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Collaborate With Supply Chain Partners on Noncore Competency Functions

When you think of the things a supply chain has to accomplish, there are several basic functions that have to be done no matter who does them (see Figure 3.1). Someone has to design the product. That design is typically based on input from research and development and from marketing's information gathering about customers, competitors, and the general marketplace. So the design function involves not only engineering and production and logistics, but also the marketing function of gathering market information.

- Design
- Make
- Brand
- Price
- Promote
- Buy
- Sell
- Stock
- Display
- Deliver
- Finance
- Risk

Figure 3.1 Supply Chain Functions

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Someone has to make the product. Someone has to do the production—taking raw materials from the ground, producing component parts, and assembling the final product. This production is not always done by what we typically consider a manufacturer, but somewhere that process has to happen. In many supply chains, the principle of postponement is applied, and the final version of the product is not committed (produced) until a confirmed order comes from the customer. One example of postponement was presented in Chapter 2 as Company G. Company G does not complete the final assembly of those components at a manufacturing plant but rather at RDCs when a final order is in hand from Retailer H.

Someone in the supply chain has to create identification with a particular product and a particular company (branding). This is a core competency for many companies, particularly in the consumer products goods industries. If you talk to executives at such companies as Anheuser-Busch, Kraft, Procter & Gamble, or a legion of others, they will tell you their core competency is the brand recognition and equity that they have built up in various brands and the loyalty customers have to those brands. In many cases that brand equity has little or nothing to do with the production, logistics, or many other supply chain processes, but someone in the supply chain has to create that brand identification.

Someone in the supply chain has to determine the sensitivity of final customers to prices. Combining this market-based price information with the cost of making and distributing the product, and a cogent structure of pricing—from suppliers, through manufacturers, through distributors, down to the final customer—can be determined.

Related to price (a visible manifestation of the value of the product) and branding is the promotion effort. Someone has to inform, communicate, and persuade people on which products to buy.

In every supply chain, there are companies buying and there are companies selling, so these two functions are inseparable. The buying function is typically called purchasing or procurement in companies and is the process of not just buying the lowest-cost product but buying the product that is a combination of low price, high quality, and a dependable supplier. Sales is convincing customers that the salesperson's company is the best combination of low price, high quality, and dependable supplier.

For several reasons, someone has to carry inventory in the supply chain. One reason is that the rate of production often, and in fact usually, does not match the rate of consumption, so the products are produced at a different rate, at a different time, at a different place, and in different quantities than they are consumed. The buffer between those two rates—production and consumption—is inventory, or the stocking function.

Inventory is also carried in the supply chain because of seasonality. Consumers may buy the product in a repetitive pattern when production is at

a steady pattern, so inventory continually goes through a process of building up and then being bought down.

Products are often carried in inventory because they have to age to reach a salable state. Certain types of fruits have to ripen before they are salable. Different types of wines take on more value as they age. Certain types of meat products have to “cure” before they are marketable. All these aging processes require the storage of inventory.

A particular form of inventory or stocking is called display. Display is making the product available in an attractive and salable form for the final customers. Whether it is Wal-Mart putting the product on display so customers can find it and make the decision, or whether it is putting it in a display in an industrial distribution center so customers can easily find the product, display is an important part of supply chain management.

The timing, coordination, and expense of delivering a product from Point A to Point B in a condition and at a time that the customer wants is a critical supply chain function.

The final two functions, finance and risk, go hand in hand. From raw materials through component parts to final product to final delivery, someone has to own the product. Someone has to finance the cost of making, moving, and storing the product. It is perhaps the most important aspect of supply chain management to remember—*the last thing that happens in any supply chain is the final customer actually provides any money*. Up to that point, every SCM activity is conducted in anticipation of selling that product, which carries with it risk. What if the customer does not buy it? What if the customer does not want the product as much as we thought and is not willing to pay as much as we thought? What if, in the process of moving the product to the customer, it becomes obsolete or damaged or less valuable than it was when it was originally produced? All those aspects of financial risk have to be assumed by someone in the supply chain.

It is not the purpose of this book to discuss these functions in great detail but to stimulate the reader to think about who performs these functions in their particular supply chains. An important point is that no one company has to perform all these functions. In the early 1900s, Ford Motor Company, under the leadership of Henry Ford, attempted to perform all the supply chain functions for the purpose of keeping control of all operations. Ford Motor Company owned the iron mines to mine the iron ore that was moved on Ford Company ships to Ford steel mills to make Ford steel that was made into Ford automobiles that were moved to Ford dealerships. It was not long before Henry Ford and the directors of the company realized that too much capital was required for Ford to have the luxury of controlling the entire supply chain. What evolved then is what has evolved in many modern supply chains: a struggle to balance the need to control operations with the

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need to manage risk. Companies are constantly evaluating the question, “What should we do ourselves, and what should we allow someone else to do for us?”

The answer to that question is often, “Can we do it cheaper than someone else?” If the answer is no, we must ask ourselves if the function is a core competency. *A core competency is something we do well that gives us a competitive advantage in the marketplace.* Not everything we do well is a core competency. For instance, what if your company is really good at running your company cafeteria? Even though your company does it well, it does not give you a competitive advantage and, thus, it is not a core competency. For functions that are core competencies, however, even though they may cost us more money to do them ourselves, we still should keep control over them.

Several examples of how companies identify and manage their core competencies and outsource noncore competencies should help. However, to fully understand this SCM Driver of Competitive Advantage, let us first examine what others have said about cooperating to shift noncore competencies to supply chain partners.

Supply Chain Cooperation

Cooperation has been defined as the joint striving toward a common object or goal (Stern, 1971; Day & Klein, 1987). In other words, cooperation is the process of coalescing with others for a good, goal, or value of mutual benefit (Stern & Reve, 1980). Cooperation is an activity in which the potential collaborators are viewed as providing the means by which a divisible goal or object desired by the parties may be obtained and shared (Stern & Reve, 1980).

Alliances give shape to cooperative behaviors in an interfirm context. Lambe and Spekman (1997) define an alliance as a collaborative relationship among firms to achieve a common goal that each firm could not easily accomplish alone. Alliances encompass a variety of agreements, whereby two or more firms agree to pool their resources to pursue specific market opportunities (Gulati, 1995). Perhaps the most significant manifestation of the rise in interfirm cooperation has been the dramatic increase in interfirm strategic alliances (Gulati, 1995). A strategic partnership between any two firms, whether it is between buyer and seller or manufacturer and carrier, could be a segment of an extended supply chain (Gentry, 1996). This is so because each partner in a strategic alliance, which is a primary cooperative strategy, brings knowledge or resources to the partnership (Lyles & Salk, 1996). In other words, a supply chain is a set of firms among which cooperation should take place.

CHARACTERISTICS OF COOPERATION IN SUPPLY CHAIN MANAGEMENT

A powerful means of enhancing the likelihood of achieving cooperative action among firms is the selection of partners based on some good predictors of relevant cooperative behaviors (Grandori & Soda, 1995). It is impossible for a buyer to develop and maintain close relationships with thousands of suppliers and, as a result, each purchased item or family of items has only a limited number of suppliers (Monczka, Trent, & Handfield, 1998). For example, Siemens Telecom Networks reduced its number of suppliers and now tightly works together with that limited set of suppliers to achieve its quality and cost-reduction targets. In return, the remaining suppliers benefit by getting more business volume (Schwalbe, 1998).

In a complex relationship where performance is difficult to measure, profit or income sharing based upon incentive schemes is an important cooperation mechanism (Grandori & Soda, 1995). By the same token, Monczka et al. (1998) proposed that a win-win approach to share the rewards of the business between both parties is required. Procter and Gamble (P&G), for example, rewarded customers who adopted highly efficient logistics practices such as 2-hour carrier turnaround, on-time customer pickup, electronic purchase orders and invoicing, use of a pallet pool, and ordering in unit-load quantities, all of which brought P&G significant economic benefits (Drayer, 1999). Chrysler also expected its suppliers to submit cost-reduction suggestions that resulted in savings equal to 5% of their annual sales to Chrysler. Chrysler, in turn, rewarded them for continually improving Chrysler (Stallkamp, 1998).

A joint effort is driven by a desire to improve supplier performance in all critical performance areas, including cost reduction, quality improvement, delivery improvement, and supplier design and production capabilities (Monczka et al., 1998). For example, Toyota, with its Toyota Production System that assumes the development of close cooperative relationships between Toyota and its supplier network, performs objective and accurate assessments of each supplier's performance and provides direct assistance to improve each supplier's quality and reliability (Langfield-Smith & Greenwood, 1998). Similarly, Siemens Telecom Networks sends a team to a supplier's facility for about 3 days to work with the supplier's team to identify where waste could be eliminated (Schwalbe, 1998).

Participating firms work together to resolve disputes through mechanisms that support joint problem solving (Monczka et al., 1998; Salmond & Spekman, 1986). Dant and Schul (1992) found that, in a franchise context, if the relational properties of solidarity, mutuality, or role integrity are high, franchisers are likely to use mechanisms such as problem solving and persuasion. Useful mechanisms include interfunctional teams working across firms and co-location,

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both of which allow exchange of personnel. For example, both Chrysler employees and supplier employees co-locate at the Chrysler Technology Center to develop new Chrysler cars and trucks (Stallkamp, 1998). Presumably, the participants grow to appreciate the other's point of view and carry more understanding when they return to their original positions (Kotler, 1997).

Participating firms practice an open exchange of information (Monczka et al., 1998). For example, in order to minimize inventory in the supply chain, information systems must be able to track and communicate production and customer requirements at different levels in the chain (Cooper, Lambert, & Pagh, 1997). In addition, information about new products, supplier cost data, and production schedules and forecasts for purchased items should be shared among supply chain members (Monczka et al., 1998). As such, information sharing is an essential enabler of synchronization of the supply chain through cooperative design (Anderson & Lee, 1999). Wal-Mart is open and willing to work with its vendors and shares point-of-sale data with suppliers, and its employees communicate with the supplier employees on a regular basis (Gill & Abend, 1996). Shared information between supply chain partners can only be fully leveraged through process integration, collaboration between buyers and suppliers, joint product development, and common systems (Christopher, 1999).

Participating firms maintain a credible commitment to work together during difficult times (Monczka et al., 1998). For example, a buyer does not eliminate a supplier who experiences short-term production problems. Cooperative relationships require joint action to resolve concerns about the market environment affecting both parties. When Chrysler expected future cost hikes in purchasing headliners used inside Dodge Intrepid and Chrysler Concorde sedans, instead of traditional competitive bidding among multiple suppliers, Chrysler and its key suppliers worked together to realize cost savings that far exceeded those expected from traditional competitive bidding (Stallkamp, 1998).

Finally, participating firms are deeply involved in supply chain activities. For example, in the upstream flows in a supply chain, Chrysler invited suppliers to a "teardown" program, in which it took competitors' products apart, piece by piece, to learn how they build them, and actively asked the suppliers to submit proposals to improve the Chrysler minivan (Stallkamp, 1998). Siemens Telecom Networks also looked for suppliers' improvement ideas in such areas as purchasing efficiency, make/buy, design, specification, packaging, lead time, and quality via the Internet, fax, or file transfer (Schwalbe, 1998). In the downstream flows in a supply chain, P&G let its customers participate in its project to simplify pricing, standardize ordering, and reduce invoices and system errors (Drayer, 1999). In addition, helping distributors set quotas for customers, studying the market potential for distributors, forecasting a

member's sales volume, and inventory planning and protection are all examples of involvement of a firm in the downstream flows in a supply chain (Mallen, 1963). Anderson and Lee (1999) also propose cooperative demand planning, order fulfillment, and capacity planning among supply chain partners to send a more accurate demand signal throughout the supply chain, which minimizes waste and maximizes responsiveness.

PRECURSORS TO SUPPLY CHAIN COOPERATION

There are several characteristics that must be in place (precursors) before supply chain cooperative behavior will take place: (1) trust and commitment, (2) cooperative norms, (3) interdependence, (4) compatibility, (5) managers' perceptions of environmental uncertainty, and (6) extendedness of a relationship.

Trust and Commitment

Morgan and Hunt (1994) propose that cooperation arises directly from both trust and commitment. Kumar, Scheer, and Steenkamp (1995) propose that trust has two dimensions: honesty and benevolence. Honesty is the belief that a partner stands by its word (Anderson & Narus, 1990; Schurr & Ozanne, 1985), fulfills promised role obligations, and is sincere (Dwyer & Oh, 1987). Benevolence is the belief that a partner is interested in the firm's welfare (Deutsch, 1958; Larzelere & Huston, 1980; Remple, Holmes, & Zanna, 1985), is willing to accept short-term dislocations (Anderson, Lodish, & Weitz, 1987), and will not take unexpected actions that have a negative impact on the firm (Anderson & Narus, 1990). Moorman, Deshpande, and Zaltman (1993) define trust as a willingness to rely on an exchange partner in whom one has confidence. Thus, trust represents honesty, benevolence, and willingness.

Dwyer, Schurr, and Oh (1987) define commitment as an implicit or explicit pledge of relational continuity between exchange partners. Committed partners are willing to invest in valuable assets specific to an exchange, demonstrating they can be relied upon to perform essential functions in the future (Anderson & Weitz, 1992). Gundlach, Achrol, and Mentzer (1995) conceptualized commitment as (1) an input dimension of the credibility and proportionality of resources committed to the relationship, (2) an attitudinal dimension of long-term commitment intentions, and (3) a temporal dimension of the consistency of inputs and attitudes brought to the relationship over time. Kumar, Scheer, and Steenkamp (1995) see commitment as two-dimensional: (1) the desire to stay in the relationship because of the positive affect toward the other party (Meyer, Allen, & Smith, 1993), and (2) incorporating continuity expectations and willingness to invest (e.g., Anderson & Weitz, 1992). Thus, commitment consists of (1) inputs of credible and proportional resources,

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(2) attitudes (e.g., intentions and desires) toward commitment, (3) continuity expectations and willingness to invest, and (4) consistent inputs and attitudes toward commitment over time.

There are several impacts of trust and commitment on cooperation. Trust works to overcome mutual difficulties such as power, conflict, and lower profitability (Dwyer, Schurr, & Oh, 1987). Trust significantly stimulates favorable attitudes and behaviors, including communication and bargaining with respect for the current supplier (Schurr & Ozanne, 1985). Mutual trust in a relationship reduces the development of opportunistic intentions and, thus, may eliminate the need for structural mechanisms of control (Granovetter, 1985). Thus, trust and a desire to coordinate with another party are closely related (Pruitt, 1981). Finally, commitment is an essential ingredient for successful long-term relationships that are required for cooperation (cf. Gundlach, Achrol, & Mentzer, 1995). In summary, commitment and trust are key because they encourage supply chain partners to (1) work at preserving relationship investments by cooperating with exchange partners, (2) resist attractive short-term alternatives in favor of the expected long-term benefits of staying with existing partners, and (3) view potentially high-risk actions as being prudent because of the belief that their partners will not act opportunistically (Morgan & Hunt, 1994).

Cooperative Norms

Cooperative norms reflect the belief that both parties in a relationship must combine their efforts and cooperate to be successful (Cannon & Perreault, 1997). In this context, Siguaw, Simpson, and Baker (1998, p. 102) defined cooperative norms as “the perception of the joint efforts of both the supplier and distributor to achieve mutual and individual goals successfully (Cannon & Perreault, 1997; Stern & Reve, 1980) while refraining from opportunistic actions.”

Interdependence

Interdependence or mutual dependence has a positive impact on cooperation (Aiken & Hage, 1968; Heide & Miner, 1992; Pfeffer & Salancik, 1978; Rogers & Whetten, 1982; Williamson, 1985). Dependence of a firm on its partner refers to the firm’s need to maintain a relationship with the partner to achieve its goals (Frazier, 1983). Dependence of a firm on its partner is increased when (1) outcomes obtained by the focal firm from the partner are important and highly valued and the magnitude of the exchange is high, (2) outcomes obtained by the focal firm exceed outcomes available to the focal firm from the best alternative partner, and (3) the focal firm has few alternative sources or potential sources of exchange (Heide & John, 1988).

Interdependence is related to cooperation in several ways. First, Lusch and Brown (1996) found that high bilateral dependence between a supplier and a wholesaler-distributor increases relational behavior. Buchanan (1992) argued that when mutual dependence between a wholesaler-distributor and its supplier is high, both parties have a high stake in ensuring the relationship's success. In such cases, both parties have invested time, effort, and money in the relationship and are committed to the relationship (Anderson & Weitz, 1992). On the contrary, in channels with low levels of mutual dependency, neither party has many stakes in the relationship and, therefore, relational behavior will not develop to a significant degree.

Second, acknowledged dependence is a prime force in the development of supply chain solidarity (Bowersox & Closs, 1996). In addition, this dependence is what motivates willingness to negotiate functional transfer, share key information, and participate in joint operational planning (Bowersox & Closs, 1996). Finally, the dependence of a firm on another firm is positively related to the firm's long-term relationship orientation (Ganesan, 1994).

Compatibility

Organizational compatibility is defined as having complementary goals and objectives, as well as similarity in operating philosophies and corporate cultures (Bucklin & Sengupta, 1993). Organizational compatibility between firms in an alliance, a form of cooperation, has strong positive impact on the effectiveness of the relationship (i.e., the perception that the relationship is productive and worthwhile) (Bucklin & Sengupta, 1993). By the same token, cooperation involves a combination of object- and collaborator-centered activities that are based on compatibility of goals, aims, or values (Stern & Reve, 1980). Though meshing cultures and individuals' attitudes is time-consuming, it is necessary at some level for the channel to perform as a chain (Cooper, Ellran, et al., 1997).

Managers' Perceptions of Environmental Uncertainty

The development of alliances, which are many forms of interfirm cooperation (Nooteboom, Berger, & Noorderhaven, 1997), is positively associated with key managers' perceptions of environmental uncertainty (Dickson & Weaver, 1997). Managers' perceived environmental uncertainty is posited as a multidimensional construct that includes (1) high general uncertainty, (2) high technological volatility and demand, (3) low predictability of customer demands and competitor actions, and (4) demands for internationalization (Dickson & Weaver, 1997).

Dickson and Weaver (1997) also found a significant three-way interaction among perceived uncertainty, entrepreneurial/conservative orientation, and

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individualism/collectivism. For example, the probability of the increasing use of alliances with greater perceived general uncertainty is higher for collectivist managers than for individualistic managers, and the probability is the greatest for collectivist managers with low entrepreneurial orientations and lowest for individualistic managers with high entrepreneurial orientations (Dickson & Weaver, 1997). Dickson and Weaver's findings may be explained by the fact that managers with an entrepreneurial orientation are more likely to take risks in the face of uncertainty (e.g., Covin & Slevin, 1991; Palich & Bagby, 1995) and that managers with collectivist orientations emphasize the importance of belonging to a stable, select in-group, value cooperation with the in-group, and expect the group to help provide for the welfare of group members (cf. Hofstede, 1980, 1984; Hui, 1988; Hui & Triandis, 1986; Hui & Villareal, 1989). As such, alliance formation may be contingent upon taken-for-granted orientations and cultural norms of the management team (e.g., perceived uncertainty, entrepreneurial orientation, and individual culture) who want to hedge against risk and uncertainty.

Extendedness of a Relationship

Heide and Miner (1992) define the extendedness of a relationship as the degree to which the parties anticipate that the relationship will continue into the future with an indeterminate end point. Based on their observations of the Prisoner's Dilemma game, Heide and Miner (1992) argued that, although anticipated open-ended interaction does not require cooperation, it does make it possible—even when neither party has altruism or concern about the other party's well-being. The first implication of the iterated game framework of Heide and Miner (1992) is that, in a Prisoner's Dilemma situation, extendedness in a relationship increases the probability of a pattern of cooperation. Thus, extendedness in a relationship, or open-ended interaction, has a positive effect on the level of cooperation between two interacting firms (Heide & Miner, 1992).

NONCORE COMPETENCY COOPERATION IN PRACTICE

There are a number of examples of companies successfully (and unsuccessfully) cooperating in the supply chain on noncore competency functional shifting. Several examples of each are now presented.

Company I—Outsourcing Too Much

In the words of the CEO of Company I, a major chemical manufacturer, "We have outsourced so many things, we no longer have control over the things

that are our core competency in the marketplace.” This company had taken outsourcing too far. They had outsourced things that other companies could do cheaper for them—often a good decision. However, they had also outsourced various activities that other companies could do cheaper for them, but were the basis on which they competed in the marketplace. Under no circumstances should they have allowed those critical functions in the supply chain outside their control. A 2-year project was initiated to determine what activities this company should outsource and what activities this company should pull back in and take control over because it gave them their unique advantage in the marketplace.

The question then became “What is it that gives a chemical company a competitive advantage?” It was not branding, nor promotions, nor stocking, nor display, nor delivery. In fact, after much discussion, Company I management realized the true competitive advantage of a chemical company is in the design and make components listed in Figure 3.1. Truly successful chemical companies have world-class R&D groups that develop products to do certain things well, and not inadvertently do other things.

Take, for example, the plastic in the bottle of water you drink. This chemical formula creates a product that a chemical company makes in little plastic pellets that can be sold cheaply to the water bottlers, who in turn melt the plastic pellets and form them into the distinctive shape of their bottles. These bottles have to hold that shape, not leak, and be clear enough that you can see the liquid (water) inside the bottle. The bottle also has to be able to hold the label for the water bottler’s branding function. What the plastic has to not do, is give off any harmful chemicals into the water so that the customer drinking the water (you) gets sick. Thus, chemical manufacturers who make this product must design a chemical formula so that the product does certain things well (hold its shape, not leak, and be clear), does not do other things (give off harmful chemicals), and can be made inexpensively and exclusively.

This last point (the make function) is how the chemical company makes money and achieves competitive advantage. Designing the product so that the chemical company can inexpensively make the product provides the ability to sell it cheaply to bottlers and, thus, make a reasonable profit margin. By designing the product so that the chemical company has a unique manufacturing process that few, if any, can copy creates a barrier to entry into the business that gives the chemical company an advantage over potential competitors.

Through the application of this logic to its own products and supply chain processes, Company I gradually pulled all functions related to the make and design functions back under their direct control and allowed other noncore competency functions to be performed by supply chain partners.

Company J—Outsourcing the Noncore Logistics Function

Another chemical industry went through the same analysis, but started at the point of asking the question, “What should we be outsourcing?” instead of the Company I question, “What should we stop outsourcing?” As discussed in the Company I example, although it sounds facetious, large chemical companies are large chemical companies because they are large chemical companies. That seemingly nonsensical statement actually has a lot of logic behind it.

One of the great driving economies of scale of chemical supply chains is production size. If a chemical company is large enough to afford the cost of building a billion-dollar facility and to run the kind of volume through that billion-dollar facility to get the fixed cost per unit down to a small number, that chemical company is going to be more cost competitive in the marketplace. So a core competency in the chemical industry is production size. It is not to the advantage of a big chemical company to outsource production operations. It is unlikely we will see examples around the world of three large chemical companies getting together and saying, “Hey, let’s build a big production facility together in Argentina, and we’ll share our technology and the production cost.” They should not let go of that core competency of their business.

As we discussed with Company I, another core competency in the chemical industry is R&D. Companies have competitive advantages in the marketplace because they develop unique chemicals with specific characteristics for which a patent can be obtained and, thus, cannot be immediately copied by their competition. It gives them an advantage in the marketplace for specific applications. Chemical companies should not share that design function of the supply chain with their competitors.

When you think about the chemical industry from a logistics point of view, it is a unique industry. Chemical companies move products that generally are high bulk, sometimes high in weight, often low in value, and very often high in risk. When a cookie truck has a wreck on the side of the road and you turn all the kids within a mile of the wreck loose on the cookie truck, the problem is completely cleaned up. If a chemical truck wrecks, we may have to evacuate a several-mile area because of the deleterious effects of the chemical. So we are moving a product that has unique delivery characteristics—heavy, bulky, low value, and potentially harmful. That does not mean it is a core competency. It is simply a problem of the industry—getting a difficult-to-handle product cheaply and safely from Point A to Point B without hurting the product or hurting anyone or the environment along the way.

As a result, we have a function within the chemical industry, the delivery function in Figure 3.1, that takes unique expertise but is not the basis on which chemical companies compete with each other in the marketplace. Therein lies

the example of Company J, and that is outsourcing and achieving economies of scale on items that are noncore competencies.

Company J is an example of a company taking advantage of that particular economy in a particular industry. Company J was formed as a spin-off company from a large global chemical company. The concept behind this spin-off was, “We will create a company that specializes strictly in the delivery function of chemicals on a global basis.”

Since Company J has the logistics economies of scale of a large chemical company (the parent company agreed to ship all its chemicals through Company J), every small chemical company in the world wanted to use Company J services and achieve the same economies of scale. As a result, Company J quickly grew from a start-up to a billion-dollar company because it provided a basic fundamental value driver in the supply chain—any small chemical company could join Company J and achieve the same economies of scale that other large companies achieve. Large chemical companies could join the Company J operation and also maintain their economies of scale, and because they combined the economies of scale of shipping across numerous companies, they, in fact, achieved greater economies of scale of delivery than they had experienced in the past. Even the parent company achieved lower logistics costs, because the economies of scale of the larger Company J were greater than those of the parent chemical company alone.

Why would otherwise competitive companies cooperate on this function? The answer is that two chemical companies could help each other both lower their cost per pound of shipping a particular product and still not hurt the core competency on which they compete in the marketplace. None of the chemical companies were going together with Company J saying, “Let’s combine our research and development functions.” None of the companies went together and said, “Let’s combine our production facilities.” But many companies in effect said, “Let’s go together and lower our cost per pound of the delivery function, especially since it’s not our core competency.” In other words, “It’s not the basis on which we’re going to compete with each other, so let’s cooperate.”

Outsourcing the Noncore Procurement Function

Another example of this cooperation on noncore competencies is in the consumer package goods industry. A number of “commerce exchanges” have arisen in recent years to consolidate the purchasing function. In particular, the automobile industry and the consumer package goods industry have begun—under various names—to “non-compete” on noncore competency issues. To examine these two particular industries, we must again ask the question, “What are their core competencies?” What gives Toyota, General Motors, Ford,

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Chrysler, and other automobile companies their competitive advantage? What gives companies in the consumer package goods industry their competitive advantage? What gives Procter & Gamble or Kraft or Frito-Lay or any of a number of other consumer package goods companies their competitive advantage?

The answer in both of these industries is brand equity. The branding function, the promotion of that brand, the creation of an image of quality, the advertising that goes around creating the name recognition, these are the bases on which companies in both these industries compete with each other.

What they do not compete on in the supply chain is the purchasing function. No company in either industry will say, "My basis of succeeding in this industry is I'm better at purchasing raw materials than any of the other companies." In fact, in both of these industries, otherwise fierce competitors have gotten together and said, "Let's form a company that will perform the purchasing functions for various different ingredients and supplies and equipment that we need to run our operations, and let's combine our buying power. And in the process, we'll reduce our purchasing costs in many cases as much as 40%." The fact that all the competitors in the market are now purchasing at a lower cost does not necessarily give anyone a competitive advantage over the other, but it certainly gives them a lower cost structure, a lower cost of goods sold, and as a result, higher earnings on the same level of sales.

Company K—The Virtual Corporation

This SCM Driver can be carried to its ultimate conclusion, that of a virtual corporation. The virtual corporation is one in which most of the functions, except for one or two core competencies, are outsourced to other supply chain partners. For an example we turn to Company K in the electronics industry (Figure 3.2). Company K is the number two manufacturer of a particular type of electronics product, a curious statement since this company does not make a single solitary product. Let's repeat that—the number two manufacturer of this product in the world does not make any products.

It used to. Five years ago it had a large manufacturing plant where products were made and shipped all over the world to various customers (distributors). However, in examining their supply chain and going through an examination of their core competencies, Company K management started asking the question, "What is it that gives us a basis of competitive advantage in the marketplace?" Is it manufacturing expertise? Well, no. When Company K management benchmarked themselves against other companies in their industry, they determined that their production operations were no lower in cost per product than any other company in the global marketplace. Their quality was

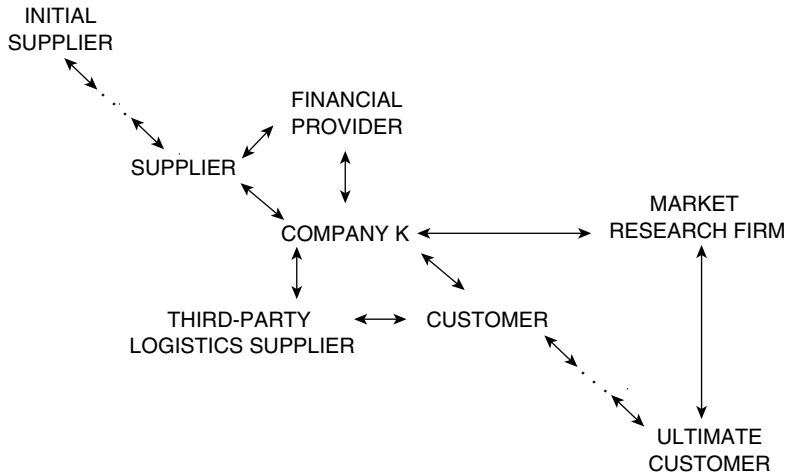


Figure 3.2 An Ultimate Supply Chain

no better, but no worse. In fact, they were just as good as and no worse than any other manufacturer of this particular product worldwide.

What about logistics? Were they better at distributing the product and moving it around the world? Actually, when Company K started benchmarking against other companies, they found out that this was a particular source of problems for them. Remember, this is an electronic product. During transit and storage, the temperature cannot be too hot, the temperature cannot be too cold, the humidity has to be maintained within a certain range, and the product cannot be subjected to too much bouncing around. If any of these occur, and they often did, the product will invariably be damaged. Company K discovered that historically 20% of its products arrived at their final distributor DOA, “dead on arrival,” which meant that one out of five products that were made had to be sent back to the manufacturer to be repaired simply because in the process of distributing they had gotten too hot or too cold or too moist or been bounced around too much. Although Company K logistics costs—their cost per unit of moving the product to the final demand location—were a little bit higher than the benchmark norm for their industry, their damage rate was out of control.

How about market research? They actually were not very good at market research—they did not have the internal staff to go out and gather information from their customers. They did find a source of advantage related to the market research function though. Once the information was gathered by an independent market research company, Company K was excellent at taking

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insights from customers about what they valued and turning those value ideas into features in the products they designed (more on this in Chapter 5).

In other words, Company K is excellent at R&D. They are excellent at taking market research information, turning it into the design for the product to be built, and then—based on that combination of market information and product characteristics—they are superlative at estimating the demand for that product on a global basis, and the phase-in and phase-out timing of that product. As is true of much of the electronics industry, the product life cycle for this company's products is relatively short. On average, from introduction to obsolescence, a particular product model lasts only about 9 months. This company was excellent at estimating for each of their world markets—for North America, South America, Europe, Africa, Asia, and Australia—what the demand was going to be per month from the introduction of the product until it became obsolete.

Let's look at what a reconfigured supply chain for this particular company looks like. Company K decided that because they had no particular expertise in production and it was not a source of competitive advantage for them (it was not a core competency), they should look elsewhere for the production function. As a result, Company K picked five manufacturing subcontractors in Southeast Asia. The 5-year contract with each subcontractor guarantees each subcontractor will annually receive orders for 20% of Company K's production requirements.

In each case, Company K develops a new product. They take market information, design the new product, and—based on this information—develop a monthly production schedule for the 9-month life of the product. Company K then goes to each of the five manufacturing subcontractors, gives them the product design and production schedule, and asks them for their quote on the per unit price they will charge to produce the product.

The general idea of the agreement is that the low-cost supplier will get the contract. However, remember that Company K has agreements with each of the five suppliers that over a 5-year period, each of the five is guaranteed to get 20% of the production contracts from Company K. So even if subcontractors 1, 2, 3, and 4 are traditionally the low-cost bidders, 1 out of every 5 contracts still goes to subcontractor 5 to support their operations. This provides each of the contractors with a 5-year window of guaranteed production levels so they can build capacity and capabilities to that 5-year production plan. However, the understanding is that, after 5 years, if any one of those five contractors is habitually a higher-cost supplier, it will be eliminated in the 5-year review. This means that long-term stability is guaranteed for each subcontractor, but there is an ongoing motivation to drive costs down, while still maintaining rigorous quality standards. The result for Company K was a 23% reduction in per-unit production costs.

Where do we get the market information to design the products? The company turned to a professional market research company to continually conduct what is called “value-based research” with customers around the world to identify not just features, but the general value they get from this product in the customers’ operations (more about value determination in Chapter 5). The research company is not asked to interpret that information. It simply performs the function of gathering the information, compiling it, and turning it over to the company’s marketing operations, who interpret this information to develop new products and product features, and estimate their demand.

What about that logistics damage situation? The company, again, acknowledged that their core competency, the basis on which they compete, is interpreting marketing information, product design, and turning those two pieces of information into market-based schedules of demand for particular products. What they were not good at was the delivery function in Figure 3.1. The company then turned to three global third-party logistics providers (3PLs) and signed long-term contracts with each for particular global regions. The contracts specified that Company K would provide each 3PL with their production schedule for each product and the schedule of expected demand at each of Company K’s demand points around the world. Each 3PL’s job was to pick up the product at the plants in Southeast Asia and deliver them on time to the various global demand points. In other words, Company K let logistics professionals take over the professional logistics (or delivery) function.

Finally, Company K addressed the finance and risk functions in Figure 3.1. As we discussed, Company K was superlative at forecasting and managing demand, which reduced risk. However, their internal cost of money was 25%, which was how Company K financed their inventory and internal operations. Company K put together an international consortium of banks to provide a line of credit in the hundreds of millions of dollars to finance their inventory and operations.

Financing their inventory is a fairly straight-forward statement, but operations needs some elaboration. One of the drawbacks of using outsourced manufacturers was that these manufacturers all ran their companies on a cash basis. As soon as Company K awarded a contract to one of these subcontractors, the subcontractor immediately asked for all the money they would be paid for the contract up front (in fact, this provision was in all the contracts). Since the subcontractors operated on a cash basis, they needed money up front to finance direct labor and direct materials (from their second-tier suppliers) for the production schedule.

The banking consortium provided Company K with a line of credit at several points over Prime (at the time of this example, this meant a line of credit financed at 9%). This meant that, by going outside the company to a

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third-party financial provider, Company K turned their cost of money for inventory and operations from 25% to 9%, a 16% per year savings in the financial function. Sixteen percent a year spread over, on average, \$300 to \$400 million in financing is a considerable bottom line impact!

The result of all this outsourcing of noncore competencies is that over a 2-year period the company not only lowered their cost of production by 23% per unit and financing cost by 16% per year; logistics costs have gone down 2% for Company K. This is because Company K turned to companies who are professionals at the delivery function of electronics. More important for Company K, the rate of DOA (dead on arrival) products went from 20% before outsourcing this function, to less than 1%.

The result is the number two global manufacturer of this particular electronic product does not make a single solitary product. What they still do is design products their customers desire. They deliver those products on time at a higher delivered quality than they did before, at a lower production and financial cost than they did before, with a much lower capital base than they did before. The company no longer has production facilities. As a matter of fact, one of the largest challenges to management was selling the production facilities they no longer needed. Inventory levels have gone down, so working capital has gone down. The company is still a major player in the market at its core competency, the thing that it does better than anyone else and which is the basis of their competitive advantage, but it had significantly lowered its supporting function costs of finance, production, market research, and logistics.

Summary

These examples provide us with an insight into the advantages that can be obtained from recognizing and emphasizing our core competencies. When a company combines the insights from the first two SCM Drivers of Competitive Advantage, the core competencies of a company, and of its supply chain partners, can lead to synergies in the supply chain. Synergies occur when the combined efforts of two or more supply chain partners produce results greater than each supply chain partner could produce acting independently. Or “One plus one equals three!” It is the search for these synergies that SCM Competitive Driver Three addresses.