

The changing landscape of supply chain management, marketing channels of distribution, logistics and purchasing

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Abstract

Purpose – The paper seeks to examine the changing landscape of supply chain management, marketing channels of distribution, logistics and purchasing.

Design/methodology/approach – The authors examine and take stock of the changing nature and landscape surrounding the related disciplines of supply chain management, marketing channels of distribution, logistics and purchasing. This examination highlights the considerable evolution and significant advances occurring within and between these disciplines.

Findings – The authors find that this new landscape provides both opportunities and challenges for future scholarship and practice in these related disciplines.

Originality/value – The examination and findings should be of value to those attempting to understand the evolving nature and interrelationship of these fields, and those who currently practise within them.

Keywords Supply chain management, Distribution channels and markets, Distribution management, Purchasing

Paper type Viewpoint

The last two decades have witnessed the development and continuing evolution of a number of related disciplines including supply chain management (SCM), marketing channels of distribution, logistics and purchasing. Reflective of both academic development and managerial innovation, advances occurring within these fields and across them have yielded considerable insights and furthered business knowledge and practice. At the same time, this evolution has fundamentally altered the scholarly landscape addressing these related fields and their managerial practice.

Examples of such changes include the increasing expansion and prominence of supply chain management as a field of inquiry and practice, its encompassment of logistics, the evolving sophistication and re-emergence of purchasing as a strategic function, and the increasing emphasis of relationships and dynamic considerations within marketing channels research and practice. In this essay, we examine and attempt to take stock of this new landscape to better understand the nature and interrelationship of these disciplines and the implications of changes occurring within and across them for scholarship and their consequences for practice. Our examination highlights the ongoing changes occurring in these fields, reveals insights regarding the nature of their inter-relationship, and points to a number of opportunities and implications for scholarship and practice.

Background

Drawing on selected literatures and with the intention of providing background (versus an in-depth review), we first overview accepted definitions and research topics of interest for each area, common units and levels of analysis applied to research, prevalent theories and methods for such research, and recent trends identified for both research and practice. Table I organizes our analysis framework and summarizes the key findings of this overview.

Supply chain and supply chain management

Definition

The supply chain is generally conceptualized as a network of companies from suppliers to end-users, which have with the intention of integrating supply/demand via coordinated company efforts. 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 during the late 1980s and the early 1990s reveals the interchangeable use of neologisms: logistics management, network sourcing, supplier-base reduction, and inter-organizational integration. 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, the Council of Supply Chain Management Professionals (CSCMP) announced a modified definition of SCM and a statement that clarified its scope and boundaries. CSCMP, formerly the Council of Logistics Management (CLM) and the National Council of Physical Distribution Management (NCPDM), was formed in 1963 with the objective to develop the theory and understanding of the supply chain processes and to foster professional dialogue and development in the field. Academic textbooks and researchers in the field of logistics and supply chain management typically

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Table I Analysis framework and summary of findings

Framework	Supply chain and supply chain management	Marketing channels and marketing channel management	Logistics and logistics management	Purchasing and purchasing management
Definitions	<p><i>Phenomenon:</i> The network of companies, or independent business units, from supplier to end-users</p> <p><i>Management:</i> Planning, coordinating and managing sourcing, procurement, conversion, and logistics through collaborating with channel partners</p>	<p><i>Phenomenon:</i> The set of interdependent organizations involved in the process of making a product or service available for use or consumption</p> <p><i>Management:</i> Planning, organizing, coordinating, directing and controlling efforts of channel members</p>	<p><i>Phenomenon:</i> Total inbound and outbound flow and storage of goods, services, and information with an emphasis on integration</p> <p><i>Management:</i> Planning, implementing and controlling; between the point of origin and consumption to meet customers' requirements</p>	<p><i>Phenomenon:</i> Requirement satisfaction</p> <p><i>Management:</i> The systematic process of deciding what, when, and how much to purchase and ensuring that what is required is received on time in the quantity and quality specified</p>
Topics of interest	<p>The managerial behavior and decisions essential to the development and functioning of a supply chain including: system integration, business process management, reengineering, and supplier/customer relationship management</p>	<p>The managerial behavior and decisions essential to the development and functioning of a marketing channel including channel structure, governance, and relationship management</p>	<p>The managerial behavior and decisions essential to obtaining the optimal flow and storage of goods and services including: physical distribution, materials handling, packaging, return goods handling, order processing and information systems, and customer service</p>	<p>The managerial decisions essential to obtaining the optimal flow of materials including: supplier management, development and integration and the optimization of individual firm purchasing performance</p>
Unit and level of analysis	<p><i>Unit:</i> Dyad to networks</p> <p><i>Level:</i> Tactical, operational, strategy and strategic</p>	<p><i>Unit:</i> Individual, dyad, networks and systems</p> <p><i>Level:</i> Tactical, operational, strategy and strategic</p>	<p><i>Unit:</i> Individual, dyad, and systems</p> <p><i>Level:</i> Operational, tactical, strategy and strategic</p>	<p><i>Unit:</i> Individual to dyad</p> <p><i>Level:</i> Tactical to strategic</p>
Theories and methodology	<p><i>Theories:</i> Marketing, industrial economics, organizational management and information technology theories, including transaction cost theory, knowledge and resource dependency theory, institutional theory, interdependence theory, relational contract theory, open systems, agency theory, and relational models theory</p> <p><i>Methodology:</i> Descriptive qualitative contextual approaches and analytical quantitative (deterministic stochastic) models</p>	<p><i>Theories:</i> Economics, sociology, psychology, marketing, strategic management, political economy, and life-cycle theories</p> <p><i>Methodology:</i> Descriptive, quasi-experimental and analytic (mathematical and empirical) models</p>	<p><i>Theories:</i> Economics, organizational strategy, and marketing theories including: transaction cost theory, resource-based theory, relational contracting theory dyadic coordination theory, systems theory and network theory</p> <p><i>Methodology:</i> Positivist, quantitative approaches, and interpretative, qualitative methods. Increasing use of case methods, and multi-method (triangulation) approaches</p>	<p><i>Theories:</i> Transaction cost theory, interdependence theory, management theory, decision theory, the resource-based theory of the firm, and gaming theory</p> <p><i>Methodology:</i> Descriptive, qualitative contextual approaches and analytical quantitative (mathematical and empirical) models</p>

adopt the CSCMP definitions. According to the CSCMP (see www.cscmp.org):

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.

This is a broader and more detailed definition of SCM than those put forward by researchers to date, some of which include:

The integration of key business processes from end user through original suppliers, that provides products, services, and information that add value for customers and other stakeholders (Croxtton *et al.*, 2001).

The systemic, strategic coordination of the traditional business functions and the tactics across these business functions within a particular company and across businesses within the supply chain, for the purposes of improving the long-term performance of the individual companies and the supply chain as a whole (Mentzer *et al.*, 2001, p. 18).

The efficient management of the end-to-end process of designing, planning and forecasting, sourcing through complex supplier networks, manufacturing, and distributing products from raw material to the end customer, and the final disposal of the product by the customer (Chan and Lee, 2005, p. 31).

The design and management of seamless, value-added processes across organizational boundaries to meet the real needs of the end customer (Institute of Supply Management, 2005).

Although differences exist in terms of the scope of SCM among these definitions, there are many commonalities. Each relies 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 value for the entire supply chain (Lambert *et al.*, 2005).

Domain of interest

In the early 1980s researchers focused on understanding the system integration of business processes throughout the supply chain. Emphasis was given to reengineering the chain in order to meet customer requirements and improve customer service (Lee *et al.*, 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.

During the late 1990s attempts were made to integrate different frameworks and views of SCM and, thereby, better define the domain of SCM. Since the late 1990s, several frameworks have been developed to guide research and practice, such as the Global Supply Chain Forum (GSCF) (Cooper *et al.*, 1997) framework, the Supply-Chain Operations References (SCOR) model (Supply-Chain Council, 2003), and Srivastava *et al.*'s (1999) business processes and shareholder value framework.

Today, according to Mills *et al.* (2004), research in the area of SCM has developed into two distinct streams:

- (1) descriptive research on industrial networks conducted by researchers from industrial marketing and purchasing; and
- (2) prescriptive research on supply chain management, based in the fields of strategic management, operations management and logistics.

This situation is not a perfect dichotomy, however, as researchers in each of these areas have carried out both, and other forms of research.

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 the field evolved in the late 1990s, the 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. During the 2000s, the systems approach has been used to provide a framework for understanding SCM. “This systems approach provides the framework in which to best respond to business requirements that otherwise would seem to be in conflict with each other” (Hugos, 2003). Current interest in differing units of analyses continues as SCM research aims to provide analytical depth and implementation models for SCM practice. Apart from differing units of analysis, SCM research has encompassed a range of analysis levels including tactical, operational, strategy and strategic orientations.

Theory and methodology

Because SCM is at the confluence of many other disciplines, drawing on these fields to inform its integrative philosophy, it necessarily incorporates the various concepts, theories and methods found in each of these other disciplines. These include concepts and theories from marketing (customer relationship management, buying strategies), industrial economics (make-or-buy, procurement, supplier/customer evaluation), operations management (inventory management, production planning), logistics (distribution planning, transportation management), international business and organizational management (teams and internal coordination, strategic issues, organization and procedure, partnering and strategic alliances), and information technology (electronic data interchange, online bidding, bar coding). Particular theories include transaction cost theory, knowledge and resource-based theories of the firm for example resource dependency theory, relational contract theory, institutional theory, open systems theory, agency theory, and relational models theory, to name a few.

As may be predicted, researchers have also drawn on various methodologies for examining SCM. These include qualitative, contextual, analytical, and quantitative approaches. A primary research focus in SCM has been to provide a widely accepted definition and model of management implementation. As a result, it is not uncommon to find the predominant use of exploratory research methods such as pilot surveys, literature review, and case studies.

Today, while some researchers still continue with the pursuit of a definitional consensus, others have followed a shift in SCM research emphasis to developing management models to guide SCM implementation (i.e. of relationships and alliances, customer/supplier segmentation, business process standardization, supply chain performance measurement).

Marketing channels and marketing channel management

Definition

The very earliest formal conceptions of marketing channels focused 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 (Coughlin *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 some scholars the institutional perspective of marketing channels and their management is giving way to a more customer-focused view of the channel (El-Ansary, 2005). 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.

Domain of interest

Consistent with the functional conception of marketing channels, early research in channels, circa the 1950s and 1960s (see Alderson, 1957), focused on identifying the various functions provided by marketing channels 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 the organization and ongoing management among these institutions. This research examines the managerial behavior and decisions essential to the development and functioning of a marketing channel.

According to Anderson and Coughlan (2002), important areas of research occupying the institutional domain of marketing channels include market channel structure, governance, and relationship management. As these scholars explain, 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, these areas have become a dominant focus of research under the institutional perspective.

Informal review 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 their interplay with supply chain processes and logistical functions, the

emergence of electronic (e.g. internet) channels of distribution, the nature, qualities and performance of inter-firm relationships, the governance of such relationships, the use of inter-firm influence and power, channel performance and the choice of channels by consumers among other topics.

Detailing scholarly contributions to the literature, Frazier (1999) reports that considerable progress has been made in our understanding of managerial behavior and decisions surrounding the development and functioning of a marketing channel. Frazier (1999, p. 226) notes for example that:

... 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 organization and management of channels of distribution have yet to be addressed in empirical channels research. Among those considered most important are:

- (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).

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 the domain of marketing channels research will further expand to include related topics of interest (El-Ansary, 2005).

Unit and level of analysis

Attendant to the functional perspective of marketing channels, early research adopted the channel system and its functions as its 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 (most often the manufacturer or "channel captain") perspective and their efforts at designing and managing the channel. Viewing the channel as most often dominated by the manufacturer and involving a strategic asset of the firm, inquiry focused on informing the question of what is the best marketing channel for a particular firm's product or service (Coughlin *et al.*, 2001).

As both the nature of marketing channels and research attempting to understand such a phenomenon has evolved, the unit and level of analysis adopted by researchers have similarly evolved. This evolution has led to current emphasis on dyadic relationships and emerging inquiry of triadic and larger network and system-based configurations of the channel and 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

In pursuit of insights and understanding, 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 to inform their understanding of such practices and phenomenon. 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; and
- 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).

Logistics and logistics management*Definition*

"Logistics" refers to the inbound and outbound flow and storage of goods, services, and information within and between organisations. As a managerial activity, early conceptions of logistics focused on its role in the distribution of products and as a way to support an organization's business strategy and to provide time and place utility. Prior to the 1980s, logistics was primarily concerned with the outbound flow of finished goods and services, with an emphasis on physical distribution and warehouse management. During the 1980s, industry globalization and transportation deregulation led to the expansion of logistics beyond outbound flows to include recognition of materials management and physical distribution as important elements. In 1986, the CLM (considered by many to be the pre-eminent professional organization for academics and practitioners in the logistics field) defined logistics 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" (see www.clm1.org). During the 1990s, accelerated market changes due to shrinking product lifecycles, demand for customization, responsiveness to demand, and increased reliance on information technology led to logistics being defined 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).

The 2000s experienced further changes to how logistics is defined. Developments in international trade, supply chain management, technology, and business process re-engineering generated a need to re-evaluate the logistics concept. During this period, CLM annually reviewed its definition of logistics and revised that definition several times: in 2001, CLM defined logistics 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". Between this time and before 2003, CLM again modified its definition to: "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" (see www.clm1.org). Differences among these definitions reflected the CLM's attempts to capture differences between, and the scopes of, logistics management and supply chain management.

The most recent definition of logistics from CLM (now the Council of Supply Chain Management Professionals – CSCMP), in 2003 is: "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" (see www.cscmp.org). Many academic textbooks and articles in the logistics discipline typically adopt this CSCMP definition of logistics and logistics management (as an example, see Stock and Lambert, 2001), while some more recent examples provide an alternative, albeit related definition – for example that “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 *et al.*, 2006, p. 22). Most definitions accept the notion that, as in the CLM definition, the emphasis is on leveraging low cost information against more expensive logistics assets such as inventory, warehousing, labor and transportation.

Domain of interest

Early logistics management research focused on the management of transportation and warehouses. Today, research in logistics addresses two aspects:

- (1) supply chain logistics, concerned with the flow of goods; and
- (2) service response logistics, concerned with the coordination of non-material activities necessary for the fulfillment of the service in a cost – and customer service – effective manner.

An informal review of research topics appearing in the *Journal of Business Logistics (JBL)* between 2000 and 2005 identifies traffic and transportation, warehousing and storage, inventory management, packaging and return goods handling, salvage and scrap disposal as key foci of supply chain logistics; and order processing and information systems, customer service and procurement as key foci of service response logistics. Over time, logistics research has evolved from a pure internal focus on cost control, and functional areas of inventory, transportation, warehousing and order processing to their role and impact within business process integration regarding suppliers and customers.

Unit and level of analysis

Historically, logistics research focused on the firm and its profitability. In the mid-1990s, recognition of the importance of dyadic relationships for achieving this objective emerged. With increasing emphasis on end-to-end logistics integration and the linkage of multiple dyads, the focus of logistics research further shifted in the 2000s to its present state and focus on the system as its primary unit of analysis.

Paralleling this broadening has been shifts in the level of analysis employed in logistics research, from a focus on the management of operations to optimizing logistics operations to attain efficiency of the flow of goods, and to service response logistics. Today, the scope of logistics management and research includes external and strategic orientations encompassing consideration of the value adding activities involved in the process of bringing a product to market.

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. Reflecting its evolution to include more systemic and strategic considerations, logistics has most recently begun to integrate systems and network theory.

Logistics research has also evolved in its use of research methods. 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 *et al.* (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, cases studies, experiments and content analysis. They identified a number of trends including the increasing use of case analysis, multi-method (triangulation) approaches and use of the internet for data collection.

The current state of logistics research reflects its evolution from an emphasis on operational and functional areas to an emphasis on the efficiencies that can be gained through the integration and interface(s) between disparate areas and other functional departments within the organization including manufacturing, human resources, finance/accounting, etc. Today, logistics research is responding to recent calls for measuring the performance of the logistics system and sub-systems and its implications for overall firm performance, especially with an emphasis on the efficiencies that can be gained from extending this functional integration through collaboration across the entire supply chain.

Purchasing and purchasing management

Definition

Purchasing involves the satisfaction of individual firms' requirements. Early definitions of purchasing emphasized the tactical and clerical decisions involved in the purchasing of products and supplies. During the 1990s purchasing evolved to be viewed as part of a broader function called 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 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 in the profession (Monczka *et al.*, 2002).

Today, many researchers are taking a broader view of purchasing that emphasizes “managing the supply” of materials, services, and information. Supply management research tends to focus on studying the phenomenon of purchasing defined as requirement (i.e. need) satisfaction. While there is no agreement on the exact definition and scope of supply, professionals at all levels do agree that supply is a series of linked relationships that add value at various levels (Kauffman, 2002). Supply management encompasses “organizing the optimal flow of high-quality, value-for-money materials or components to manufacturing companies from a suitable set of innovative suppliers”

(Wagner, 2003). Concepts of interest in supply management include management, development and integration of suppliers (Antonette *et al.*, 2002).

Domain of interest

Early research in purchasing focused on improving the internal efficiency of an individual firm within the supply network. Researchers focused on exploring the most efficient approaches to performing purchasing responsibilities in relation to: direct or strategic materials needed to produce the company's products, and indirect or MRO (maintenance, repair, and operations) products consumed by the company as part of its daily operations (Poirier, 1999).

From the late 1990s on, researchers took a broader view of purchasing. Emphasis was given to "managing the supply" of materials, services, and information and resulted in a shift from focus on internal efficiency to other long-term outcomes such as collaborative learning, reductions in cycle time, and new product development cycle. This emphasis extended into the use of the internet and technology developments and examining team driven decision-making, which fostered collaborative activities with suppliers aimed at meeting the goals of the firm (Giunipero and Handfield, 2004).

With the beginning of the 2000s, researchers began to realize the importance of coordinating the supply of products, services, and information rather than merely focusing on buying the least expensive materials. After reviewing the *Journal of Supply Chain Management* (JSCM, considered by many to be the leading journal in purchasing and supply research), Carter and Ellram (2003) reported several changes in the subject categories of topics across time that reflect the 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. Material requirements planning (MRP) 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. Almost all contributions dealing with supply chain issues were made after 1994, emphasizing the broadening and integration of purchasing into supply management and supply chain management. This also mirrors the general recognition of the supply chain concept by purchasing professionals and scholars (Carter and Ellram, 2003).

Unit and level of analysis

Early purchasing research emphasized the internal performance of individual firms' purchasing function as a unit of analysis and focused on the performance of the purchasing department, measured by 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, in the 1990s the unit of analysis expanded to include assessment of dyadic relationships. Emphasis on supply management during the 2000s motivated researchers to extend their unit of analysis to include second tier suppliers and to collect data from multiple sources in the same supply chain.

Expansion of the unit of analysis employed by researchers in purchasing has also been accompanied by changes in the level of analysis. Early research addressed purchasing in relation to its tactical/clerical role. During the 1970s and the 1980s purchasing was viewed as a non-strategic function and had less organizational status relative to other major functions in the firm (Ammer, 1989). The 1990s brought a change in the focus of purchasing to include strategic considerations with an emphasis on total cost savings and value-added activities (Burt and Pinkerton, 2003). Today, research on purchasing is beginning to examine the value of cooperation, redirecting the tactical focus on internal efficiency toward strategic network improvement, and soliciting the help of willing partners interested in building a dominant supply chain in a particular industry (Burt and Pinkerton, 2003).

Theory and methodology

Early research on purchasing utilized transaction cost theory to examine purchasing's contribution to internal efficiency, i.e. cost savings attained by reducing raw materials costs and selecting suppliers that offer the lowest prices, within a firm's boundaries. From that time, purchasing/supply researchers have incorporated other theories including interdependence theory to explore dyadic considerations between purchasers and 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.

During the early 1990s, typically, purchasing/supply research relied upon descriptive methods with the objective of identifying best practices and assisting purchasing professionals in their benchmarking efforts. Although descriptive and benchmarking research is still widely used today, researchers from the 1990s onwards employed a variety of methods and modeling techniques ranging from qualitative contextual approaches to analytical quantitative ones.

Today, the most influential trend on purchasing/supply research is the emergence of SCM (Carter and Narasimhan, 1996). SCM denotes the integration of purchasing and supply with other functions in the firm (Wisner and Tan, 2000). With the realization of the importance of coordinating the supply of products, services, and information with the other functions, rather than focusing on buying the least expensive materials, most purchasing researchers' attention shifted from "purchasing" to "supply management". Terms such as "integrated purchasing strategy" are being used in the literature today to address certain elements or stages of this new management philosophy (i.e. SCM). Many researchers today assess purchasing and supply strategies' contribution on the basis of their contributions to SCM success (Wisner and Tan, 2000).

Analysis and discussion

Our overview of the related disciplines of supply chain management, marketing channels of distribution, logistics and purchasing highlights significant developments and changes occurring in these fields reveals insights regarding the relationship among them and points to a number of opportunities and challenges for scholarship and attendant consequences for practice. We briefly describe key findings here.

Key developments and changes

A number of significant developments and changes that have the potential of impacting scholarship and practice within each of the disciplines are identifiable from our examination.

Supply chain and supply chain management

Perhaps the most prominent of these involves the rapid development and evolution of the field of SCM. Arising in the mid-1980s, the field has expanded through its process orientation to integrate processes and functions which include institutional concepts and issues addressed in marketing channels, flows common to logistics and activities previously the domain of purchasing. Importantly, while these fields remain vital in their own right, the emergence and development of SCM has yielded an overarching domain that aspires to provide for their common integration and coordination in ways not imagined before.

As a discipline, SCM continues to become increasingly market oriented, assessing and responding to the needs of target customers and other stakeholders by organizing and coordinating resources and activities with the goal of creating value. Such an evolution reflects the natural maturation of the field's original goals.

At the same time, a considerable lack of consensus continues to exist within the field of SCM in relation to its precise definition and whether the field constitutes a management philosophy, implementation of a management philosophy, or a set of management processes. Such confusion should not be unexpected given the field's early stage of development and rapid evolution and will likely be resolved over time both in terms of scholarship and practice.

Marketing channels and marketing channel management

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 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 expansion of marketing channel concepts and theory from that which is informative to understanding 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, the changes and developments in marketing channels represent considerable progress in understanding the institutions and functioning of marketing channels and marketing channel management. As a result, these changes will likely enable the field to better understand and explain phenomenon occurring within marketing channels of distribution.

Logistics and logistics management

The field of logistics has also undergone important developments and changes that are likely to be impactful to scholarship and practice. Reflecting its independent origin yet subsequent importance and association with SCM, the field has redefined itself over time to both conceive of logistics as part of SCM, but also an independent function of broadening and strategic importance to the firm. 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 of logistics itself. Together, these developments and changes represent important advances for the field that will likely pay dividends through elevating our understanding of logistics and enhancing the development of SCM both in terms of scholarship and practice.

Purchasing and purchasing management

Finally, important changes in the field of purchasing that are likely to impact scholarship and practice include its evolution from a tactical and internal efficiency oriented function encompassing the firm and its immediate suppliers to include strategic and external effectiveness based considerations encompassing the firm and the larger network of firms occupying the value chain. These changes reflect both the independent development of the field and the impact of SCM and are captured in the evolution of terminology describing the field.

Consequently, the broadening of the discipline of purchasing implies a greater emphasis on the implications of purchasing decisions on firm and supply chain performance. Today, effective purchasing is not necessarily one that promises maximum efficiency or least total cost, but rather one that fits the needs of the business and strives for consistency between its capabilities and the competitive advantage being sought throughout the supply chain. These developments and changes reflect advances that are likely to enhance the role and prominence of purchasing in both scholarship and practice.

Connections across the disciplines

Taken together, recognition of the important changes and developments in each of the disciplines helps to provide insights for understanding how these disciplines relate to one another including their similarities and distinctions. Notable in this regard is how some recent conceptions of SCM inform this understanding through defining marketing channels, logistics and purchasing as part of SCM. For example, SCM is defined by CSCMP to "include coordination and collaboration with channel partners" – a key thrust of marketing channel management and to "include [as a part of SCM] all logistics management activities" and further in relation to purchasing, "all activities involved in [...] procurement". Further credence to this conception is provided through logistics definitions that conceive of the field of logistics as "part of the supply chain" and its management.

The basis for including marketing channels, logistics and purchasing as part of SCM likely extends from SCM's integrative orientation and therefore necessarily expansive scope compared to the more functional orientation and narrower breadth of these related disciplines. Integrating such

functions across the supply chain is an important and useful goal. Of note, however, is that some more recent conceptions of SCM are not limited to merely the integration of these functional areas. For example, read literally, the recent CSCMP definition advances beyond integration to include the actual “planning” and “management” of these functions as well as other business processes across the supply chain.

What implications attend a conception of SCM as including, beyond its integrative orientation, the actual planning and management of the functional domains of marketing channels, logistics and purchasing? What consequences result for scholarship and practice within SCM? Within each of the functional domains? The answers to such questions appear more than academic given they are currently under consideration by those within the field of SCM. The *Journal of Business Logistics* (2006), for example, in recognition of the intense and continuing interest in SCM for two decades, but still remaining “uncertainty as to what SCM is and what functions and/or processes should be included within it”, recently issued a call for a special issue of the journal to “document and describe the scope and domain of supply chain management”. The insights and understanding developed from such an effort and others is likely to be important to both SCM and its related fields.

For those who might be concerned with the breadth and depth of intellectual and practice-based aspirations reflected by CSCMP’s conception of the SCM discipline, a helpful distinction is that SCM’s larger philosophy has been suggested by others to be limited to the integration and coordination of the respective disciplines it embraces rather than their more specific planning and management (Mentzer *et al.*, 2001; Chan and Lee, 2005; Croxton *et al.*, 2001). These distinctions have also been addressed by others. For example, the alternative perspectives represented in the different viewpoints of CSCMP and others has been labeled by Larson and Halldorsson (2002) as reflecting the “Unionist” versus the “Intersectionist” view of SCM. According to Larson and Halldorsson (2002), under the “Unionist” view, where SCM subsumes logistics, marketing, operations management, purchasing, etc., supply chain managers have greater decision making authority than other functional managers, requiring that the reporting relationships within the firm be altered. This view is generally consistent with the perspective offered by the CSCMP through its definition of SCM. Alternately, according to Larson and Halldorsson (2002), under the “Intersectionist” view, SCM is considered a broad strategy which cuts across business processes both within the firm and through the channels. This view is generally consistent with Mentzer *et al.*’s (2001) perspective that supply chain management involves the strategic coordination of traditional business functions and the tactics across these business functions as well as Croxton *et al.*’s (2001) perspective that supply chain management involves a change from managing individual functions to integrating activities into key supply chain processes. In this fashion, the intersectionist perspective of SCM does not imply a union of marketing, logistics, and purchasing. Rather, under such a perspective SCM coordinates cross-functional efforts across multiple firms (Mentzer *et al.*, 2001; Chan and Lee, 2005).

Importantly, for both perspectives most agree that SCM is critically dependent on the depth of understanding and managerial insights developed in each of the functional

disciplines for achieving its goals. Such knowledge is essential for overcoming hurdles to achieving SCM’s goals. For example, observers have noted that such goals are often countered by conflict and individual firm’s efforts to maximize their own performance through exercise of power and control and the use of opportunistic business practices. Such behavior and its resolution is at the core of research efforts within marketing channels. Integration and reliance on such knowledge should be helpful to SCM in overcoming such challenges. Indeed, absent such reliance and continued development of other insights within the individual disciplines of relevance to SCM, it will likely be challenging for the expansive and worthy goals of SCM to be fully achieved.

Opportunities and challenges for scholarship

Examination and assessment of the developments and changes occurring in SCM, marketing channels of distribution, logistics and purchasing also reveals a number of implications for scholarship. These include both opportunities and challenges for research (i.e. knowledge generation) as well as teaching and instruction (i.e. knowledge dissemination) within and across the fields.

Research

Of particular note for research are the increasing overlaps in definitions and topics of interest that have developed over time across these disciplines. For example, both SCM and marketing channels identify and specify the coordination and collaboration of channel partners as a topic of interest, although from different vantage points and applying varying methods and theories. Further, SCM specifically identifies the field of logistics as encompassed in its domain of interest. Similar observations and overlaps are present and attend the relationship of purchasing and SCM.

Accepting differences in perspective and orientation, the presence of such overlaps yield significant opportunities for interdisciplinary research and development. In some instances such cross-disciplinary efforts have already been identified and are currently being explored to a considerable extent (e.g. SCM/logistics) and in other instances to a somewhat lesser extent (e.g. SCM/purchasing). In both cases, continued across disciplinary efforts are likely to prove fruitful.

In other areas (e.g. SCM and marketing and marketing channels as well as other functional areas) such integration remains a continued opportunity. For example, Grimm (2004, p. 59) points out:

While many academic disciplines are conducting research in supply chain, there is an unfortunate lack of communication and cooperation amongst the various disciplines regarding supply chain research. [...] This is unfortunate, as each field offers contributions to the whole of the cross-disciplinary world of supply chain management.

With particular respect to SCM and marketing, the evolution of SCM to focus on end-user considerations overlaps with core marketing concepts including the marketing concept and market orientation. Further development and integration of these fundamental insights both within and across each discipline is likely to be beneficial to both. In addition, in relation to marketing channel management and SCM, development and integration of insights regarding the coordination and collaboration of channel partners has the potential of furthering understanding of such phenomenon in ways that elevate the efficiency and effectiveness of managerial initiatives in both SCM and marketing channels.

Teaching and instruction

In addition to research, implications for instruction and teaching, including curriculum enhancement, extend from the changes and developments occurring within and across the disciplines of SCM, marketing channels, logistics and purchasing. Many of these implications may be cast as questions for consideration and contemplation by those involved in such efforts.

Of first impression is whether existing curricula adequately cover the changes and developments that are occurring within these subject areas? Although programs designed to instill knowledge of many of the specific functions (e.g. logistics, marketing channels, etc.) may be identified, is the content in these curricula adequate given the changes and developments that have occurred within these disciplines? Do such curricula require amendment to adequately address these changes and developments?

A further question is whether existing curricula should be integrated to cover and bridge these related disciplines? Do existing curricula adequately cover the subject knowledge that has developed over time and currently resides within and across these related disciplines? Should they? What challenges result in attempting to develop such an integrative curriculum? What content should be included? Excluded?

A related question regards how curricula intended to cover and bridge these subjects should be labeled? Given the integrative goals of SCM, should such curricula be labeled similarly and include content on the functional areas? Alternately, given the functional orientation of marketing channels, logistics and purchasing, should such labels remain with the addition of SCM as a kind of capstone perspective intended to provide students with insights and understanding (if not a philosophy) of how such functions can be successfully integrated to achieve optimal performance across the supply chain? Or should such a philosophic orientation as provided through SCM be positioned as a foundation course, with those functions that it coordinates being positioned as elements to be embraced and added as courses over time? At present, both pedagogical approaches may be found currently in practice (or under consideration) at many institutions where consideration is being given to how best to include supply chain management in their curricula (Rutner and Fawcett, 2005).

Finally, a larger question regards how other business functions should be treated with respect to the changes and developments that have occurred within and across these related disciplines? Overall, the challenge for educational institutions is to expand their perspective while at the same time improving the relevance and quality of their offerings. In this regard, it is important that these and other questions be approached following an integrative process-oriented pedagogy that provides ample opportunity for the input and participation of relevant stakeholders.

Consequences for practice

Together with the implications for scholarship, important consequences for practice extend from the changes and developments occurring within and across the related fields of supply chain management, marketing channels of distribution, logistics and purchasing and their interconnections. Many of these parallel those already discussed. For example, although the practice of SCM has been adopted and progressed in many organizations, given its

rapid emergence, other organizations have yet to benefit from its application. At the same time, lack of consensus about what SCM is and what it is not likely has resulted in confusion and in some instances inhibited its adoption its adoption in ways that provide benefits to practice.

Other parallels are also identifiable. For example, the shift in focus from competitive to collaborative interaction in marketing and marketing channel management is detectable in many aspects of marketing channel practice ranging from the increasing prevalence of institutions such as joint ventures, strategic alliances, and partnerships to the nature of interactions that may be found in many day-to-day channel exchanges. Similarly, the integration of logistics into SCM is also identifiable in many organizations. Finally, the evolution and broadening of purchasing to include strategic and external effectiveness considerations may be found in some organizations.

Also paralleling changes and developments within each of the areas of SCM, marketing channel, logistics and purchasing management is consideration by many organizations of how best to go about the managerial challenges of practising across these related areas. While some organizations continue to work on them, others have successfully met the challenges of understanding and integrating these related disciplines to their overall benefit. For example, although very different retailers, Wal-Mart and Target have been able to achieve profitable sales, increase customer count, increase trip frequencies, increase transaction size, increase productivity; and reduce costs by aligning and focusing all marketing (including marketing channels), purchasing and logistics functions on achieving their overall supply chain goals (Hoyt and Company, 2005).

Conclusion

The related disciplines of supply chain management, marketing channels of distribution, logistics and purchasing have undergone significant development and evolution in the last two decades. Spurred by both external and internal forces, changes in and across these disciplines have fundamentally altered the scholarly landscape to which they relate and the way in which they are practiced. This essay sought to examine and take stock of this new landscape and to reveal its opportunities and challenges for scholarship and its consequences for practice.

References

- Alderson, W. (1957), *Marketing Behavior and Executive Action*, Irwin, Homewood, IL.
- Ammer, D.S. (1989), "Top management's view of the purchasing function", *Journal of Purchasing and Materials Management*, Vol. 25 No. 3, pp. 16-21.
- Anderson, E. and Coughlan, A.T. (2002), "A channel management: structure, governance and relationship management", in Weitz, B.A. and Wensley, R. (Eds), *Handbook of Marketing*, Sage Publications, London, pp. 224-47.
- Antonette, G., Giunipero, L.C. and Sawchuk, C. (2002), *E-Purchasing Plus: Transforming Supply Management through Technology*, JGC Enterprises, Goshen, NY.

- Bowersox, D.J., Closs, D.J. and Bixby Cooper, M. (2006), *Supply Chain Logistics Management*, 2nd ed., McGraw-Hill/Irwin, New York, NY.
- Burt, D.N. and Pinkerton, R.L. (2003), *A Purchasing Manager's Guide to Strategic Proactive Procurement*, AMACOM Books, New York, NY.
- Carter, J.R. and Narasimhan, R. (1996), "A comparison of North American and European future purchasing trends", *International Journal of Purchasing and Materials Management*, Vol. 32 No. 2, pp. 12-23.
- Chan, C.-K. and Lee, H.W.J. (2005), *Successful Strategies in Supply Chain Management*, Idea Group Publishing, Hershey, PA.
- Christopher, M.G. (1998), *Logistics and Supply Chain Management: Strategies for Reducing Costs and Improving Services*, 2nd ed., FT Pitman Publishing, London.
- Cooper, M.C., Lambert, D.M. and Pagh, J.D. (1997), "Supply chain management – more than a new name for logistics", *International Journal of Logistics Management*, Vol. 8 No. 1, pp. 1-13.
- Coughlin, A.T., Anderson, E., Stern, L.W. and El-Ansary, A.I. (2001), *Marketing Channels*, Prentice-Hall, Upper Saddle River, NJ.
- Croxton, K.L., Garcia-Dastugue, S.J., Lambert, D.M. and Rogers, D.S. (2001), "The supply chain management processes", *International Journal of Logistics Management*, Vol. 12 No. 2, pp. 13-36.
- El-Ansary, A. (2005), Interview, October 12, Jacksonville, FL.
- Frankel, R., Naslund, D. and Bolumole, Y. (2005), "The 'white space' of logistics research: a look at the role of methods usage", *Journal of Business Logistics*, Vol. 26 No. 2, pp. 185-209.
- Frazier, G.L. (1999), "Organizing and managing channels of distribution", *Journal of the Academy of Marketing Science*, Vol. 27 No. 2, pp. 226-40.
- Giunipero, L.C. and Handfield, R.B. (2004), *Purchasing and Education Training II*, Center for Advanced Purchasing Studies, CAPS Research, Tempe, AZ.
- Grimm, C.M. (2004), "The practice of supply chain management: where theory and application converge", *Transportation Journal*, Vol. 43 No. 2, pp. 59-60.
- Hoyt and Company (2005), "What's leading edge with today's leading mass volume retailers?", available at: www.hoytnet.com/HTMLobj-315/ALA2005R3-FINAL_with_Pics_March_8_2005.ppt
- Hugos, M.H. (2003), *Essentials of Supply Chain Management*, Wiley, Hoboken, NJ.
- Institute of Supply Management (2005), available at: www.ism.ws/AboutISM/MediaRoom/KeySupplyMgmtTerms.cfm?hist=1#identification
- Journal of Business Logistics* (2006), available at: www.cscmp.org/Website/Resources/JBL_Public.asp
- Kauffman, R.G. (2002), "Supply management: what's in a name? Or, do we know who we are?", *Journal of Supply Chain Management*, Vol. 38 No. 4, pp. 46-52.
- Lambert, D.M., Garcia-Dastugue, S.J. and Croxton, K.L. (2005), "An evaluation of process-oriented supply chain management frameworks", *Journal of Business Logistics*, Vol. 26 No. 1, pp. 25-51.
- Larson, P. and Halldorsson, A. (2002), "What is SCM? And, where is it?", *Journal of Supply Chain Management*, Vol. 38 No. 4, pp. 36-46.
- Lee, H.L., Padmanabhan, V. and Whang, S. (1997), "Information distortion in a supply chain: the bullwhip effect", *Management Science*, Vol. 43 No. 4, p. 546.
- Mentzer, J.T., DeWitt, W., Keebler, J.S., Min, S., Nix, N.W., Smith, C.D. and Zacharia, Z.G. (2001), "Defining supply chain management", *Journal of Business Logistics*, Vol. 22 No. 2, pp. 18-31.
- Mills, J., Schmitz, J. and Frizelle, G. (2004), "A strategic review of supply networks", *International Journal of Operations & Production Management*, Vol. 24 Nos 9/10, pp. 1012-22.
- Monczka, R., Trent, R. and Handfield, R. (2002), *Purchasing and Supply Chain Management*, 3rd ed., Southwestern College Publishing, Cincinnati, OH.
- Oliver, R.K. and Webber, M.D. (1982), "Supply-chain management: logistics catches up with strategy", in Christopher, M.G. (Ed.), *Logistics, The Strategic Issue*, Chapman & Hall, London.
- Poirier, C.C. (1999), *Advanced Supply Chain Management: How to Build a Sustained Competitive Advantage*, Berrett-Koehler, San Francisco, CA.
- Rogers, D.S. and Leuschner, R. (2004), "Supply chain management: retrospective and prospective", *Journal of Marketing Theory and Practice*, Vol. 12 No. 4, pp. 60-7.
- Rutner, S.M. and Fawcett, S.E. (2005), "The state of supply chain education", *Supply Chain Management Review*, Vol. 9 No. 6, pp. 55-60.
- Srivastava, R.K., Shervani, T.A. and Fahey, L. (1999), "Marketing, business processes, and shareholder value: an organizationally embedded view of marketing activities and the discipline of marketing", *Journal of Marketing*, Vol. 63 No. 4, pp. 168-79.
- Stock, J.R. (1995), "Advancing logistics research and thought through the borrowing of theories from other disciplines", *Proceedings of the 24th Annual Transportation and Logistics Educators Conference, San Diego, CA*, pp. 181-215.
- Stock, J.R. and Lambert, D.M. (2001), *Strategic Logistics Management*, 4th ed., McGraw-Hill/Irwin, New York, NY.
- Supply-Chain Council (2003), "Supply-Chain Operations Reference-model. Overview of SCOR Version 6.0", Supply-Chain Council, Washington, DC.
- Wagner, S.M. (2003), "Intensity and managerial scope of supplier integration", *Journal of Supply Chain Management*, Vol. 39 No. 4, pp. 4-13.
- Wisner, J.D.K. and Tan, C. (2000), "Supply chain management and its impact on purchasing", *Journal of Supply Chain Management*, Vol. 36 No. 4, pp. 33-45.

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