A Typology of Supply Chain Management Strategies*

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Abstract

In this research, we seek to create a typology of supply chain management strategies. To pursue this objective, we used the notion of "alignment" between corporate level strategy and functional level strategy as the theoretical background or research framework. From the research framework, we suggest a set of SCM strategy typologies, and discuss the relevance of these SCM strategy typologies to SCM literature.By exploring the relationship between corporate initiatives and functional initiatives of SCM, this research provides some insight into how SCMstrategies can be developed to create competitive advantage. This brings out the academic and practical value of the SCM strategy typologies this paper suggests.

Key Words: Supply Chain Management Strategy Typology, Corporate Level Strategy, Functional Level Strategy

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Ⅰ. Introduction

In response to intense global competition and shrinking product life cycles, organizations have downsized to focus on core competencies and have attempted to achieve competitive advantage by forming mutually beneficial relationship with suppliers to capitalize on their capabilities and technology. Supply chain management (SCM) evolved when firms entered into strategic buyer-supplier alliances, and integrated their distribution and transportation activities with logistics providers. However, while many companies have implemented some SCM practices and others have claimed that they used supply chain integration strategies, there isno consensus as to what these terms mean. While recent academic and practitioner journals are replete with articles on SCM and/or supply chain integration strategies, researchers have not attempted to create a typology of supply chain strategies and relate them to a firm's performance.

Kaufman et al. (2000) commented on the absence of a typology of SCM strategies and the need for it in reviewing Clark and Fujimoto's (1991) study, which classified original equipment manufacturer (OEM) suppliers by the auto industry's product development process. They stressed that, though useful, Clark and Fujimoto's work(1991) has three weaknesses: (1) it simplified the supply chain as the only link between the OEM and a supplier; (2) it excluded small and medium sized manufacturers as active participants in the process; and (3) it merely provided a skeletal taxonomy of strategies for these manufacturers rather than a systematic typology. A *taxonomy*, without defining ideal type, attempts to classify firms into mutually exclusive and exhaustive groups (Mckelvey 1982, Miller and Friesen 1984, Doty and Glick 1994, Bozarth and McDermott 1998). A *typology*describes ideal types, each of which reflects a particular combination of organizational attributes (Doty and Glick 1994), although no existing firms may fit exactly the suggested ideal type (Venkatraman 1989, Venkatraman and Prescott 1990, Bozarth and McDermott 1998). These unambiguous definitions of taxonomy and typology buttress, the argument of Kaufman et al. (2000), in that

they imply that taxonomies using a set of variables resulting in theoretically unjustified clusters or groups, may not reflect practicable internal or environmental managerial characteristics that can be employed by firms.

While businesses realize the strategic roles of manufacturing, finance and marketing in corporate success, the focus of SCM is rarely strategic. Even if top-level managers understand the importance of SCM strategy and pursue strategic SCM, they may not clearly recognize how the firm's SCM strategy can be distinguished from its marketing and manufacturing strategies. This tendency to exclude SCM from the strategic debate coupled with unclear understanding of SCM strategy may cause firms to miss exploitable opportunities to increase competitive disadvantage(Stevens 1989, 1990). These arguments underscore the need for creating a rigorous typology of supply chain strategies and examine their relevance to performance improvement.

Good typologies should have three main characteristics (Bozarth and McDermott 1998). First, typologies should be based on a generalizable, supported theory relevant to the suggestion of specific types (Doty and Glick 1994). Second, good typologies should define unidimensional constructs, which represent typical theoretical assertions (Miller 1996). Third, it should be possible to empirically test whether the suggested typologies result in significant organizational effectiveness. The primary objective of this research effort was to create and describe a typology of SCM strategy. To pursue this objective, we used the notion of "alignment" between corporate level strategy and functional level strategy as the theoretical background or research framework. A related objective of this research was to suggest an empirical framework for investigating the relationship of the proposed SCM strategy types to performance. We also discuss the relevance of these SCM strategy typologies to SCM literature.

II. Literature Review

1. The Importance of Alignment between Corporate and Functional SCM Initiatives

The dynamic nature of today's markets and competition placesa premium on a

firm's ability to anticipate and respond swiftly to changing customer needs, competitive pressures and technologies. Recently, much attention has been given to determining the competitive importance of SCM. The experience of firms in the past two decades and an increasing body of literature on SCM effectiveness have shown that when it is viewed strategically and managed effectively as a competitive weapon, SCM can have a dramatic effect on firm profitability (Carter and Narasimhan 1996).

In the intensely competitive global environment in which firms operate today, developing a successful supply chain strategy is critical to a firm's long-term competitive success. A firm's supply chain strategy is closely related to its operations strategy encompassing decisions pertaining to sourcing, value partitioning, managing material flows, transformation, distribution, supplier relations management, and logistics.

Supply chain strategy can be viewed as the pattern of decisions related to sourcing products, capacity planning, conversion and distribution of finished product, demand management, communication, and delivery. Since these are key business processes involved in producing a company's product or service, it is important to link supply chain strategy to the overall business strategy. A firm must develop strategic objectives for managing the supply chain based on overall corporate objectives. Based on these high level objectives, a set of detailed operations objectives can be developed for each process within the supply chain (Lummus et al. 1998). This cascadingstrategy serves to integrate the supply chain processes with the overall direction of the enterprise and provides measures for monitoring and execution. Prior research has recognized the importance of SCM in formulating corporate level strategies. For example, Reck and Long (1998) proposed a four-stage model to describe purchasing's strategic contribution to corporate competitiveness. Freeman and Cavinato (1990) also proposed their own four-stage model for fitting SCM into the strategic objectives of the firm: financial planning, forecast-based planning, externally oriented planning, and strategic management. Although these conceptual works failed to bring out the

role of SCM in specific terms, they were useful in linking SCM with the firm's strategic process. The discrete planning stages that these articles have suggested are relevant to the development of strategic SCM.

Recently, there has been a gradual shift in the role of SCM from a tactical to strategic role. The emerging strategic role of SCM necessitates thinking in terms of the potential strategic implications of SCM decisions and practices, and interacting with other functional areas routinely to develop coherent and integrated strategies. In order to vindicate this move from a tactical to a strategic role, SCM must shift its focus from transactional efficiency to strategic effectiveness. To be effective, it must reflect a better understanding of the relationships among SCM practices, supply chain strategies and corporate objectives (Narasimhan and Carter 1998).

In spite of these recent developments, viewing SCM strategy as a functional strategy continues to be a valid and relevant perspective. SCM strategy could be viewed, albeit in a narrow perspective, as the pattern of decisions related to acquisition of required materials and services to support the operational activities of a firm consistent with the overall corporate competitive strategy. Thus SCM strategy could be viewed as part of a hierarchical chain of strategies ranging from corporate strategy to business unit strategy, and to functional level strategies. In this perspective, functional level strategies and capabilities, including SCM strategy should be consistent and aligned with corporate level strategy. Robeson and Copacino (1994) recognized these arguments. In addressing the strategic meaning of SCM strategy they stated: "Effective corporate strategy requires dynamic balance from very specific functional items to large-scale issues. Because SCM is related to all of major functions within a firm, the maintenance of such balance is more significant." These arguments imply that the dual roles of SCM strategy as corporate and functional strategies must be appropriately recognized by firms to achieve sustainable supply chain competitiveness. Varadarajan and Jayachandran (1999) also emphasized that corporate strategy and functional strategy should interact to form the competitive advantage of individual

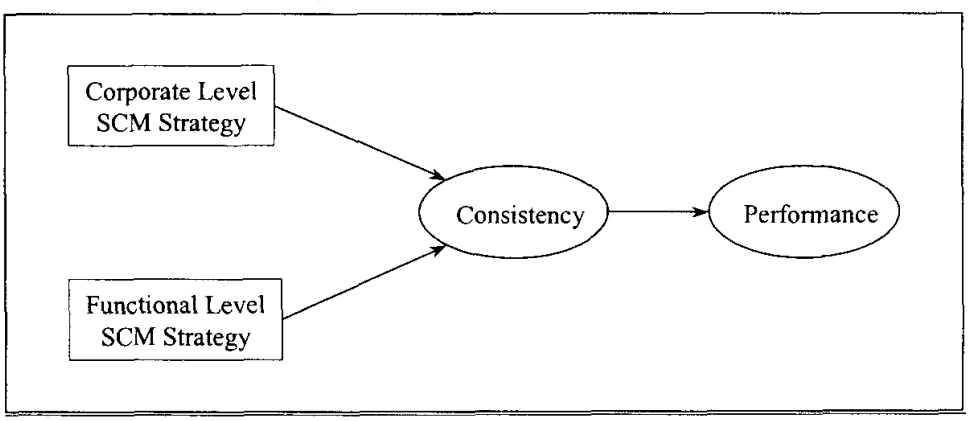
businesses in a firm's portfolio, and decide the extentto which a particular business can acquire and sustain a competitive advantage.

Strategic management literature has long stressed the importance of linkage-between corporate level and functional level strategies for corporate performance. Research has shown that firms operating in the same market segment following similar strategies could have dramatically different levels of performance (Cool and Schendel 1988; Lawless et al. 1989; Klassen and McLaughlin 1996), which could be explained by differences in functional level capabilities and strategies. In other words, significant differences in capabilities and resource allocations could exist across individual companies pursuing the same strategies, and such differences might have a critical effect on corporate performance (Narasimhan et al. 2001). Succinctly stated, "poor" consistency between corporate level and functional level strategies might lead to inferior corporate performance, and "good" consistency might lead to superior corporate performance (Narasimhan and Carter 1998).

Recognizing the importance of such consistency in overall corporate performance, most progressive firms have started to pay close attention to the effect of functional level supply chain capabilities on corporate performance and have attempted to reflect this effect while formulating corporate level supply chain strategy. The dynamic nature of today's market environment makes this task difficult. If corporate level strategy does not reflect the dynamic market environment well, or the functional strategies do not support corporate level strategy, supply chain strategy is less likely to succeed. Accordingly, functional level supply chain strategy must be internally consistent with other functional and corporate strategies and externally with suppliers' capabilities. In the process of formulating functional level supply chain strategy, a firm must first assess the internal and external factors that contribute to or limit its potential for competitive success. These assessments relating to internal and external factors provide the basic information needed to develop its supply chain strategy and future developmental efforts or programs.

This review of the literature suggests that preferredset of supply chain strategies can be derived by appropriately linking corporate level initiatives and functional level initiatives encompassing internal operating factors and inter-organizational factors related to supplier and customer relationships. It is hypothesized that this linkage has a crucial impact on corporate performance. The discussion thus far leads us to posit the conceptual framework shown in 〈Figure 1〉. It recognizes the dual roles of SCM strategy. These are distinguished in the research framework by the labels corporate level SCM and functional level SCM strategies. It is hypothesized that higher consistency and alignment between functional and corporate level SCM strategies will lead to higher levels of performance than when the consistency is either lower or absent.

〈Figure 1〉 Conceptual Framework



The principal objectives of the above conceptual framework are:

1) to identify a core set of SCM initiatives at the corporate and functional levels.
2) to investigate whether there are consistent set of initiatives at the corporate and functional levels that lead to superior performance; and
3) to identify a SCM strategy typology based on those core set of SCM initiatives using empirical data.

2. The Kinds of SCM Initiatives

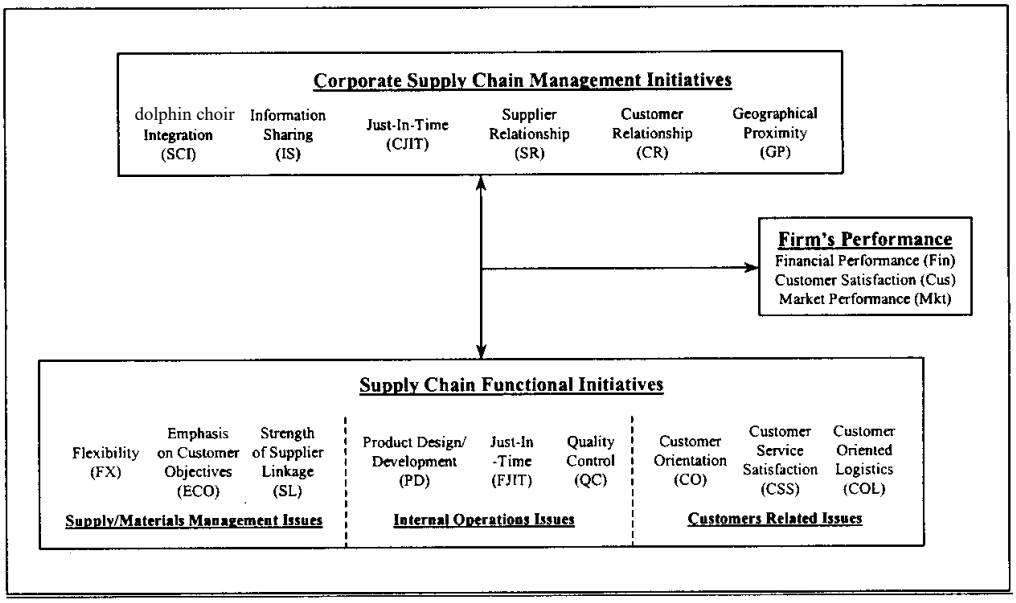
Despite the popularity of SCM, there exists no practical, explicit, widely accepted description of SCM or its activities. Conceptually, SCM includes all value-adding activities from the extraction of raw materials through the transformation processes and through delivery to the end user. The SCM philosophy expands the internally focused integrating activities of logistics by bringing multiple organizations along the supply chain together with the common goals of efficency and end-customer satisfaction (Harwick 1997). Thus, SCM integrates a number of key functions, including purchasing, demand management, distribution planning, quality management, manufacturing planning, and materials management, throughout the supply chain. Terms such as integrated purchasing strategy, integrated logistics, supplier integration, value chain management, supply base management, strategic supplier alliances, lean production, Just-In-Time logistics, and supply chain synchronization have been used in the literature to address certain elements or stages of this new management philosophy (Tan et al. 1998 La Londe and Masters 1994).

While the long-term strategic goal of SCM is to increase customer satisfaction, market share, and profits for all members of the virtual organization, the short-term objective is to increase productivity and reduce inventory and cycle time (Tan et al., 1998). This narrower definition of SCM objectiveinvolves the integration of the various functional areas within an organization to enhance the flow of goods from immediate strategic suppliers through the manufacturing and distribution chain to the end users (Houlihan 1987, 1988). Specifically, many manufacturers and merchants have embraced the concept of supply chain management to improve product development, quality and delivery goals, and to eliminate waste. It has enabled firms to exploit supplier strengths and technologies to support new product development efforts (Morgan and Monczka, 1995), and seamlessly integrate logistics functions with transportation partners to deliver directly to the point of use. That is, emphasizing internal competencies requires greater reliance on external suppliers to support non-core requirements,

particularly in design and engineering support (Prahalad and Hamel 1990). The literature indicates that buying firms are developing cooperative, mutually beneficial relationships with suppliers and viewing suppliers as virtual extensions of their firm (Mason 1996; Copacino 1996). Superior supplier capability can lead to exceptional quality or rapid integration of the latest technological breakthroughs into the buying firm's own products through early supplier involvement (Ragatz et al. 1997). Suppliers may also participate earlier in the product design process to render more cost-effective design choices, develop alternative conceptual solutions, select the best components and technologies, and help in design assessment (Monczka et al. 1994; Burt and Soukup 1985).

The transportation and logistics functions of the retailing industry focus on customer relations which is a different aspect of supply chain management, that is, one of location and logistics issues more often than product transformation. Its origin can be traced to an effort for better managing the transportation and logistics functions (Fisher, 1997; Lamb, 1995; Whiteoak, 1994; Turner, 1993; MacDonald, 1991). The goal of the transportation perspective of SCM is to replace inventory with information to provide visibility, so that raw materials and finished goods can be replenished quickly and arrive at the points of use in smaller lot sizes, especially in a just-in-time system (Handfield, 1994). Therefore, short and reliable order cycles, and the ability to fill entire orders are critical customer service elements. Also, the geographical spreads of channel members and cost structures become important determinants of the structure of logistical support (Fernie 1995; Taylor and Probert 1993). 〈Figure 2〉 is research model for analyzing the association between the set of six corporate SCM initiatives and nine supply chain functional initiatives described above.

〈Figure 2〉 Research Model



Ⅲ. Identifying a Typology of SCM Strategies

The first theoretical dimension underlying the six SCM strategy typologies is a form of supply chain integration related to inter-organizational,collaborative integration. This includes strategic alliances, and collaborative integration, close and interactive long-term relationships with a firm's external suppliers. This can be supported theoretically from previous studies (Ohmae 1989; Bowersox 1990; Gronroos 1990; Treacy and Wiersema 1995; Morash and Clinton 1998), which show general agreement that at a fundamental level, supply chain integration begins when the external relationship with suppliers becomes important. That is, within the firm's network, the relationship is "core", rather than "peripheral", in either the firm's input or output sector (Anderson et al.1994). For example, in the co-development of new products, suppliers are an essential part of the development team and are "core" in the firm's input sector. Thus, supply chain integration can be conceptualized as connoting a progressive involvement between a firm and suppliers in a relationship that implies combined resources, expanded

joint capabilities, and enhanced competitive positions for the firms involved (Johnson 1999).

Treacy and Wiersema (1995) noted that such linkage of supply chain integration and supplier relationship is especially important to support corporate strategies related to differentiation. Supply chain management literature points to examples of special value-added services for downstream customers or logistical agility, where service offerings are continuously tailored to unique and changing key customer requirements through efficient supply chain integration and productive supplier relationships (Novack et al. 1995). Stanley and Wisner (2001) argue that as product requirements and quality expectations increase over time with intensification of competition, integration of the firm's internal and external supply chains has an importantrole as a key determinant in the successful transformation of incoming materials to final products and services. Such integration requires strengthening relationships with the firm's external suppliers, improving communication, and creating heightened awareness of service and product quality. Stevens (1989) in a study of integration stages of SCM emphasized that external integration with suppliers was essential for on-time delivery of high quality products shipped directly to the point of use. In a field study of managers in the United Kingdom, Armistead and Mapes (1993) found that increasing the level of integration along the supply chain improved quality and operating performance, thus supporting the argument of Stevens (1989). A study by Narasimhan and Jayaram (1998) also supports this argument. These arguments emphasize that supply chain integration coupled with stable supplier relationshipsmay be highly related to enhanced differentiation capability through improvement of flexibility and customer service. An interesting point is that geographic proximity is included as a corporate initiative. This suggests that strategic location decisions emphasizingthe geographic proximity of the suppliers and buyers may increase the effect of combining supply chain integration/supplier relationship and flexibility/quality control/customer related initiatives. The pursuit of geographic proximity to suppliers and customers can be related to the order penetration

point of the supply chain. The order penetration point is the starting point of physical response to orders from customers, atwhich push by demand forecast and pull by customer order come together. In the case of customized/differentiation focused product, the level of product variety is high (Porter 1980; Miller 1987), and demand is unstable (Miller 1988). Also, the level of support and cooperation among supply chain members for dealing effectively with demand uncertainty is relatively high (Lassar and Kerr 1996), because it is expected that hierarchical governance structure by strategic partnership between buyer and supplier and behavior-based contract among supply chain members will prevail (Eisenhardt 1989 Lassar and Kerr 1996). According to these characteristics, firms with customized/differentiation-focused product would try to obtain information on final demand more quickly than firms offering standardized products with a focus on cost leadership. Thus, the likelihood that the order penetration point is established in the downstream of supply chain is high. These arguments implythat firms with customized/differentiation focused product emphasizing flexibility, quality, and customer satisfaction, need strong strategic partnership withkey suppliers through high level of supply chain integration, and such need can lead to the selection of location close to suppliers and customers.

Cooper (1994) discusses the relevance of geographical proximity to functional initiatives. He notesthat many logistics systems incorporate a distribution center as the point at which parts are sequenced for delivery to the assembly line. That is, while the part requirements have to be forecast in the first instance, and then shipped in bulk, the assembler will want each individual part to arrive on-time at the assembly line when needed. Therefore, a distribution center located near an assembly line will be given the task of putting parts into a sequence dictated by the production master schedule and delivered accordingly. Increasingly these centers are being seen as extensions to the production line rather than simply places where goods are kept before they are needed. The above discussion supports the contention that geographic proximity would benefit the relationship among supply chain integration/supplier relationship and flexibility, quality, and

customer related initiatives.

The second theoretical dimension underlying the strategy typologies is the effect of JIT. The interruption of manufacturing processes due to parts and materials shortages induces costs which may be greater than shortage costs commonly used in inventory models. This is typical in JIT manufacturing systems which produce to demand, and are based on low-stock policies and short delays for delivering finished products. In such systems, parts shortages can lead to the complete system being idle. Therefore, the implementation of JIT manufacturing systems has been intimately related to the use of supplier relationships and contracts which can reduce delivery delays (Sulem and Tapiero 1993; Dong et al. 2001). Fawcett and Birou (1993) assert that cooperative purchasing/supplier partnerships are a means to developingJIT purchasing agreements. In an era where time-to-market responsiveness through the efficient use of JIT system and supplier relationship is a standard element of competitiveness and productivity, building a local network of suppliers and integrating them with assembly plants are critical (Krafcik 1988, Chapman and Carter 1990). These studies emphasize that the shorter the distance among supply chain participants, the better is the competitive situation, and thus suppliers need to be close to customers for frequent JIT delivery.

Lummus (1995) and Dion et al. (1992) have discussed the effect of JIT at the functional level. Lummus (1995) argued that rapidly changing environment needs high level of product variety with minimal cost and,flexibility to fulfill various customer demands. JIT provides both dedicated production lines and reduced setup times. Therefore, a company using JIT enjoys greater flexibility and increased ability to provide product variety. Through face-to-face and telephone interviews, Dion et al. (1992) found that the operational changes that resulted from JIT were:increased quality in purchased materials as well as the finished products, volume flexibility, closer relationships with JIT suppliers, and higher customer service levels. Flexibility, quality control, and customer related initiatives are pursued with functional level JIT in this typology. Geographic

proximity is pursued as a corporate initiative in this typology. This suggests the compatibility of JIT and geographical proximity. In other words, an important factor for successful implementation of JIT systems is the close geographic proximity of suppliers and customers (Clarke and Mia 1993).

The third theoretical dimension underlying the strategy typologies is supply chain linkage facilitated by electronic exchange of information. Dion et al. (1992) indicated that increased sharing of sales projection data with JIT suppliers and the establishment of electronic data linkage with suppliers is relatively unrelated to JIT implementation. When considering the relevance of JIT and geographic proximity mentioned above, this is aninteresting result, suggesting the substitution role of electronic linkage (through the utilization of advanced information systems and technologies)for geographic proximity. That is, electronic linkage with suppliers may change the traditional perspectives on the necessity of geographic proximity. Internet or Web-based E-commerce adoption can improve the capability of remote monitoring and precise prediction based on demand information, product variety, and market situation. Accordingly, it can be expected that even firms with customized/differentiation-focused product may shift order penetration point closer to manufacturing through the utilization of E-commerce. The use of electronic linkage makes it possible for manufacturing firms to achieve proper balance between shifting order penetration point upstream for dealing effectively with demand uncertainty and the maintenance of quick response capability relative to customer demands, which Berry et al. (1994) have emphasized. Electronic linkage can reduce the significance of physical distances by improving the flow of information on goods and services and by achieving the electronic exchange of various information ranging from product design to contract negotiations through the utilization of advanced telecommunications. Computer technology supports globalization by radically changing the economics of communication, so geographic proximity may be even less a requirement for effective collaboration and business interaction (Adam et al. 1997).

The theoretical validity of the above typology can be deduced from the

triangular,supplementary relationship among supply chain integration, JIT, and electronic linkage with suppliers. Supply chain integration concepts are manifest in numerous initiatives for JIT manufacturing, continuous replenishment, and vendor-managed inventory. That is, supply chain integration accelerates the flow of information and products, acquiring appropriate information at the point of sale and transmitting it instantly to manufacturers and suppliers to create replenishment orders (Magretta 1998). However, a successful supply chain integration strategy depends mainly on the utilization of advanced information systems and technologies, which can lead to global market expansion and increased control over working capital. Banerjee and Golhar (1993) asserted that the success of JIT depends on the timely and effective exchange of information between manufacturers and trading partners, and JIT firms benefit more from EDI than non-JIT firms, thus supporting the above argument. One of the most common information technologies for such supply chain integration is to establish electronic commerce, including electronic data interchange (EDI) system and the Internet (Wang and Seidmann 1995; Premkumar and Ramamurthy 1995; Lee et al. 1999; Raghunathan 1999; Earl 2000; Arora 2000). E-commerce can integrate diversified businesses and organizations supporting trading benefits to each supply chain partner, and manufacturers can integrate the key suppliers more tightly into the supply chain through the utilization of E-commerce. Such integration with suppliers through E-commerce has great potential to increase logistics productivity, provide customers with high level services, and further accomplish key steps to logistics success, thus accelerating inter-organizational integration with customers (Chiu 1995; Banerjee and Sriram 1995).

From the above description of the SCM strategy typologies, we can recognize the following two *key issues* for the development of effective SCM strategy: 1) the concurrent pursuit of efficient supply chain integration and productive supplier relationship, and 2) the pursuit of either geographic proximity with suppliers and customers or electronic linkage with themthrough advanced information systems and technologies. These two issues are referred to as "the

key issues" in the ensuing discussion.

Two typologies suggest the possibility of utilizing different approachesfor the concurrent pursuit of supply chain integration and supplier relationship. An approach is to establish robust customer relationship. On-time delivery directly to customer's points of use and contacting the end users periodically to get feedback, are the construct variables for customer relationship.Particularly, on-time delivery directly to customer's points of use is similar togeographic proximity. This means that the two variables for customer relationship may replace the effect of geographic proximity. Another approach is to concentrate efforts on product design and development reflecting various customer demands through formal or informal information sharing with suppliers and customers. That is, in this typology, firms can place relatively more emphasis on internal operations capabilities such as product design and development and quality control. Efficient supply chain integration or productive supplier relationship is not easy to accomplish. That is, systematic analysis of dynamic relationships among supply chain partners' capabilities, the balance of power with external suppliers and customers, and other environmental factors, should be comprehensively considered. Also, for achieving geographic proximity with suppliers and customers either directly or via electronic linkage through advanced information systems and technologies, considerable investments and structural capabilities are needed. Viewed in this light, the establishment of SCM strategy assimilating the two key issues cannot be achieved in one move, and thus there is a need for a more manageable and gradual SCM strategy implementation. Typologies not reflecting properly the two key issues described above as such can be considered gradual approaches. Actually, Bowersox (1989), Stevens (1989), Byrne and Markham (1991), and Hewitt (1994) have asserted that the improvement of each internal function should precede external integration with suppliers and customers.

Ⅳ. Conclusion and Implication

The effect of SCM strategy has become increasingly evident in the past decade, but a robust model linking SCM strategies to competitive priorities has yet to be developed. Given the number of SCM techniques that have been introduced in recent years, managers need a decision framework to help them implement SCM strategies that are consistent with the competitive directions of the firm that allocate scarce functional resources efficiently.

The theoretical basis for the derivation of SCM strategy typology is the strategic use of a firm's SCM capabilities and distinctive competencies for competitive advantage. Such strategic reach of SCM is an inevitable consequence of current trends in manufacturing, purchasing, design and development, logistics and marketing: the push for high quality and flexibility, high degree of customization, lean manufacturing, focus on customer preferences, and designing processes and systems that enable "quick response" to changing market conditions (Narasimhan 1997). This means that the strategic use of SCM should be strongly influenced by the efficient linkage among various SCM functional capabilities and alignment between corporate level strategy and functional level strategy. Although past researchon SCM and manufacturing strategy stressed that SCM decisions should be strategic and must be aligned with a firm's business strategy, few empirical studies have attempted to examine the causal linkages among them (Narasimhan and Jayaram 1998). By exploring the relationship between corporate initiatives and functional initiatives of SCM, this research provides some insight into how SCM strategies can be developed to create competitive advantage. This brings out the academic and practical value of the SCM strategy typologies this paper suggests.

REFERENCE

1. Adam, N., Awerbuch, B., Slonim, J., Wegner, P., & Yesha, Y., (1997). "Globalizing business, education, culture through the Internet". *Association for Computing Machinery. Communications of the ACM*, 40(2), 115-121.
2. Anderson, J.C., Hakansson, H., & Johanson, J., (1994). "Dyadic Business Relationships within a Business Network Context". *Journal of Marketing*, 58, 1-15.
3. Armistead, C.G. & Mapes, J., (1993). "The Impact of Supply Chain Integration on Operating Performance". *Logistics Information Management*, 6(4), 9-14.
4. Arora, S., (2000). "Reengineering: A focus on enterprise integration". Interfaces, 30(5), 54-71.
5. Banerjee, S., and Golhar, D., (1993). "EDI Implementation in JIT and Non-JIT Manufacturing Firms: A Comparative Study". *International Journal of Operations & Production Mnagement*, 13(3), 25-37.
6. Banerjee, S., and Sriram, V., (1995). "The impact of electronic data interchange on purchasing: An empirical investigation". *International Journal of Operations & Production Management*, 15(3), 29-38.
7. Berry, D., D.R. Towill, and N. Wadsley, 1994, Supply Chain Management in the Electronics Products Industry, *International Journal of Physical Distribution and Logistics Management* 24(10), 20-32.
8. Bowersox, D.J. 1989. Logistics In The Integrated Enterprise. the Annual Conference of the Council of Logistics Management, St. Louis, MO.
9. Bowersox, D.J., (1990). "The Strategic Benefits of Logistics Alliances". *Harvard Business Review*, 68(4), 36-45.
10. Bozarth, C., & McDermott, C., (1998). "Configurations in Manufacturing Strategy: A Review and Directions for Future Research". *Journal of Operations Management*, 16, 427-439.
11. Byrne, P.M. and Markham, W.J., (1991). *Improving Quality and Productivity in the Logistics Processes: Achieving Customer Satisfaction*

Breakthroughs. Oak Brook, IL:Council of Logistics Management.

12. Burt, D. N., & Soukup, W. R., (1985). "Purchasing's role in new product development". *Harvard Business Review*63(5), 89-97.
13. Carter, J.R., & Narasimhan, R., (1996). "Is Purchasing Really Strategic?". *International Journal of Purchasing and Materials Management*, 32(1), 20-28.
14. Chapman, S.N., and Carter, P.L., (1990). "Supplier/Customer Inventory Relationships under Just-In-Time". *Decision Sciences*, 21, 35-51.
15. Chiu, H.N., (1995). "The integrated logistics management system: A framework and case study". *International Journal of Physical Distribution & Logistics Management*, 25(6), 4-22.
16. Clark, K.B., & Fujimoto, T., (1991). *Product Development Performance*. Harvard Business School Press: Boston, MA.
17. Clarke, B., & Mia, L., (1993). "JIT manufacturing systems: Use and application in Australia". *International Journal of Operations & Production Management*, 13(7), 69-82.
18. Cool, K., & Schendel, D., (1988). "Performance Differences among Strategic Group Members". *Strategic Management Journal*, 9, 207-223.
19. Cooper, J., (1994). "Jeuxsansfrontieres". *Purchasing & Supply Management*, (March), 4.
20. Copacino, W. C., (1996), "Seven supply-chain principles". *Traffic Management* 35(1), 60.
21. Dion, P.A., Banting, P.M., Picard, S., & Blenkhom, D.L., (1992). "JIT Implementation: A Growth Opportunity for Purchasing". *International Journal of Purchasing and Materials Management*, 28(4), 32-38.
22. Dong, Y., Carter, C.R., and Dresner, M.E., (2001). "JIT Purchasing and Performance: An Exploratory Analysis of Buyer and Supplier Perspectives". *Journal of Operations Management*, 19, 471-483.
23. Doty, H., & Glick, W., (1994). "Typologies as a Unique Form of Theory Building: Toward Improved Understanding and Modeling". *Academy of*

Management Review, 19(2), 230-251.

24. Earl, M., (2000). "Opinion: How to be a CEO for the information age". *Sloan Management Review*, 41(2), 11-24.
25. Eisenhardt, K.M., 1989, Control Organizational and Economic Approaches, *Management Science*, 31(February), 134-149.
26. Fawcett, S.E., and Birou, L.M., (1993). "Just-In-Time Sourcing Techniques: Current State of Adoption and Performance Benefits". Production and Inventory Management Journal, 34(1), 18-24.
27. Fernie, J., (1995), "International Comparisons of Supply Chain Management in Grocery Retailing," *The Service Industries Journal* 15(4), 134-147.
28. Fisher, M.L., (1997),"What is the Right Supply Chain for Your Product?" *Harvard Business Review*, March-April, 105-116.
29. Freeman, V.T., & Cavinato, J.L., (1990). "Fitting Purchasing to the Strategic Firm: Frameworks, Processes, and Values". *Journal of Purchasing and Materials Management*, 26(1), 6-10.
30. Gronroos, C., (1990). *Service Management and Marketing*. Lexington, MA: Lexington Books.
31. Handheld, R.B., (1994), "U.S. Global Sourcing: Patterns of Development," *International Journal of Operations and Production Management* 14(6), 40-51.
32. Harwick, T. (1997), "Optimal decision-making for the supply chain", *APICS - The Performance Advantage* 7(1), 42-44.
33. Hewitt, F., (1994). "Supply Chain Redesign". *The International Journal of Logistics Management* 5(2), 1-8.
34. Houlihan, J.B. (1987), "International Supply Chain Management," *International Journal of Physical Distribution and Materials Management* 17(2), 51-66.
35. Houlihan, J.B. (1988), "International supply chains: a new approach", *Management Decision. Quarterly Review of Management Technology*26(3), 13-19.
36. Johnson, J.L., (1999). "Strategic Integration in Industrial Distribution Channels: Managing the Interfirm Relationship as a Strategic Asset". *Journal*

of the Academy of Marketing Science, 27(1), 4-18.

37. Kaufman, A., Wood, C.H., & Theyel, G., (2000). "Collaboration and Technology Linkages: A Strategic Supplier Typology". *Strategic Management Journal*, 21, 649-663.
38. Klassen, R.D., and McLaughlin, C.P., (1996). "The impact of environmental management on firm performance". *Management Science*, 42(8), 1199-1214.
39. Krafcik, J.F., (1988). "Triumph of the Lean Production System". *Sloan Management Review*, 29, 41-52.
40. La Londe, BJ. and Masters, J.M. (1994), Emerging logistics strategies: blue print for the next century", *International Journal of Physical Distribution & Logistics Management* 24(7), 35-47.
41. Lamb, J.J., (1995), "An Evolutionary Idea," *World Trade* 8(7), 40-46.
42. Lassar, W.M. and J.L. Kerr, 1996, Strategy and Control in Supplier-Distributor Relationships: An Agency Perspective, *Strategic Management Journal*, 17, 613-632.
43. Lawless, M.W., Bergh, D.D., & Wilsted, W.D., (1989). "Performance Variations among Strategic Group Members: An Examination of Individual Firm Capability". *Journal of Management*, 15, 649-661.
44. Lee, H.G., Clark, T., and Tam, K.Y., (1999). "Research Report. Can EDI Benefit Adopters?" *Information System Research*, 10(2), 186-195.
45. Lummus, R.R., (1995). "A Simulation Analysis of Sequencing Alternatives for JIT lines using Kanbans". *Journal of Operations Management*, 13(3), 183-191.
46. Lummus, R.R., Vokurka, R.J., & Alber, K.L., (1998), "Strategic Supply Chain Planning". *Production and Inventory Management Journal*, 39(3), 49-58.
47. MacDonald, M.E., (1991), "Integrate or Perish!" *Traffic Management* 30(10), 31-36.
48. Magretta, J., (1998). "The power of virtual integration: An interview with Dell Computer's Michael Dell". *Harvard Business Review*, 76(2), 72-84.
49. Mason, T., (1996) "Getting Your Suppliers on the Team," *Logistics Focus*

4(1), 10-12.

50. McKelvey, B., (1982). *Organizational Systematics: Taxonomy, Evolution, Classification*. University of California Press, Berkeley.
51. Miller, D., & Friesen, P., (1984). *Organizations: A Quantum View*. Prentice-Hall, Englewood Cliffs, NJ.
52. Miller, D., (1996). "Configurations Revisited". *Strategic Management Journal*, 17, 505-512.
53. Miller, D., 1987, The Structural and Environmental Correlates of Business Strategy, *Strategic Management Journal*, 8, 55-76.
54. Miller, D., 1988, Relating Porter's Business Strategies to Environment and Structure: Analysis and Performance Implications, *Academy of Management Journal*, 31, 280-308.
55. Monczka, R. M., Trent, R. J., & Callahan, T. J., (1994), "Supply base strategies to maximize supplier performance". *International Journal of Physical Distribution and Logistics* 24(1), 42-54.
56. Morash, E.A., & Clinton, S.R., (1998). "Supply chain integration: Customer value through collaborative closeness versus operational excellence". *Journal of Marketing Theory and Practice*, 6(4), 104-110.
57. Morgan, J. and R.M. Monczka., (1995),"Alliances for New Products," *Purchasing* 118(1), 103-109.
58. Narasimhan, R. & Carter, J.R., (1998). "Linking Business Unit and Material Sourcing Strategies". *Journal of Business Logistics*, 19(2), 155-171.
59. Narasimhan, R. & Jayaram, J., (1998). "Causal Linkages in SCM: An Exploratory Study of North American Manufacturing Firms". *Decision Sciences*, 29(3), 579-605.
60. Narasimhan, R., (1997), "Strategic Supply Management: A Total Quality Management Imperative", *Advances in the Management of Organizational Quality* 2, 39-86.
61. Narasimhan, R., Jayaram, J., and Carter, J.R., (2001). "An Empirical Examination of the Underlying Dimensions of Purchasing Competence".

Production and Operations Management, 10(1), 1-15.

62. Novack, R.A., Langley, C.J., Jr., & Rinehart, L.M., (1995). *Creating Logistics Value: Themes for the Future*. Oak Brook, IL: Council of Logistics Management.
63. Ohmae, K., (1989). "The Global Logic of Strategic Alliances". *Harvard Business Review*, 67(2), 143-154.
64. Porter, M.E., Competitive Strategy: Technology for Analyzing Industries and Competitors, The Free Press, 1980.
65. Prahalad, C.K. and G. Hamel, (1990), "The Core Competence of the Corporation," *Harvard Business Review* 68(3), 79-91.
66. Premkumar, G., and Ramamurthy, K., (1995). "The role of interorganizational and organizational factors on the decision mode for adoption of interorganizational systems". *Decision Sciences*, 26(3), 303-336.
67. Ragatz, G. L., Handfield, R. B., & Scannell, T. V., (1997), "Success factors for integrating suppliers into new product development", *Journal of Production and Innovation Management* 14(3), 190-202.
68. Raghunathan, S., (1999). "Interorganizational collaborative forecasting and replenishment systems and supply chain implications". *Decision Sciences*, 30(4), 1053-1071.
69. Reck, R.F., & Long, B.G., (1998). "Purchasing: A Competitive Weapon". *Journal of Purchasing and Materials Management*, 24(3), 2-8.
70. Robeson, J.F., & Copacino, W.C., (1994). *The Logistics Handbook*. Free Press.
71. Stanley, L.L., and Wisner, J.D., (2001). "Service Quality along the Supply Chain: Implications for Purchasing". *Journal of Operations Management*, 19, 287-306.
72. Stevens, G., (1989). "Integrating the Supply Chain". *International Journal of Physical Distribution and Materials Management*, 19(8), 3-8.
73. Stevens, G., (1990). "Successful Supply Chain Management". *Management Decision*, 28(8), 25-30.

74. Sulem, A., & Tapiero, C.S., (1993). "Supply delays and the inventory stocking policy". *International Journal of Production Economics*, 32(1), 83-90.

75. Tan, K.C., Handfield, R.B. and Krause, D.R. (1998), "Enhancing firm's performance through quality and supply base management: an empirical study", *International Journal of Production Research* 36(10), 2813-2837.

76. Taylor, D.H. and S. Probert, (1993), "European Logistics Systems Employed by U.K. Manufacturing Companies," *International Journal of Physical Distribution and Logistics Management* 23(2), 37-47.

77. Treacy, M., & Wiersema, F., (1995). *The Discipline of Market Leaders*. Reading, MA: Addison-Wesley Publishing Company.

78. Turner, J.R., (1993),"Integrated Supply Chain Management: What's Wrong with This Picture?" *Industrial Engineering* 25(12), 52-55.

79. Varadarajan, P.R., and Jayachandran, S., (1999). "Marketing strategy: An assessment of the state of the field and outlook". *Academy of Marketing Science. Journal*. 27(2), 120-143.

80. Venkatraman, N., & Prescott, J., (1990). "Environment-Strategy Coalignment: An Empirical Test of its Performance Implications. *Strategic Management Journal*, 11(1), 1-23.

81. Venkatraman, N., (1989). "The Concept of Fit in Strategy Research: Toward Verbal and Statistical Crrespondence". *Academy of Management Review*, 14(3), 423-444.

82. Wang, E.T.G., and Seidmann, A., (1995). "Electronic data interchange: Competitive externalities and strategic implementation policies". *Management Science*. 41(3), 401-418.

83. Whiteoak, P., (1994),"The Realities of Quick Response in the Grocery Sector: A Supplier Viewpoint," *International Journal of Physical Distribution and Logistics Management* 24(10), 33-39.