspective. Responsiveness to market changes in the 1990s brought logistics’ traditional customer-centric approach to the forefront. This approach historically focused on the impact of downstream logistics activities and related distribution linkages. However, developments in, and the application of, rigorous industrial dynamics and operations research to upstream logistics activities and related materials management linkages create an opportunity to add to logistics’ customer-centric value proposition (Cheng and Grimm 2006). Extended to SCM, such an observation provides a bridge to connect logistics and marketing conceptualization of customer service via OM, particularly with respect to the recognition that the end consumer, given his/her position at the end of the supply chain, is the ultimate driver of demand. Thus, research on (and that which incorporates) the end consumer is critical for creating the best supply chains. Relatedly, however, embracing this perspective is complicated by observations that researching traditional supply chain paths to the consumer via a “storefront” may well be different than researching more recent “virtual” paths of electronic commerce.

PFP: As consumers are the ultimate drivers of demand within the supply chain, SCM scholarship should aspire to further incorporate a [multi-dimensional] consumer perspective.

Social/Environmental Perspective – Beyond Managerial Performance. The recent surge in research within the areas of risk management, environmental or “green”, and closed-loop supply chains (Flapper, Van Nunen, and Van Wassenhove 2005; Kouvelis, Chambers, and Wang 2005; Linton, Klassen, and Jayaraman 2007) poses interesting opportunities for SCM scholarship because they require supply chain performance to be aligned with social and environmental considerations. Concurrent risk-focused research related to accounting and financial components (Christopher 2006; Mentzer 2006) as well as personnel and human resource perspectives (Gowen and Tallon 2003; Koulikoff-Souviro and Harrison 2006; Scarbrough 2000) has also become evident. This development calls for a major change which requires firms to think more in terms of triple (i.e., financial, social and environmental) bottom-line performance (Bansal 2005).

PFP: Beyond research addressing performance in terms of the efficiency and effectiveness of supply chains within and across firms, SCM should aspire to develop knowledge concerning performance outcomes of interest to its other stakeholders and more broadly, to society at large.

Implications of SCM’s Topics of Interest

Behavioral Considerations. An important opportunity exists in SCM scholarship regarding the integration of social and behavioral aspects of exchange; a socio-behavioral focus has been a primary emphasis of marketing channels research, purchasing, and OM. The integration of behavioral-based and collaborative inter-firm scholarship is also likely to provide the impetus for further integration of marketing-based and purchasing concepts into SCM. Such convergence is helpful to SCM advancement, but replication is not.
Historic review of the SCM-relevant topics of interest reveals minimal consideration of the behavioral or social aspects of relationships within the supply chain. "The emphasis on process improvement ... combined with a shallow amount of research on soft issues, highlight that the social aspects of SCM have been neglected both in the breadth and depth of research" (Burgess, Singh, and Koroglu 2006, p. 716). This absence, in part, likely stems from the important role that logistics has played in SCM’s development and its focus on operational effectiveness and efficiency – regardless of the party performing such activities (Gripsrud, Jahnre, and Persson 2006, p. 655).

To this end, integration of scholarship addressing the social and behavioral aspects of interfir coordination and collaboration found in marketing channels stands to benefit the further development of SCM in ways that complement its extant operational focus. Gripsrud, Jahnre, and Persson (2006), for example, contend this integration will have the result of recombining two important streams of research that have over time followed their own distinct paths resulting in benefits for SCM. These include studies on physical distribution which included early work in logistics and studies of the social and behavioral aspects of exchange that today has emerged as the dominant focus of marketing channels research.

PFP: Future SCM research stands to benefit from research addressing social and behavioral dimensions, recognizing that these can influence SCM decisions and drive supply chain behavior.

Implications of SCM’s Unit and Level of Analysis

Focal Firm, Dyad or Network. Inherently, the above discussions of SCM domain of interest and its expanded scope is typically driven by developments in its unit and level of analysis.

As defined, the study of SCM is based on consideration and understanding of the entire supply chain. However, inspection of the marketing channel discipline reveals its emphasis of the firm and more recent focus on the dyad. A key issue, therefore, is whether it is possible to understand supply chain phenomenon based on concepts and theories that have been developed to explain firm and dyadic level phenomenon. While the dyad is typically perceived as a more convenient research sample, the “system” or “network” is clearly more theoretically appropriate, albeit harder to sample and measure. Similarly, inspection of the marketing channels and the OM discipline reveals the adoption of a focal firm perspective. That is, the unit of analysis is one specific company and the management of a particular distribution system related to that company. Although useful, adoption of a focal firm perspective may not allow scholars in SCM to fully understand and explain supply chains in their entirety; thus differences in the units of analysis and perspectives adopted in SCM are likely problematic. Similar challenges already attend research in SCM; for example, Sacahan and Datta (2005) show that despite a conception of SCM at the system unit of analysis, research across important journals has focused on functions within a firm and the single firm itself (Gripsrud, Jahnre, and Persson 2006). To fully understand supply chains there is a need to study them from both the perspective of a focal firm, but also from a more holistic perspective where the system as a whole rather than an individual focal actor is the relevant perspective.

PFP: SCM research should aspire to incorporate multiple layers, units and levels of analysis that reflect its focal concept of interest – the supply chain or network.

Implications of SCM’s Theory and Methodology

Logistics management served as the foundation for SCM (Metz 1998), and the field’s willingness to continuously re-define itself over the past 40 years is well-documented by the evolution of the CLM and CSCMP definitions. The willingness to embrace continuous forward-thinking and evolution rather than accepting the “status quo” has served SCM well in its initial development. Given the challenges inherent within the expansion of unit and level of analysis, future SCM research is presented with the related challenge to utilize theoretical precepts and methodologies (and appropriate measures) to advance the field. For example, the theory of swift, even flow (Schmenner and Swink 1998), an overarching OM theory could immensely serve to enrich research within SCM.

The field of SCM is responding to this challenge by encouraging researchers to expand its usage of methodologies and methods, and that is slowly but increasingly occurring. However, use of multiple methods and methodologies leads to increasing the complexity of analysis described above. For example, extending the supply chain’s value proposition to the end consumer (i.e., measuring service and satisfaction to the end of the supply chain rather than only to the point of retail) involves crafting and/or adopting existing performance measurement criteria which are relevant and realistic to the
task at hand. Similarly, the efforts in purchasing research to distinguish between services and related information requirements versus more traditional material flows will call for resolving the difficulty of creating (or replicating) appropriate measures for the concepts in question.

From a methodological point of view, MS/OR brings a rich scholarly history on multi-level, multi-echelon, multi-stage problems, as well as integrated production and distribution systems' analysis that could be readily applied to address interactions at all levels of SCM (Cachon and Netessine 2003; Kouvelis, Chambers, and Wang 2005). While these MS/OR advancements (i.e., optimization and simulation techniques) equip SCM with the potential to study multi-stage problems, it is crucial to ensure that these techniques are applied to solve "macro-oriented" problems. More specifically, it is essential for SCM scholars to apply the rich mix of optimization and simulation techniques to address the current landscape of SCM, thereby advancing the field both theoretically and practically (Bertrand and Fransoo 2002; Shafer and Smunt 2004).

PFP: Future SCM research should aspire to confirm the assumption common to current thinking that SCM theoretical evolution is directly applicable to its practice.

PFP: Incorporating theories, methods and measures which embrace SCM's extended levels will create a more robust perspective of SCM.

CONCLUSION

The birth and remarkable evolution of SCM in the last several decades has clearly been impactful. In particular, SCM’s relationship with multiple disciplines has similarly undergone significant development during that same timeframe. Specifically, purchasing, operations management, logistics and marketing channels have responded to both external and internal forces which have changed each of those disciplines. This essay has considered the new landscape which encompasses this evolution by our discussion of purchasing’s, operations management’s, logistics’ and marketing channels’ discipline-specific developments. The related insights and issues for SCM scholarship provide considerable topic matter for reflection. Such reflection enables us to summarize that future SCM research will involve: the exploration, discovery and resolution of its definition; the domain/scope of its research perspectives and topics of interest; its unit of and level of analysis; and its theory and methodology. Accordingly, there exist a number of significant research opportunities which can be impactful to SCM, and the consideration of relevant proposals such as those put forth in this essay suggest that scholars should look to the future with great encouragement.

NOTES


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1  “The Domain and Scope of SCM’s Foundational Disciplines—Insights and Issues to Advance Research”  
Robert Frankel, Yemisi A. Bolumole, Reham A. Eltantawy, Antony Paulraj, and Gregory T. Gundlach

The authors examine and take stock of the changing nature and landscape surrounding supply chain management, and the related disciplines of purchasing, operations management, logistics and marketing channels of distribution. They identify, describe and synthesize the nature of research in those academic disciplines that are identified to be some of the objectives with respect to supply chain management’s integration goals. Their examination highlights the considerable evolution and significant advances occurring within and among these disciplines. Additionally, they find this new landscape to provide both insights and issues for scholarship to those attempting to understand the evolving nature of supply chain management and its related fields. Such insights and issues suggest a number of proposals for progress with regard to SCM’s future development.

Key Words: Logistics; Marketing channels of distribution; Operations management; Purchasing; Supply chain management

31  “Supply Chain Management and its Relationship to Logistics, Marketing, Production, and Operations Management”  
John T. Mentzer, Theodore P. Stank, and Terry L. Exper

The renaming of the Council of Logistics Management (CLM) to the Council of Supply Chain Management Professionals (CSCMP) ushered in some interesting definitional dialogue and debate within the practitioner and academic communities. Inherent in emerging definitions is the notion that SCM encompasses activities traditionally considered aspects of production, logistics, marketing, and operations management. Defining SCM in such a broad scope (i.e., a “within” and “across” functions perspective), while considered by many scholars as the true representation of the essence of SCM, creates confusion regarding the appropriate organizational level within a business that is best suited for managerial decision making regarding the phenomenon. This paper contributes to the emerging SCM dialogue by highlighting the functional spaces (the “within” function perspective), relationships, and conceptual overlaps (the “across” functions perspective) between marketing, logistics, production, operations, and supply chain management. By comparing and contrasting the literature-based conceptual boundaries of each discipline, a framework is proposed that more clearly captures the essence of the SCM decision making sphere. Managerial insights and future research implications are presented.

Key Words: Logistics; Marketing; Operations management; Production; Supply chain management