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The intersection of strategic management and supply chain management

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Abstract

Strategic management and supply chain management (SCM) have overlapping interests, yet there has been little exchange between them. We examine areas of overlap and suggest how insights from each field can complement and support the other. Specifically, several of strategic management's theories and its emphasis on explaining firm profits should be useful to SCM. SCM offers to strategic management a new level of analysis and possibly a new type of organization. Overall, we argue that increased interaction between these important areas will benefit knowledge development in both and thereby enhance organizations' ability to meet their goals.

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1. Introduction

Supply chain management (SCM) has been examined through the conceptual lenses provided by a number of academic fields, including marketing (Mentzer, Flint, & Hult, 2001), operations management (Mabert & Venkataraman, 1998), management science (Aviv, 2001), purchasing (Giunipero & Brand, 1996), and logistics (Ellinger, Ellinger, & Keller, 2002). This multidisciplinary approach is appropriate and necessary given that supply chains involve many functional areas of an organization.

Despite the attention paid by these disciplines, the strategic management field has largely ignored SCM. This is puzzling because strategic management is itself a multidisciplinary field, drawing heavily on marketing (Slater & Olson, 2001), behavioral sciences (Ketchen & Palmer, 1999), and economics (Rumelt, Schendel, & Teece, 1994), among others. Further, strategic management researchers pride themselves on the wide range of ideas they examine. Indeed, one prominent scholar describes the field as a “pluralistic arena” where all are welcome to participate in the knowledge development process (Meyer, 1991). Given this characterization and the popularity of SCM elsewhere,

there is a clear need to consider how strategic management and SCM notions might fit together for the benefit of both.

Accordingly, our paper's overall goal is to identify areas of intellectual exchange between strategic management and SCM. Whereas other articles in this issue consolidate the significant intellectual gains other fields have achieved vis-a-vis SCM, strategic management's lack of attention to chains leads our article to be more speculative. We pursue our goal by considering the following: (1) what is SCM?, (2) what is strategic management?, (3) what insights can strategic management offer to SCM?, and (4) what insights can SCM offer to strategic management? As we consider these questions, we highlight ideas that might be exported from one area to the other.

2. Four key questions

2.1. What is SCM?

Traditionally, organizations obtain products and services through markets or hierarchies (Williamson, 1975). The choice between them is often referred to as the “make or buy” decision. A large body of literature has sought to define when a firm should make or buy. For example, making a product (through hierarchy) enhances predictability, but may require significant investment and reduce flexibility. Buying (through markets) maintains flexibility and minimizes investment, but reduces predictability.

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In essence, supply chains represent a middle ground between markets and hierarchies. A supply chain is a network of actors that transform raw materials into distributed products (Handfield & Nichols, 2002). Some of the required functions may occur within one firm whereas others cross firm boundaries. Ideally, supply chains capture the advantages of both markets and hierarchies while avoiding the risks of each. For example, long-term supplier relations are developed to provide stability, but such links are often severed when needs change. Thus, predictability is desired, but not at the expense of creating inflexibility that hinders the ability to react to customer changes.

Supply chains have existed as long as commerce has, but the genesis of the modern chain can be traced back about 80 years. Henry Ford's supply chain consisted of a vertically integrated group of wholly owned suppliers that supplied materials to Ford's massive assembly facilities. In the 1950s, the United States grocery industry established a daily inventory replenishment for perishable products such as baked goods and vegetables. Seizing on this idea, Toyota Motor Corporation developed its famous Kanban system in the 1970s. The system's goal was reducing waste, and inventory-carrying costs were the largest waste factor. Observing the cost advantages the Kanban system provided led U. S. firms to adopt just-in-time (JIT) principles. JIT was characterized by frequent shipments of quality materials from firms in close proximity. The success of JIT led firms such as Wal-Mart to develop systems capabilities at the point of sale to provide operations with the detailed data on what items to reorder.

The prospect that SCM can make firms more customer responsive and thus more profitable has led managers to spend vast sums to improve supply chain processes. For example, UPS has spent \$9 billion since 1986 (Farhoomand & Ng, 2000). Yet, managing supply chains is complex. Members' loyalties may lie with their home organizations or adjoining nodes rather than with the overall chain. Challenges such as these often lead the promise of improved outcomes to go unfulfilled. Accordingly, understanding what distinguishes effective and ineffective chains has been a main focus of SCM studies. This emphasis on effectiveness coincides with the strategic management field's central goal.

2.2. What is strategic management?

Strategic management can be distinguished from other organizational sciences by its emphasis on identifying, explaining, and predicting the determinants of organizational performance. The field's central research question is "why do some firms outperform others?" (Meyer, 1991). Unlike efforts to explain organizational outcomes conducted in other disciplines, strategic management research has long recognized that phenomena originating from several levels of analysis play a role in determining organizational effectiveness. Whereas psychological research emphasizes the role of

individuals and organization theory concentrates attention on the environment, strategy research considers individual, organizational, environmental, and other factors in attempting to understand why some firms outperform others.

Indeed, the strategy field's evolution can be traced in terms of its attention to various levels of analysis. Chandler's (1962) book is widely recognized as the first example of strategic management research. This book is perhaps best known for its depiction of the importance of firm-level issues such as strategy and structure in shaping success. Also in the 1960s, contingency theorists observed that different types of organizations prospered in different settings (e.g., organic forms in dynamic environments, mechanistic forms in stable environments), but they did not describe how such "fit" arises. In response, Child introduced strategic choice theory, which emphasizes that individuals' (i.e., executives) decisions about how to respond to external conditions are a key performance determinant (Child, 1972).

Miles and Snow (1978) highlighted the "configurational" level of analysis. A configuration refers to firms that share a common profile along conceptually distinct variables. Miles and Snow described four configurations—defenders, prospectors, analyzers, and reactors—whose members share strategic, structural, and process characteristics. For example, defender organizations tend to have narrow product lines, centralized structures and decision making, and a dominant production technology.

As an economist, Porter focused on macrolevels of analysis as shapers of firm performance (Porter, 1980). For example, he investigated the position of individual firms within an industry as well as their position within a group of firms pursuing a common strategy (i.e., "strategic group"). To maximize the chances of good performance, a firm needs to occupy a prosperous strategic group within a lucrative industry.

Groups of people became a prominently featured level of analysis in the mid-1980s. The most important group is a firm's top management team (TMT), consisting of the chief executive officer and other high-level executives involved in strategic decision making. According to Hambrick and Mason's (1984) "upper echelons perspective," the TMT's behavior can be understood by examining team members' backgrounds and experiences. This conceptual work gave rise to a series of studies trying to link TMT demography with organizational actions, processes, and outcomes.

Today, the core levels of analysis described between the 1960s and mid-1980s (individual, group, organization, configuration, and industry) continue to be researchers' primary levels of interest. In contrast, the field's theoretical richness has grown dramatically in the 1990s and the 2000s. Whereas economic theory and strategic choice theory were the dominant conceptual perspectives through the 1980s, since then the resource-based view (RBV), knowledge-based view (KBV), agency theory, and institutional theory all have attracted adherents. Despite this progress, some observers believe the field has too often ignored important

developments in the business world. One notable omission is the lack of attention to SCM and the supply chain level of analysis.

2.3. What can strategic management offer SCM?

Table 1 summarizes how strategic management might inform SCM. The application of multiple theories to a phenomenon often provides greater understanding than can be gained through applying any single theory. Bearing this observation in mind, we believe that several theories that are currently guiding strategic management inquiry can shed significant light on SCM. Specifically, application of these theories might help resolve ongoing SCM debates as well as open up new areas of investigation.

The RBV is perhaps strategic management's dominant perspective currently. This view focuses attention on a firm's assets. The most important assets are "strategic" resources that are rare, valuable, and difficult to purchase or imitate (Barney, 1991). These resources provide competitive advantages over rivals lacking such resources. Patents, strong reputations, and positive organizational cultures, for example, may serve as strategic resources for some organizations. In contrast, nonstrategic assets (e.g., cash) are possessed by many organizations and thus do not distinguish an organization's ability to be competitive.

SCM studies often focus on the flow of materials. Considering the RBV, however, encourages a deeper look at chains. Specifically, are certain supply chain practices or characteristics rare, valuable, and difficult to duplicate? If so, these unique elements may provide some chains with a competitive edge. One study has addressed this issue. Hult, Ketchen, and Nichols (2002) found that supply chain "cultural competitiveness" (i.e., the degree to which chain members are dedicated to closing gaps between what customers are getting and what customers want) is related to order fulfillment cycle time. Because culture is intangible, these authors assessed cultural competitiveness indirectly using the latent variable capability of structural equation

modeling. The cultural competitiveness–cycle time linkage provides some evidence for the RBV's value in the supply chain context. Thus, although inquiry into chains' less tangible aspects has been scant, we believe such inquiry offers great promise.

Some scholars have suggested moving beyond a theory of multiple resources and instead focusing on one critical resource—knowledge. Specifically, the influence of the dynamic environment and rapid information technology advances during the 1990s led some to contend that knowledge is the only resource that has longevity in achieving a sustainable competitive advantage (Grant, 1996). As such, an emerging framework labeled the KBV is the RBV's intellectual offspring.

The KBV seems to offer supply chains crucial implications, particularly in terms of coordination. A traditional organization relies heavily on hierarchy to provide coordination. Supply chains are adhocracies that lack formal hierarchy. As such, they must depend on knowledge exchange to facilitate concerted action. The KBV thus suggests that chains will prosper to the degree that this exchange is skillful. Yet, supply chains lack many of the formal mechanisms for storing knowledge that are vital in organizations. One possible substitute is the rudimentary supply chain culture reflected in cultural competitiveness. If so, the KBV and RBV may be very tightly linked, if not inseparable, in the supply chain context.

We next consider agency theory. An agency relationship exists in any joint effort in which one party (i.e., the principal) delegates authority to a second (i.e., the agent). Because the parties often possess divergent goals, agents often elevate their own aims above those of principals. In response, the principal must either monitor agent behavior or offer strong incentives to ensure that agents act in the principal's best interest (Eisenhardt, 1989).

The SCM literature often seems to assume that "a rising tide lifts all boats"—when the chain does well, all members prosper as well. But agency theory demands attention to more sinister possibilities. Supply chain relationships make participants vulnerable to opportunism—a chain member may take advantage of its partners for its own gain. Research uncovering when such guile is likely to arise and the best ways to prevent it could offer significant contributions to understanding effective supply chain functioning.

Institutional theory emphasizes the role of certain external pressures in shaping organizational choices. Institutional theory suggests that some firms may emphasize certain supply chain practices because they observe other firms doing so. Specifically, the concept of mimetic isomorphism refers to a process by which other organizations' success provides guidance for managers as to the appropriateness of possible actions (DiMaggio & Powell, 1983). For example, some firms may observe relatively successful competitors that have emphasized JIT practices and copy this behavior.

Table 1
How strategic management can inform SCM research

Contribution	Key research questions
Resource-based view	Are certain supply chain practices or characteristics rare, valuable, and difficult to imitate?
Knowledge-based view	To what extent does knowledge exchange facilitate concerted supply chain action and improved outcomes?
Agency theory	When is a supply chain member likely to attempt to exploit other members? How can this opportunism be prevented?
Institutional theory	When should supply chain practices mimic industry "best practices" versus reflect the participants' unique characteristics?
Emphasis on explaining firm performance	How and to what extent do supply chain activities directly and indirectly shape firm profits and stock price?

Making decisions based on mimetic pressures is wise in contexts where the selected action is viewed as highly legitimate and stakeholder support depends on the adoption of a legitimate action. This logic may be irrelevant to supply chains, however, because customers are generally unaware of supply chain practices. Thus, unless firms that pursue a supply chain practice in response to mimetic isomorphism also possess a logical motivation for doing so, their performance may suffer.

Beyond these theories, strategic management's devotion to understanding why some firms outperform others has implications for SCM. Operational measures such as speed, quality, cost, and flexibility are often the dependent variables of choice in supply chain studies (e.g., McKone, Schroeder, & Coa, 2001). Scholars often argue that SCM has "bottom line" impact via such metrics, but the case for such relationships is based largely on assertion rather than demonstration. Thus, there is a great need for research establishing how and to what extent supply chain activities directly and indirectly shape firm profits and stock price. In the absence of such effects, SCM perhaps would be best viewed as an operational rather than strategic issue. We strongly suspect, however, that research will identify links between SCM and firm-level outcomes.

2.4. What can SCM offer strategic management?

Table 2 summarizes our thoughts on how SCM can inform strategy research. As noted above, strategic management is unique in its focus on how multiple levels of analysis contribute to explaining firm performance outcomes. One way to view strategic management's development is in terms of the emergence of new levels of analysis. Yet, a new level of analysis has not attracted significant research attention since top management teams became popular in the 1980s. We believe that the supply chain offers strategic management an important supraorganization level to examine.

Strategic management scholars interested in discovering supply chains' strategic implications should take note of a curious past trend. The TMT literature surprisingly draws little on what is known about group dynamics in psychology and organizational behavior. This has likely hindered the pace of progress in understanding TMTs. Marketing, oper-

Table 2
How SCM can inform strategic management research

Contribution	Key research questions
The supply chain as a level of analysis	How and to what extent does the supply chain level of analysis help explain firm behavior and outcomes beyond the explanations offered by other levels?
The supply chain as an organization	To what extent do strategic supply chains represent an organization? When are such chains likely to develop? What are the performance implications of their development?

ations management, management science, purchasing, and logistics scholars have already developed much knowledge about supply chain functioning. Much of that wisdom is codified elsewhere in this issue. Strategy scholars would be wise to build on this established knowledge base as they pursue their own agenda.

An alternative possibility is to view supply chains not as a level of analysis, but actually as organizations. According to Leavitt (1965), an organization is composed of four major elements: participants, social structure, goals, and technology. Participants are entities that make contributions to the organization in exchange for rewards. Clearly, supply chains involve a variety of participants and each hopes to prosper based on their contribution to the chain. More complex is the concept of social structure—the patterned elements of the relationships among organizational participants. In supply chains, a social structure arises as entities such as users, organizational buyers, and external suppliers share information and coordinate activities. However, this social structure may not be as developed as in traditional organizations given that membership in a supply chain is a secondary allegiance for participants. At the same time, the resource ties and activity links in the supply chain provide a relatively strong social structure for the actors involved in the chain.

As in organizations, supply chain participants are brought together in the pursuit of goals. Entities in a supply chain accept a specific role to perform functions and activities that target common goals. Each participant's role in the chain is based on the belief that they will be better off because of the collaborative efforts of the supply chain participants. Similar to the division of labor in a traditional organization, each supply chain participant generally specializes in the activity that best aligns with its distinctive competencies. As such, a supply chain is characterized by a number of entities pursuing goals that can be achieved more efficiently through the concerted and synergistically collective actions of its participants.

Lastly, within the framework provided by Leavitt (1965), technology refers to the process through which organizations accomplish key tasks. An organization must devise a system for completing tasks in order to function and prosper. Because supply chains are created for the specific purpose of facilitating production and distribution, they are very task oriented. Thus, technology as defined by Leavitt is crucial to supply chains.

In summary, the attributes of supply chains seem to overlap the four basic features of organizations—participants, social structure, goals, and technology. Thus, it may be reasonable to view at least some supply chains as organizations. In particular, "strategic" supply chains—chains whose members are strategically, operationally, and technologically integrated—may fulfill Leavitt's (1965) criteria. Dunning highlights this possibility in noting: "What is perhaps new [about the modern supply chain] is its significance as an organizational form;" a form distinguished by

“the range, depth, and closeness of the interaction” between participants (Dunning, 1995). Accordingly, we propose this definition of a “supply chain organization”:

A supply chain organization is a relatively enduring interfirm cooperative that uses resources from participants to accomplish shared and independent goals of its members.

We hope that future research discovers when these supply chain organizations are likely to arise, as well as the likely performance consequences of their development.

3. Managerial implications

The intersection of strategic management and supply chains offers implications for managers. To the extent that competition is “supply chain versus supply chain,” a new way of thinking is necessary. This thinking seems to be at an embryonic stage today. In some chains, supplier representatives are located in a customer’s facility to assist with planning and scheduling their product to the customer’s operations. Perhaps thinking in terms of a “supply chain organization” will be needed.

We believe strategies that build on key theories such as the RBV and KBV will create advantages in chain versus chain competition. These advantages may take the form of information or other resources, such as culture. Currently some leading organizations have gained supply-chain-based competitive advantages in conjunction with supply chain members. Both Dell and Wal-Mart, for example, engage in interactive planning with key members of their supply base. They also use technology such as point of sale systems (Wal-Mart) and electronic ordering and inventory systems (Dell) to produce competitive advantage. However, to our knowledge they have not taken the next leap and started to view the supply chain as a tool from which to develop common cross-organizational strategies. We suspect that such an approach will arise in the future. If so, a firm should not adopt it simply to copy successful behaviors, but only if doing so fits the firm’s context. In this sense, ideas from institutional theory offer an important caveat to potential managerial exuberance.

4. Conclusion

Our goal in writing this paper was to facilitate exchange between strategic management and SCM. It is clear that the two fields have much to offer each other. Indeed, we suspect that effectively managing the supply chain (SCM’s focus) is inexorably linked with enhanced firm performance (the “holy grail” of strategic management). Thus, academics in these areas should work together to understand how supply chain practices shape firm outcomes. This opportu-

nity leads us to expect increased collaboration and convergence between the fields over time. Today, activity in the metaphorical “intersection” of strategic management and SCM barely requires a stop sign. Hopefully, a paper written a decade from now about this intersection will find a vast amount of traffic.

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