NORTH-HOLLAND

The Future of Competition

Value-Creating Networks

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In buyer–seller relationships, the focus has moved beyond individual firms to value-creating networks formed by key firms in the value chain that deliver value to the end consumer. The article develops a rationale for value-creating networks using three core building blocks: superior customer value, core competencies, and relationships. The rationale is developed based upon an understanding of the value-creation process and its links to core capabilities of firms in the network. The importance of inter-firm relationships in realizing the true potential of the value-creation networks is also highlighted. The authors argue based on their sample analysis of some examples that competition in the future will shift to the network level from the firm level. The influence of some emerging business tools such as electronic commerce on redefining value creation is also discussed.

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INTRODUCTION

As the world becomes more complex, the analytical task of managers is also becoming more complex as they can no longer just examine the major competitor, but must examine the network of firms that relate to that competitor. Value, core capabilities and relationships intertwine to impact the total value chain for the product or service. In this article, the underlying forces that drive value chain analysis are examined in a network context in order to understand what insights one may gain from doing value chain or value network analysis. Porter [1] discusses the value chain from the perspective of the individual firm, examining the value-adding activities without exploring the links between the firms in the value chain. In 1985 the dominant buyer–seller paradigm in business

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markets was the buying center that was guided by an adversarial relationship between the buyer and seller. Today, businesses have moved deep into a cooperative paradigm that is based upon cooperative relationships between the buyer and seller. The focus has moved beyond individual firms to examining the value-creating network formed by the key firms in the value chain that delivers the value to the end consumer.

This research develops a rationale for the value-creating network based upon an understanding of the value creation process and its links to core capabilities of firms in the network. The network is built on relationships between the key firms in the value chain. Emergence of electronic data and information exchanges support network development through enhanced communication between the partners. The development of electronic commerce redefines value-creating networks as new low-cost paths to serving customers and consumers. In the following sections of the article, a model for describing and analyzing value-creating networks is presented. It is argued that value-creating networks will take businesses into a competitive domain where competition will shift to the network level from the firm level.

VALUE

Customer value is one of the key words in North American business today as within business, the rallying cry is to "increase customer value." But what does increasing customer value mean to operations of the firm? What is customer value, and how can one measure customer value? To understand customer value, one needs to go back and revisit the marketing concept. The marketing concept states, "that achieving organizational goals depends on determining the needs and wants of target markets and delivering the desired satisfaction more effectively and efficiently than competitors do" [2]. Businesses have not been very successful in fully implementing the marketing concept in the United States. Their failure is more due to the success of technology and product-driven companies in the marketplace. These firms market but believe strongly that technology and good products are the way to win in the marketplace. However, there is a strong trend emerging to add, not replace, the strength of marketing to the already strong product and technology base of companies. A lot of the leading business-to-business firms have programs in place to upgrade the marketing skills of their marketers. Kotler and Armstrong [2] note that marketing success depends upon achieving the "desired satisfaction" of customer needs. North American firms have chased the "Holy Grail" of customer satisfaction as they seek to retain customers. However, satisfying customer needs or creating a satisfied customer is no longer enough to win their loyalty. Firms must create better value than their competitors. To create this better value, managers must fully integrate the resources to use the core capabilities of the firm to deliver a product that fully satisfies the needs at a competitive price, which means creating superior value for the customer.

The total market offering of the firm encompasses the technology supporting the product or service, the benefits of the product, the company reputation and the benefits delivered by people representing the organization. The customer weighs the complex bundle of benefits or market offering against competitive market offerings, with relative price being the item that relates the two market offerings. Value, as shown in Figure 1, is the relationship of a firm's market offering and price weighed by the consumer against its competitor's market offering and price. For a customer to perceive value, a choice is necessary

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Value creation is more complex in business markets.

between the available market offerings in the context of price. Value is also within the context of a market segment. What follows must be taken within the context of price and segments. Anderson et al. [3] have defined value "as the perceived worth in monetary units of the set of economic, technical, service and social benefits received by the customer firm in exchange for the price paid for a product offering, taking into consideration the available suppliers' offerings and prices."

Figure 1 suggests that the market can be brought into balance through adjusting the price of a market offering or adjusting the market offering or adjusting both the price and the market offering. Value is the relationship between the competing market offerings and their respective prices. Value is truly in the eye of the beholder.

The market offering of a firm can be measured using a multi-benefit model. An illustrative multi-benefit model of choice is briefly described in the next section.

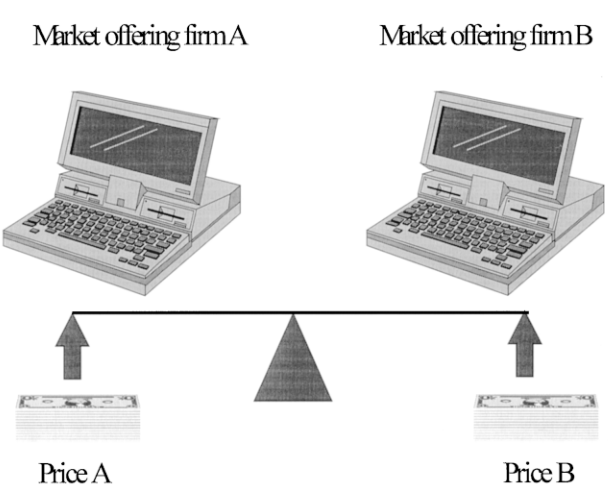

FIGURE 1. Value as the relationship between the market offering and price.

MULTI-BENEFIT MODEL OF CHOICE

Choice $= \Sigma\ (I_i\ P_i)$, where I_i is the importance of benefit i and P_i is the performance of firm on benefit i.

The market offering is conceptualized as a bundle of benefits where each benefit has two measurement dimensions. First, the importance of the benefit to the individual can be measured on an importance scale, and second, the performance of the firms in delivering that benefit bundle can be measured. One can multiply importance and performance and sum over the benefits and compare that sum against the sum of a competitor's bundle of benefits. Value, then, is the ratio of the market offering to price. Value is determined by dividing the market offering represented by the multi-benefit model by the price of the market offering. Customers' perception of value reflects how they perceive and weight the benefits for each firm. Value creation is complex in business markets because of multiple buying influences that are concerned with subsets of benefits rather than the total benefit package. A full discussion of how to measure and combine benefits is not within the bounds of this article. However, Anderson et al. [3] provides an excellent discussion on measuring value. For the purpose of this article, it is enough to note that firms that can deliver superior value in the marketplace will win the battle for the consumer or customer.

CORE CAPABILITIES

Creation of value depends on the ability to deliver high performance on the benefits that are important to the customer. What gives firms the ability to deliver performance on these important benefits is their competency in technology and business processes. Prahalad and Hamel [4] call these core competencies and state that core competencies are rare within most firms. A single firm is fortunate if it has three or four major core competencies. They also argue that to be a core competency the skill must add significant value to the market offering; must help the firm

Value-creating networks are firms that come together to create customer value.

move across multiple markets; and it must be performed at a superior level that very few firms can emulate. This view of core competencies to one of core capabilities, which have a process and human content beyond what seems to be inherent in the Prahalad and Hamel view of core competencies. For example, processes such as the ability of a Wal-Mart to manage customer information, logistical systems and electronic data systems in a way that very few firms can match gives Wal-Mart a competitive advantage in managing a large complex set of stores. 3M's ability to generate product innovations allows them to set and reach a goal of 30% of current income coming from products introduced in the preceding few years. These qualities are not just skills but a set of core beliefs that signify their way of doing business.

Core capabilities, while few, are the key to delivering superior value. Core capabilities provide the means to deliver superior performance on the attributes that are important to the buyer. In today's context, definitions of core capabilities are getting narrower and sharper. In the automotive business, for example, the technological environment has become so complex it is very difficult for any one automotive firm to keep up with all of the core capabilities necessary to build a car. For instance, the computing power now resident within a large automobile is said to be at a level in MIPS equivalent to the old IBM 360 computer. Electronic technology is only one example of the many changes in technology within the automotive industry that has moved the industry from an integrated industry to one that has reduced the number of suppliers and is outsourcing more integrated components to key suppliers.

INTEGRATION VS. DE-INTEGRATION

The Ford Motor Company's Rough River Plant, at one time, was perhaps one of the most integrative operations in the world. Iron ore came in one end of the complex and went out as an automobile the other end of the complex. The Ford Motor Company was fully integrated from iron ore to weaving the materials for the seat coverings to assembly and building the total automobile. Today, the complexity of the technologies necessary to build a modern automobile has forced the automotive firms to de-integrate their operations. Underlying that also is the economics of the supplier base working with non-union labor, which provides a much lower cost of operation. Nevertheless, today automotive firms combine their core capabilities of design, assembly, selling and their ability to combine with parts firms into a value-creating network for building an automobile. The need to create value has caused the automotive companies to de-integrate their operations and build strong partnering relationships with suppliers who use their core capabilities to do such key tasks as delivering electronics to the automotive producer or paint and coat the cars. These tasks require that partners work closely together. This need for deep relationships leads to the third dimension of value-creating networks, which is building partnerships and relationships.

RELATIONSHIPS

The drive to create value requires the assembling of core capabilities beyond the capabilities resident within the firm. Putting together a network of firms to build the set of capabilities necessary to build a market offering that delivers high value to the customer becomes a major strategic thrust of the firm. One of the main ways that firms assemble this network of firms is through developing strong relationships with key partners who can add value to the market offering. Figure 2 describes a 2×2 view of partnering. The ideal partner is one who adds significant value to your market offering and at the same time presents low risk as a partner. Operating risk involves the risk associated with below par performances by a partner with respect to quality, JIT activities, cooperation and any other activities that impact the partnership. In Figure 2, the degree of operating risk in working with the partners ranges from high to low and the value contributed by the partner ranges from low to high, parti-

Superior customer value, core capabilities and relationships are the building blocks of value-creating networks.

tioning the matrix into four broad categories: integrative, facilitative, developmental and losers. The upper quadrants share much in common as they represent low-risk partners. The firms vary in their contribution to the core capabilities needed to develop a market offering. Integrative relationships are based upon the contribution of the partner to current products and future product design and development. An example of an integrative relationship is a firm providing the electronics to control ABS braking systems in automobiles. On the other hand, facilitative relationships involve important, but not usually core, parts of the market offering or technologies to keep the firm operating. An example is the outsourcing of office supplies and printing services or outsourcing the MIS and computer and system.

Both facilitative and integrative relationships require deeply involved working partnerships. To summarize, the upper right-hand quadrant of Figure 2 defines the ideal partner who not only provides low operating risk but also additionally provides significant value to our market offering. The upper left-hand quadrant defines the partner who is easy to work with as a supplier, but does not add significantly to the value of the market offering. They are important partners, but the main benefit they bring is that they facilitate low-cost transaction through their ability to help us manage costs. The lower left quadrant has firms that are labeled losers because they do not add value and are difficult partners. The lower right quadrant represents firms from which a firm could select a few partners for development. A firm could select a partner who is able to add value to its market offering and then help them improve their ability to be a low-risk operating partner. Obviously, a more complex evaluation screen is necessary, but this simple matrix does provide some insights into partner categorization. The focus is on integrative relationships as the impact of the value created upon the market offering is more direct than any other relationship.

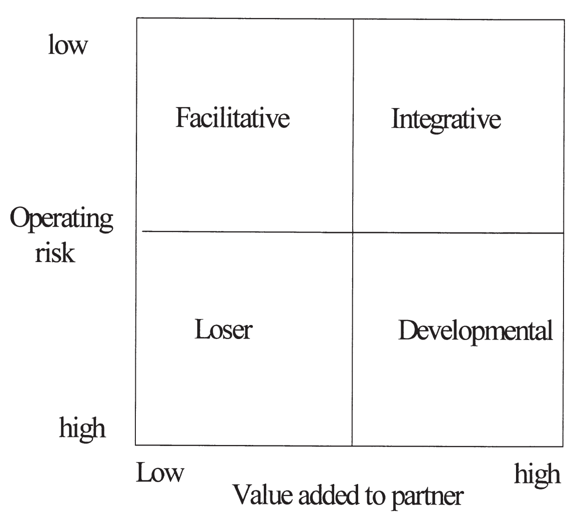

FIGURE 2. **Evaluation of potential partners.**

The logic of the marketplace is now starting to emerge. First, firms must be able to create value, but this value creation depends upon their core capabilities, which in turn are limited because of the range of technologies needed to produce a product and the complexity of today's business environment. To add value-creation ability, firms must find partners and be able to manage these partnerships so that each partner profits from being within the partnership.

Adding one more layer of complexity, it can be argued that firms are moving into an environment in which they will not compete against each other but will become a member of a network of firms that will compete against another network of firms. As they have been assembled for the purpose of creating value for the customer, these sets of firms could be called as "value-creating networks". Porter [1] conceptualizes the value chain as follows: "The value chain desegregates a firm into its strategically relevant activities in order to understand the

Doing a value network analysis challenges the firm and its model of doing business.

behavior of costs and the existing and potential sources of differentiation." His original focus was at the firm level. He expanded the value chain concept, by creating a value system in which the firm's value chain is embedded. Gaining and sustaining competitive advantage depended upon understanding both the firms' value chain and how well the firm fit into the overall value system. Since 1985, North American firms have moved from an adversarial model of buyer–seller relationships to one of cooperation in the facilitative and integrative cells of Figure 2.

In North America, firms are now trying to analyze and determine their position within value chains or value networks. What is labeled as "value-creating networks" here, have been referred to by multiple names by scholars. For example, some writers describe them as supply chains, others describe them as market networks, and others call them value chains, value nets or value-creating networks. It is a dynamic situation, as firms try to understand their position in a global business environment and how they fit into networks. In the next section, a model of value-creating networks is presented.

MODEL OF VALUE-CREATING NETWORKS

The model uses the three core concepts of value creation, namely superior customer value, core capabilities and relationships, to propose a reciprocal model that captures the nature of interrelationships between the three

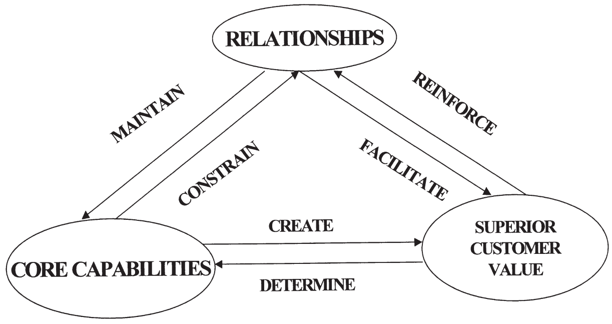

FIGURE 3. A model of value-creating networks.

core concepts. The model is presented in Figure 3. It starts with the objective of the value-creating network, namely creating superior customer value. The extent of value creation by the network is influenced by the core capabilities of the member firms. In other words the core capabilities of the member firms together create superior customer value. The way the firms in a network combine to create this value is influenced by the nature of relationships that the firms have between themselves. Thus the quality of relationships facilitates the creation of value. If the inter-firm relationships are problematic then the core capabilities cannot be combined in an efficient manner. Therefore, the value created by the network may not be significant. Relationships also hold the network in place and thereby help the firms continue to invest in order to maintain and improve their core capabilities.

The firms in the network also realize that their value to the network is only to the extent they bring in diverse core capabilities that are valued by the network. Firms would want to develop relationships with those firms that have unique capabilities. Therefore the core capabilities in turn constrain the quality of relationship between firms in the network.

The final value that customers of the value-creating networks want determines the nature of member firms' core capabilities that will be valued by the network members. If faster delivery of goods is of value to the customer, then the network will look for firms that have superior logistical capabilities. Finally, when customers appreciate the value delivered by a network it boosts the morale of the members and reinforces the quality of relationships between the members. Thus the relationships between the three core building blocks of value-creating networks are modeled as reciprocal paths connecting all the three building blocks. The next section focuses on analyzing the value-creating networks using value chain analysis and presents some examples.

ANALYZING VALUE-CREATING NETWORKS

All business firms are part of a value-creating network. Some play important roles and have influence in shaping the network, while others play minor roles and are shaped

> E-Commerce is going to help distinguish between product value-added and process value-added.

by the network. Understanding a firm's role in its set of networks requires significant study as firms normally do not think about a network position, but rather think about how they compete against firms like themselves. This section describes some basic concepts of value network analysis and then discusses some examples of how these value nets can be put together.

An enacted value network represents the reality of the situation where there are barriers to the exchange between the elements of the value network that have been put in place because firms are buying and selling the components. For example, if one assumes an adversarial relationship, it evokes a very different structure of a value network than if one assumes a cooperative set of relationships in the value network. The barriers to transaction are quite different and the cost structures are likely to be very different also. The enacted value network defines the reality of the business situation.

Figure 4 describes the scope, depth and competitive environment, which are dimensions that can be used to analyze value networks. The scope of the value network defines the range for studying the value network: from basic new materials to final consumer. For example, one can go back to the very basics of copper and plastics forming a circuit board, which goes into a computer, or assume a starting point at a printed circuit board level and analyze the value network forward into the retail store selling computers. Ford Motor Company, at one time, was, as mentioned earlier, completely integrated. The value network began with mining iron ore from the Ford mines, through moving it on Ford ships to the Ford Rough River Automotive Plant where the iron ore was converted and left the plant as part of a Ford automobile.

Depth of analysis describes granularity of the analysis of the activities within the value network. The very simple example of Figure 5 only looks at basic activities of assembly rather than the entire myriad of steps that goes into the assembly process. As the analysis get deeper, one would experience greater complexity as it describes in detail the multiple activities required to create a product. Taking this fine-grained analysis for each of the multiple steps across the scope of a value chain adds more complexity.

The third dimension is studying competitive value chains to understand how firms compare themselves with competitors in terms of value created where the value is created, who is adding to the value, and the cost of value creation. The output of a value network analysis is an increased understanding of a model of how the business relates to its competitive environment. Value network analysis can define the firm's position within the network and suggest strategies to improve the position and where weaknesses lay and how to perhaps overcome these weaknesses.

Doing a value network analysis challenges the firm and its model of doing business. Everyone has a theory of the market and how it operates and a value net analysis provides new insights and challenges to the current model. Figure 5 provides a simple value network analysis of a typical computer firm that manufactures IBM clones and Dell. Compaq, Gateway and Hewlett Packard would probably fit into the category of typical firms. The typical firms and Dell are both exceedingly successful, but have very different models of going to market. The typical firms' model emerges from their focus on being a fully compatible IBM clone. Compaq has even moved well beyond maker-of-clones stage as it sets standards in the development of computers. The typical firms relied heavily on a dealer network and have followed that model consistently throughout their emergence as major players in the computer business.

Dell's model emerges from Michael Dell's vision of the direct selling of computers. With one deviation, they have continued to follow that model. The major difference between the two models relates to when one gets paid for their product. The Dell model sells many com-

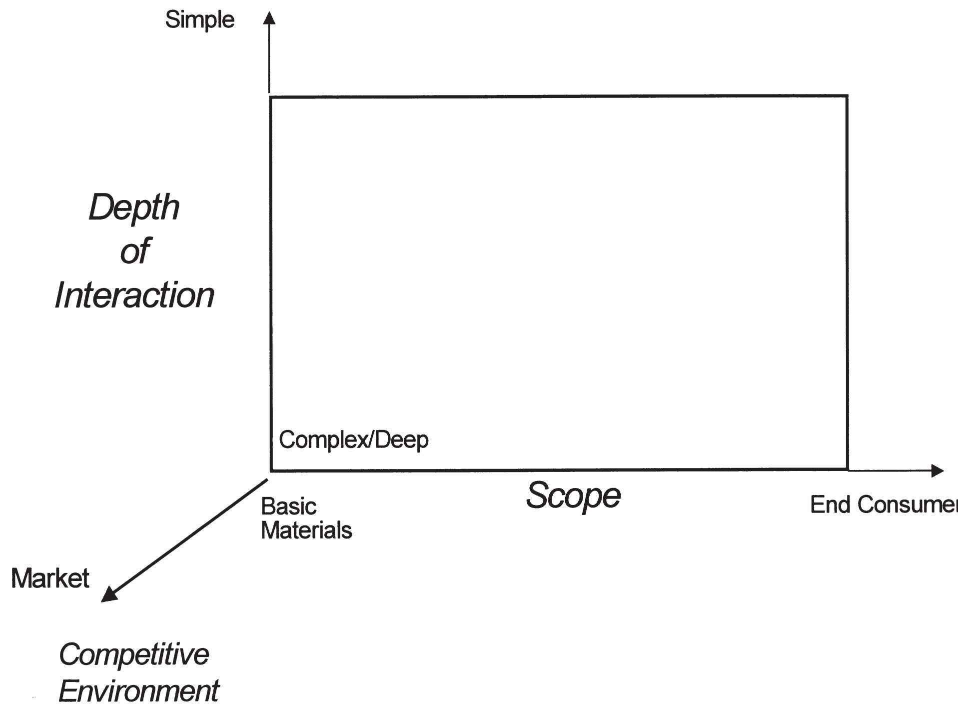

FIGURE 4. Defining the scope, depth of interactions, and competitive environments of value networks.

puters where they receive payment when the computers are built, whereas the typical firms' model builds computers to be held in inventory within the channels of distribution. Given the rapid technology change in the computer industry, the typical firms' model carries some risk of inventory obsolescence as prices of components fall and thereby potentially lowering the price of computers in inventory. The success of building the computer closer to the market has forced Dell's competitors, such as IBM, Compaq and other firms to modify their business model to try to build computers closer to their customer, reducing the inventory carrying risk. Dell Computer Corporation has recently outsold Compaq Computer Corporation for the first time in the United States. Dell Computer sold 7.02 million computers in the U.S. for a 16% share of market versus Compaq's 15.7% share of market [5]. Sell-

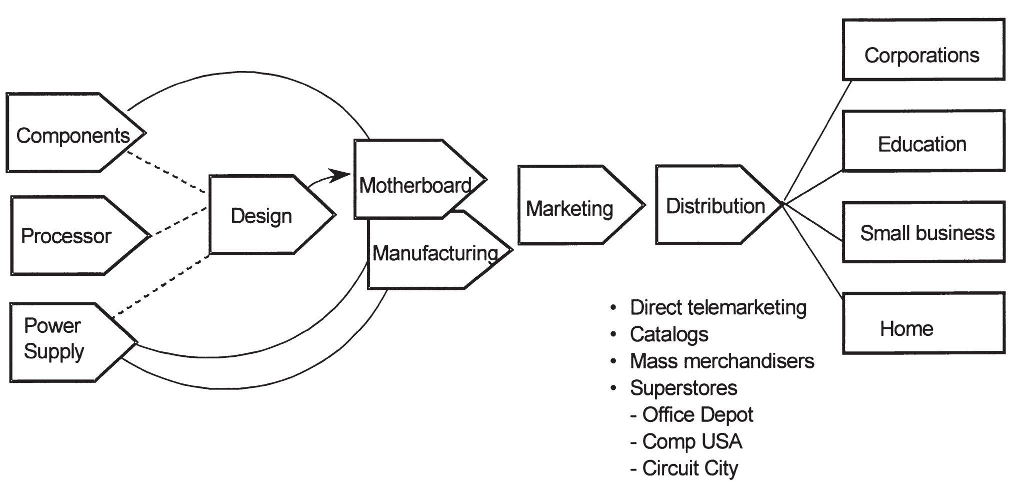

FIGURE 5. Building toward enacted value chain; a typical computer firm.

ing computers via the Internet has become a more effective business model than selling computers through traditional channels.

IMPACT OF E-COMMERCE ON VALUE-CREATING NETWORKS

As value networks or value chains emerge, one of the great forces shaping value networks is electronic commerce (e-commerce). The ultimate force in redefining value networks or value chains will be e-commerce that has the potential to redefine marketplaces. The benefits of electronic commerce are many, beginning with the ability to broaden the reach of the firm and offer a larger potential customer base. Geographic boundaries no longer exist and the e-commerce site, depending upon the software and hardware behind the Web site can operate 24 hours a day, 365 days per year. From a marketing perspective e-commerce offers unbounded opportunity to redesign the firm.

The Web opens a new channel to service current customers and build sales with new customers. Business-to-business marketers should be natural users of e-commerce as they have a customer base that have computers and are likely connected to the Web. Payment systems and delivery systems are in place and management control can be established through control of who is authorized to buy and where the product may be shipped.

Electronic commerce makes it possible to reduce the costs associated with holding large physical inventories as the time gained in order processing reduces the need for holding inventories in branch locations. The value network can be connected electronically, improving the responsiveness of the system and reducing inventory.

The cost of serving customers who specify their needs and place orders over the Web is significantly less than a sales call or telephone sales system. Faster customer response is accomplished with 24-hour access. Customers with questions are able to directly access centrally maintained current information. A customer could see the status of their orders and shipment information. It is possible to have a "hot" button that will connect the customer to a 24-hour sales operation.

In some circumstances, new products can be developed working with lead users over the Net as they respond to prototypes. Launching a new or revised product is fast as product, specifications and prices can be quickly added to the Web server and made available to the customer base.

Customer relationships exist at a different level than traditional relationships. Because electronic commerce may offer the buyer a choice of how they connect with the company either through a sales person, over the Web or a combination, each customer will be able to build the type relationship that they prefer. A customer-need profile can be developed for each customer by running a data collection program in the background. This data can be used as input to new product development, target marketing and gaining better understanding of the customer.

The specific impact of electronic commerce on value-creating networks can be understood by revisiting the model of value-creating networks in Figure 3, and focusing on the three building blocks of customer value, core competencies and relationships. The new technology is going to help distinguish product value-added from process-value added. Figure 6 describes how value can be created through lower prices, a value-added product, and a deep relationship that creates value through reducing transaction costs. The lower left cell where product value added is low and relationship value is low is likely to be where buying is conducted through a bidding model. In the upper right cell where the product value added is high and relationship value is low buying will likely involve negotiated bidding. The firm with the most value to offer will likely be able to negotiate a higher price than the lowest bidder who provides less value. The greater the impact of the seller's product values upon the buyer's product the greater the seller's ability to extract a premium price.

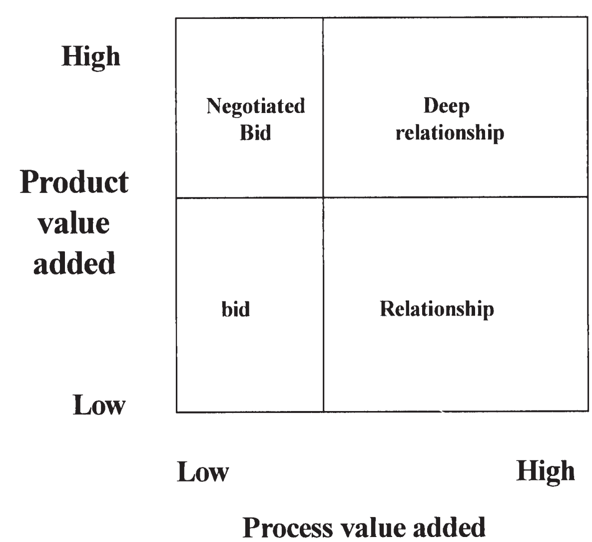

FIGURE 6. Relationship between product and process value.

When value is created through the buyer–seller relationship and product value added is low, a relationship-buying situation will develop where the seller's skill in managing the relationship to create value will be a determinant of supplier selection. Price pressures will be high as there are many substitutes at the product level but the relationship value creation will differentiate the sellers. When both the product value added is high and value is created through deep relationships a long-term partner model is likely to develop. In all of the cells price will always be an issue, but where value is created through relationships the margins will likely increase even as prices decrease because both the buyer and seller reduce their transaction costs and increase the margin.

Core competencies are going to need greater definition under unexpected onslaught from technology-savvy industry outsiders. This is more evident in the hospitality industry than anywhere else. Hotels are finding it hard not to have relationships with airline agents and tourist operators as the middlemen come with a non-traditional core competency in "maximizing Web page hits." Part of the rent that the hotels used to derive from their core competency now needs to be shared with certain other members of the network who bring a new type of competency that is dictated by the electronic business environment.

BATTLE OF THE PARADIGMS

There are two views about the impact of Internet on relationships. One view prescribes that the relationships will get less intense as the cost of coming together to perform business activity gets lesser due to the increased connectivity offered by the Web. The other view predicts that the emerging arena would formulate business models that need closer relationships to be effective. In a recent study of purchase managers, Segev et al. [6] report that the managers, in general, believe that Internet makes becoming closer to suppliers cheaper and that it will reduce the length of the supply chain through easier location of suppliers. They also felt that the Internet would increase supply chain efficiency through easier sharing of information. This belief, combined with redefinition of value and emergence of newer core competencies, point to the strengthening of value-creating networks in the immediate future.

The Internet facilitates relationships by making information available in a 24/7 format and increases communications within the organizations and between the organizations. The linking of computer systems builds structural bonds that are difficult and expensive to break. An incumbent relationship partner has inertia helping to maintain the relationship and as long the incumbent continues to deliver value it will be difficult for a new supplier to break the relationship.

On the buying side of the business many purchasing managers believe that E-procurement will provide them the means of reducing costs through bidding models via the Internet. Their concept of value creation is the reduction of price that increases the value created for the buying firm. The Ford Motor Company has partnered with Oracle Corporation to create a link with 30,000 suppliers [7]. General Motors Corporation plans to place its $87 billion annual purchasing budget on its TradXchange by the end of 2000 [8].

Procurement managers see the Internet as a way to reduce buying and transaction costs as well as a means of creating value-linked price pressure on the sellers. A relationship model creates value through in-depth interaction that reduces redundancies in the transaction process lowering costs. The deep relationships support concurrent engineering activities and process changes that increase speed to market and lowers cost. The supplier in these deep relationships strives to reduce the price of their products as they gain efficiencies.

Electronic commerce will not replace traditional business-to-business relationships but will become an important extension as to how business is conducted. Electronic commerce will be a potent force in redefining value networks. Channel members, such as distributors, may be the firms most at risk as their functions may be eroded as firms go direct to their customers or an E-intermediary places itself between the firm and its customer. The term, "disintermediated" was coined to explain the removal of middlemen in today's world of electronic commerce. Dell Computer is an example of a firm who chose to bypass channels of distribution and go direct to their markets. Dell is precluded from the segments of consumer markets that require a salesperson to help the customer understand their needs and options. However, once the consumer becomes knowledgeable about computers then Dell becomes a potential supplier. Within the computer market, alternative value networks compete for customers. Web-based buying systems change the economics of serving market segments generally in favor of the Web-based system.

Looking to the future, it is possible to visualize a Web-based customer system that would elicit customer needs from a technology buyer and then create a product to meet those needs. The buyer would then be able to manipulate the product and make a trade-off between different levels of engineering performance and price. The system could even provide comparisons in performance and price between off-the-shelf products and the custom product. The buyer could be informed as to when the product could be manufactured and delivery date. The hardware and software is currently available to build such a system.

The increase in customer information requires more sophisticated analytical systems. How we make decisions as we receive more and more data from the marketplace will have impact on our ability to compete. Lilien and Rangaswamy [9] have developed a series of integrated models working off a Windows interface that allows in-depth analysis of business situations. They call their analytical approach as "Marketing Engineering." It draws upon the basic quantitative and makes them accessible to management.

STRATEGIC IMPLICATIONS FOR MANAGERS

This article began with value and how it is linked to our core capabilities that are extended or enhanced through relationships. The scope of the value chain and the firm's position within the value network impacts our ability to develop competitive advantage. A careful analysis of what is value to customers and how well firms meet their customer needs should be part of the strategic assessment. The links between value desired by the customer and our abilities to deliver value need to be tied to an evaluation of current core capabilities and future capabilities needed to meet future value needs. The ability to be a superior partner in a relationship is in itself a core capability. An audit of the firm's partnering skills will identify strengths and weaknesses.

Understanding the firm's position in the value-creating network is the first step in setting a strategy to optimize the firm's position. Value networks usually have a leader who manages the network. Automobile manufacturers lead their networks as they control the brand, design, and assembly and core engine drive train activities. Suppliers range from strategic partners who provide significant value to the product to facilitative partners who help manage the costs of doing business to transaction partners that compete on price. Automotive buyers push all of their partners on price but a strategic partnership is more likely to be able to extract a premium price because of the value they create.

The emergence of value network or value chain thinking is a challenge to strategist to understand their own value network and the networks of the competitors. In particular, the impact of electronic commerce will be significant in the next five years. It will likely vary across industries but where and how it will vary is not easy to determine without careful analysis. Managers need to rethink how they will provide value to their customers as traditional value networks change. Firms cannot be laggards in managing the strategic implications of these changes or they may disappear as entities.

SUMMARY

Information is no longer part of the environment. For many firms it is becoming *the* environment. The ability to define and build an electronic business model will be a critical success factor for all industrial marketing managers. The push to create value for the customer, to create core capabilities and to build relationships that emerge into networks of relationships will continue in North America. There is no doubt that value-creating networks and value chains will become watchwords in the emerging marketplace. The world is far too complex for individual firms to be able to do all things; therefore, they will need partners. Buyers are becoming far more sophisticated and with the advent of electronic commerce they become more global. Managers and researchers alike must rise to meet the new challenge.

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