# “Strategic Management of Value Creating Networks”

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# STRATEGIC MANAGEMENT OF VALUE CREATING NETWORKS

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## Introduction

Traditionally, firms compete at the firm level in a head-to-head battle for market position. Suppliers and channel members are treated in an adversarial manner as the relationship between firms is viewed as a win-lose situation. For forward looking firms, the future will be characterised by a shift from individual level competition to competition between networks or value chains.

The value chain is the group of firms that combine together to deliver a value product or service. The move from an adversarial relationship within the value chain is predicted upon the assumption that co-operative relationships yield a more effective and efficient system for delivery value to ultimate customer.

Terms such as, value chain, value creating network and supply chain management (SCM) reflect the evolution in competition from firm versus firm to systems of firms versus other systems of firms. For example, Franklins and its value creation network competes against the systems built by Coles and Woolworths. Or the Australian pear grower packing shed and exporter system competing against the South African Outspan system.

Hence, one of the key elements of SCM is the notion of "co-operating to compete". As the focus of competition shifts then firms within a system can be better off by working together on co-operating. But make no mistake; competitive pressures drive the trend. In order to be an effective competitor, firms may need to be good co-operators.

Competition in the next century will be between networks of firms forcing firms to use a wider range of resources and core capabilities to be able to compete. Most firms are not able to assemble the necessary resources and core capabilities within themselves, therefore they will seek partners to provide resources and core capabilities to help them compete. This network of firms working with each other to create value for a customer is our topic of this paper. We will

describe the basic elements necessary to create a value-creating network. The paper concludes with a discussion of the strategic implications of value-creating network competition.

Slywotzky (1996) links market value creation to the firm's business design. The business design, "is the totality of how a company selects its customers, defines and differentiates it offerings, defines the task it will perform itself and those it will outsource, goes to market, creates utility for customers, and captures profits. It is the entire system for delivery utility to customers and earning a profit from that activity". Business designs can be viewed at the firm level or within the context of a value creating network or value chain. To understand value chains we need to understand value and its creation through combining the core capabilities of several firms. Purposeful value chain design involves the application of the business design concept to the creation of a network of firms that combine their core capabilities to create and deliver value to the ultimate consumer. Individual firms within the network can create superior business designs that provide value to their customers. The creation of firm value is linked directly to the core capabilities of individual firms. The creation of network value is linked to the combining of capabilities of the key firms in the network. To understand value chains or value creating networks we need to understand what is value, core capabilities and the linking of firms into a network through relationships between the firms. We discuss value and then link it to core capabilities and then discuss how relationships effect the efficiency and effectiveness of a value chain. Value chains are explored and examples are provided to illustrate the concept. We conclude with a discussion of the strategic implications.

**Value**

Value is one of the most misused words in business. We use the term value to describe the relationship between the total marketing offering of the firm and the price of that offering. To understand customer value, we need to go back and revisit the marketing concept. The marketing concept states that customer needs drive the creation of products and services that

satisfy these needs at a profit to the firm. Unfortunately, firms have not been very successful in fully implementing the marketing concept because superior technology and products would win in the marketplace. Technology and product-driven companies succeed in the marketplace with a good organization and modest marketing effort. These firms strongly believe that technology and good products are the way to win in the marketplace. However, there is emerging a strong trend to add, not replace, but add, the strength of marketing to the already strong product and technology base of companies as great products and technology are no longer enough to win in the complex world of the 90's. A lot of the leading business-to-business firms have programs in place to upgrade the marketing skills of their marketers.

However, satisfying customer needs or creating a satisfied customer is no longer enough to win their loyalty. We must create better value than our competitors. Value results from the core capabilities of the firm and its partners to deliver a product that fully satisfies the needs at a competitive price.

The market offering of the firm encompasses the technology supporting the product or service, the physical attributes of the product, the company reputation and the attributes delivered by people representing the organization. The customer weighs the complex bundle of attributes or market offering against competitive market offerings, with relative price being the item that relates the two market offerings. Value is the relationship of the firm's market offering to the price for the market offering. The consumer weighs the competing market offerings against their prices and determines the relative value of each offering

Value is a relative concept in that the consumer evaluates the products or services that fall into their evoked set. Comparing the value Timex watch to a Rolex watch is not relevant, as most purchasers of one or the other product would not see them as being equivalent choices. The buyer determines the relevant set of product or services to be considered. The consumer/customer sets value.

When the economy was down, firms moved to convince the consumers that they delivered more value than their competitors. In many instances, it was more of the product at a given price, hence, the McDonald's development of "value meals" which were a package bundling together a hamburger, French fries and a soft drink at a lower price than the sum of the individual items.

Value creation is more complex in business markets as we have multiple buying influences that are concerned with subsets of attributes rather than the total attribute package. A full discussion of how to measure and combine attributes is not within the bounds of this paper. For our purposes, it is enough that the firm who can deliver value in the marketplace will win the battle for the consumer or customer.

Consumers ultimately define what is value. Most firms are in derived demand sectors of the economy in that they do not sell anything until the consumer buys a product and the effects that sale ripples back up the value chain. The consumers for many products are firms. Personal computers, pens, fuel and other items are consumed in the operation of the business and they are not linked directly to the satisfying of consumer needs. The consumers in this case are the business firms.

## Core Capabilities

Creation of value depends on the ability to deliver high performance on the attributes that are important to the customer. Competency in technology and business processes gives the firm the ability to deliver performance on important attributes. These competencies are the core competencies or core capabilities of the firm. These core competencies are rare within most firms. A single firm is fortunate if it has three or four major core competencies. To be a core competency the skill must add significant value to the market offering must assist the firm to access multiple markets and it must be performed at a superior level that very few firms can emulate. Core capabilities have a process and human content beyond what seems to be inherent

in the Prahalad and Hamel (1990) 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 past few years. Timothy Devinney offers a full discussion on capabilities and competencies in chapter 5.

Core capabilities are few and yet are the key to delivering superior value. In a business such as the automotive business, the technological environment has become so complex it has become very difficult for any one automotive firm to keep up with all of the core capabilities necessary to build a car. For example, 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. The electronic technology is only one example of the many technology changes in the automotive industry that drives them to change how they deal with suppliers.

The Ford Motor Company at one time with their Rough River Plant 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 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 the partners work closely together. This need for

deep relationships takes us to the third dimension, which is building partnerships and relationships.

Value Chains Management

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. Relationships can range from transactional relationships where the buying firm negotiates with a set of potential suppliers for annual contracts to deep relationships where firms integrate their activities and the supplier may have a number of employees working continuously on site at the buyer's firm. The type of relationship can affect the efficiency of the value chain.

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, we argue 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. We call these sets of firm's value creating networks as they have been assembled for the purpose of creating value for the customer. The original focus was at the firm level. 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 the mid-eighties, many firms have moved from an adversarial model of buyer-seller relationships to one of cooperation

In North America, firms are now trying to analyze and determine their position within value chains or value networks. Value creating networks or value chains have multiple names

describing the same phenomena, 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, we will present some basic concepts on defining value chains and show examples of how they are applied.

**Value Creating Networks**

In value creation networks there is a fundamental transformation in the relationship between channel participants from buyer-seller choice to mutual investments in each other's business. As Table 1 shows, it is more useful to think in investment-related terms, rather than a buyer-seller choice framework.

In other words, rather than ask, "do we want this company as a supplier/customer," the question escalates to "are we prepared to invest in this other firm." Even though the investment is not likely to lead to an actual ownership position, the end result is the same – a strategic commitment to the performance of the other firms in the supply chain.

The secret for successful value chains is that, as the level of investment increase, and firms consequently lose some independence, a position of mutual dependence or interdependence is created. Interdependence is what makes value chains work. The quest is not for power, but for interdependence.

The challenge in putting value networks into practice, therefore, is to:

- trust based interactions create a willingness to ...
- make strategic investments in other value chains firms in order to ...
- create a position of interdependence and at the same time ...
- to protect against opportunism; and ...
- to develop systems to share the rewards fairly ...
- encouraging further mutual investments.

**Table 1 – From Transactions to Relationships**

| | Consumer Transaction | Buyer-Seller Relationship | Value Chain Partnership |
|---|---|---|---|
| Relative Position | Independent | Negotiation Position/power | Interdependence |
| Rationale | Product/service Choice | Supplier Choice | Investment in the relationship |
| Marketing Task | The 4P's of the marketing mix | Winning the order | Developing the relationship |
| Measured by | Customer satisfaction | Satisfaction | Commitment to relationship |

By asking the question "are we prepared to invest in (the relationship with) the other business and to create a position of interdependence" the key partnership trade-offs are highlighted. Investments are not guaranteed, but involve risk. For example, closer relationships involve a shift from "market-risk" to "relationship-risk." Investments can be in people, time, or capital resources, and involve some level of risk as well as expectations of future profit.

If your firm does not impact the key attributes of the product or service then you are not in a position to extract a large share of the profits. It is critical to know you current position in the network and to devise strategies to improve your future position in the network. All business firms are part of a value-creating network. Some firms play important roles and have influence in shaping the network, while other firms play minor roles and are shaped by the network. Development of effective strategy requires understanding the firm's position within the set of networks that defines its markets and competitors. Gaining the understanding of firms network position requires significant effort, as we normally do not conceptualize markets and competitors in value network terms. Traditional analysis is based upon market structures and competitors. In this section, we will describe some basic concepts of value network analysis and then describe some examples of how these value creating networks can be put together.

The first step in describing a value network is to describe the natural value chain or network that exists when there are no barriers between activities in the network. A natural value network is described in Figure 2. This example of a natural network describes the basic steps in

creating a computer. Obviously, the reality is far more complex, but it does give us a sense of what has to be done to create the computer. The second step is to create the enacted value network. An enacted value network represents the reality of the situation where there are barriers to the exchange of the elements of the value network which have been put in place because we are buying and selling the components. For example, if one assumes an adversarial relationship, you have 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 3 describes the scope, depth and competitive environment, which are dimensions that we can use to analyze value networks. The scope of the value network defines the range over which we study the value network from basic new materials to final consumer. For example, we can go back to the very basics of copper and plastics forming a circuit board, which goes into a computer, or we can assume we start at a printed circuit board level and analyze the value network forward to the retail store selling computers. As stated earlier, Ford Automotive at one time was so fully integrated that the value network began with mining iron ore from the Ford mines that was transported on Ford ships to the Ford Rouge River Automotive Plant where the iron ore was converted to a Ford automobile. The range of the activities defines the scope of the value chain. A value chain could start with a printed circuit board and end with a consumer product or it could start with copper extraction and chemical manufacturing of plastic and trace the multiple steps to reach the final consumer product.

Depth of analysis describes granularity of our analysis of the activities within the value network. In the depth dimension, we only look at basic activities of assembly rather than the entire myriad of steps that goes into the assembly process. As we gain depth of analysis, we would experience greater complexity as we describe 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 we compare ourselves to 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. We all have a theory of the market and how it operates and a value net analysis provides new insights and challenges to our current model. Figures 4 and 5 provide a simple value network analysis of two leading computer firms, Compaq and Dell. Both are exceedingly successful firms, but both have very different models of going to market. Compaq's model emerges from its early focus on being a fully compatible IBM clone. Compaq moved well beyond being a maker of clones as it sets standards in the development of computers and established its own brand. Compaq relied heavily on a dealer network and have followed that model consistently throughout their emergence as a major player in the computer business. The competitive pressures from the Dell business design have caused Compaq to adjust their model to sell more directly to the consumer.

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 computers where they receive payment before the computers are built, whereas the Compaq model builds computers to be held in inventory within the channels of distribution. Given the rapid technology change in the computer industry, the Compaq 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 competitors, such as IBM, Compaq and Packard Bell to modify their business model to try to build computers closer to their customer, reducing the inventory carrying risk.

Another example of how a firm can combine core capabilities to fully exploit opportunities in the market is the development of a firm called Calyx and Corolla. Figure 6 describes the traditional value network in delivering flowers to florists and consumers, while Figure 7 describes the Calyx and Corolla value network. The entrepreneur, Ruth Owades, saw an opportunity to sell flowers through a catalog. She had the core capabilities of catalog list management and catalog creation but needed partners to develop her concept. She approached a number of growers who were wholesalers of flowers but did not sell anything at retail. She taught her partners how to package the flowers so that they arrive at the customer looking like the flowers described in the catalog. This became a core capability of the growers.

Delivering flowers on time to the customer is an important part of the concept. Ruth Owades approached Federal Express, who has a strong reputation for reliability in delivering packages to customers, to be Calyx and Corolla's delivery system. Convincing Federal Express was not an easy task because the growers are generally located in rural areas, not in high-density areas. However, when Ruth Owades approached Federal Express, they were looking for new ways to grow their business and were willing to become a partner in her enterprise. Their core capability of moving things overnight and delivering them the next day was an essential ingredient in speeding the flowers to the customer. The concept was predicated upon the belief that a significant proportion of the market would find value in having flowers several days fresher than they could obtain through local florists. Calyx and Corolla has been successful in developing and selling their product.

Individual trends of value creation, core capability development, and the movement to a cooperative partnering environment in many firms is taking us into an era where competition is going to be defined by networks of firms rather than at the individual level. In North America, we are finding that more and more firms are beginning to develop value network or value chain analysis as a critical step in their strategic positioning. It is in its infancy, as we cannot even agree upon a language that describes the process. It is going to be a major push in the next few years.

## Electronic Commerce

Strategy is not simply not playing the current game better, but is all about preparing to define and play the next game. Electronic commerce will be the future game for most businesses. As value networks or value chains emerge, one of the great forces shaping value networks is electronic commerce (e-commerce). The Dell Corporation is now selling $14 million a day or over a billion dollars a year of computers over the network. The cost of Web sales is significantly lower than the cost of sales that are made through either the direct sales force calling on large organizations or through individuals talking to other individuals on the telephone. The ultimate force in redefining value networks or value chains will be electronic commerce (e-commerce) which 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.

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 costs of serving a customer who specifies their needs and places an order 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. Since, 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 visit and 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 Web delivers images, text; voice and video organized on hyperlinked HTML pages. Interesting multimedia presentations can make the shopping experience an educational and compelling buying experience.

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. 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 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.

## Strategic Implications

There is a lot of uncertainty in the environment as we enter the new century. We do not know the rate at which network competition will develop. We do not know the rate at which the web and EDI linking between partners will develop. A great many unknowns, but we do know some things that are important. We know that competition will move from being competition between firms to competition between networks of firms. We know that the web and electronic interchange and all of the products of computers and web-based interaction will have a significant impact upon the firm in the next century. Although we do not know just how all of these changes will come about, we do know they will happen. Therefore, we need to begin to prepare ourselves to take advantage of the opportunities they create for us.

We do know for certain that some things will happen. We know that value will continue to the driver of customer choice. We know that we do not have all of the resources that our firms will need. And, we know that we will have to be involved in value-creating networks. To get ready to deal with these changes, we need to begin by understanding customer value. Utilizing customer value begins by market selection. We need to understand what is value to large and important customer groups. To determine customer value requires a research program that explores groups of customers and how these needs are translated into value dimensions within the marketplace. There are two ways one can create value: 1) through the market offering involving the physical product; 2) through the exchange process. We have found in research that both of these activities contribute value to the customer. The physical product provides a great deal of the value in the exchange process but for many companies there is very little to choose between their market offering and that of the competitors. However, how the physical product and market offering is executed and exchanged provides a way to differentiate the firm on another value dimension. All firms want hassle-free partners.

Understanding customer value permits us then to make selections between markets and feed input into our product development and adjustment process. Value also determines the resources we need to be able to create the necessary value to win the marketplace battle. This in turn will lead to selection of partners on the basis of the resources and core capabilities they can bring to the value-creating network. It is the design of this network that becomes the senior manager's task. To be able to build value-creating network requires a cultural shift within firms. One cannot take a firm that has a strong competitive drive and believes it is best to operate opportunistically with suppliers and partners and convert it overnight into a firm that believes that more value can be created by acting in a cooperative manner. The process of creating a culture and a reward structure that encourages the alignment of the many units within a firm that are necessary for successful partnerships is an important task of senior managers. If the manager does not show his or her strong belief in cooperation as a paradigm, then the rest of the organization will act in an opportunistic way and destroy relationships.

Another important step in getting ready for value-creating networks is to take stock of our own value chain or value-creating network. Many firms have yet to do this basic study. Firms we find can very nicely describe their relations one step up and one step down the value chain. They really understand their suppliers and their first level customer. Unfortunately, many firms do not know what happens to their product once it past beyond their first level customer and what are the implications of it in the marketplace. Many business firms, and particularly business-to-business firms, are in a drive demand business that is only responsive to consumer spending. We must understand what is value at the consumer level and more importantly how we contribute to that value. If we do not make a significant contribution, then we have some real problems in extracting extra value within the value-creating network.

The first step in understanding the value-creating network is to begin to incorporate value chain analysis as part of the annual planning process. One has to expect that this will take a couple of years to fully reach its optimal point. It begins by asking each planning unit to develop a value chain analysis for their most important markets. Reaching a full understanding may take

up to two years because there is a great deal of analytical work to do. The beginning point is to understand where value is created in the chain and who contributes to its creation. The firm needs to know its role in value creation so that it can understand how to improve or consolidate their position. An important point is that the firm needs to begin now in building the skills needed for value chain analysis.

Once the value chain is defined, it may become obvious how web technology may alter this value chain. It also may help define how to use EDI and web technology to create additional value for participants within the chain by reducing costs of transactions and making transactions easier. There is no doubt that how we do business today and the value chains that now exist will not be the same as we enter the early years of the 21st century. Leaders in firms need to find non-competing partners to form a web consortium to try to understand how the web is affecting different businesses. This is an area that there are few books about and those that exist are rapidly dated. It is important that managers invest into this area in becoming knowledgeable to be able to assess the options available to them.

The maps that guided competition when we competed against another firm like ourselves are no longer valid. We have gone beyond the edge of the map and are now looking at new territories. New ways to compete as groups of firms and new technology that strengthens the groups and at the same time may destroy a value-creating network through its own creation of a more powerful network. It is an exciting time, but a challenging one.

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**Figure 1 Critical elements of creating a cooperative value chain**

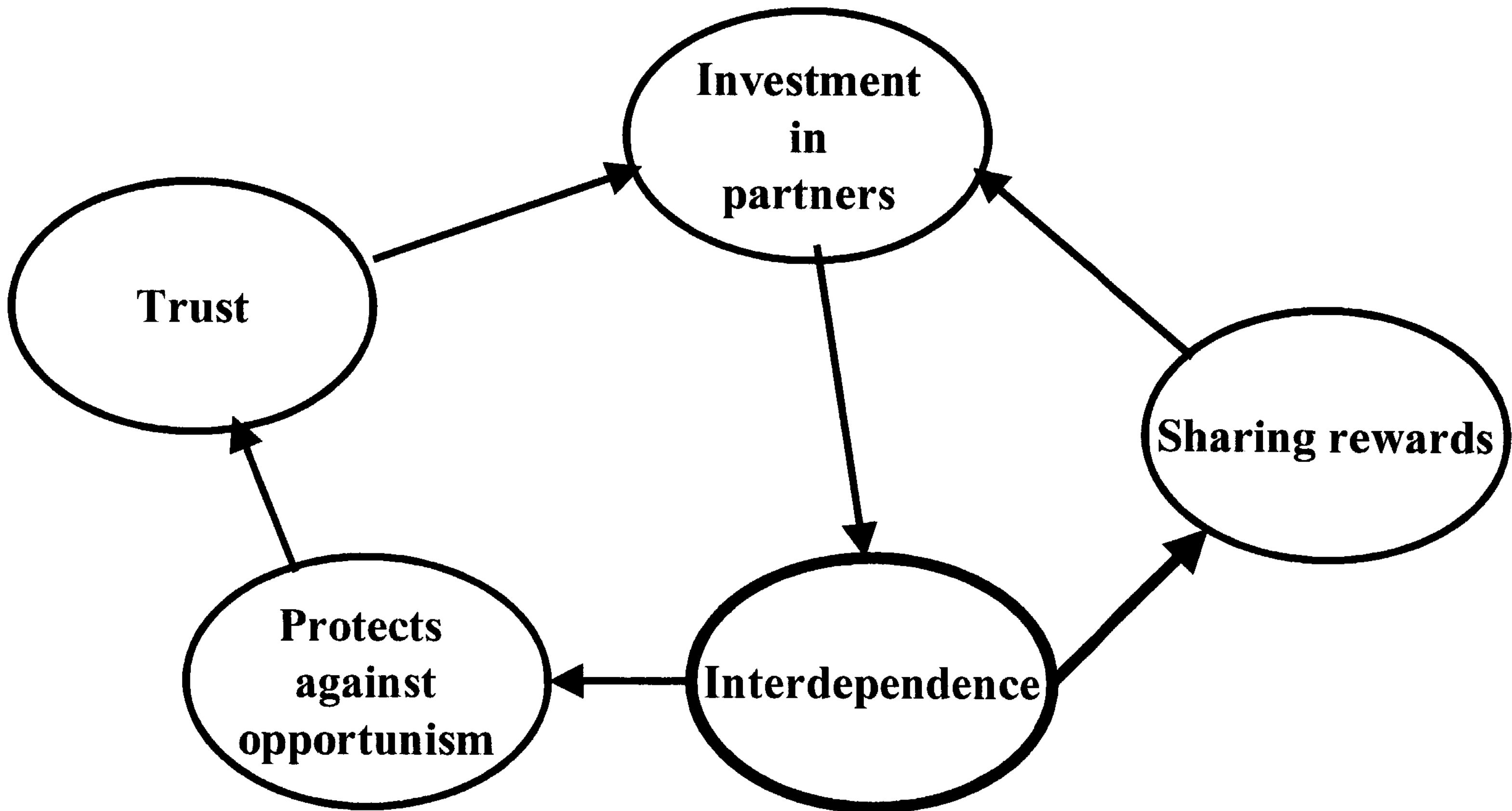
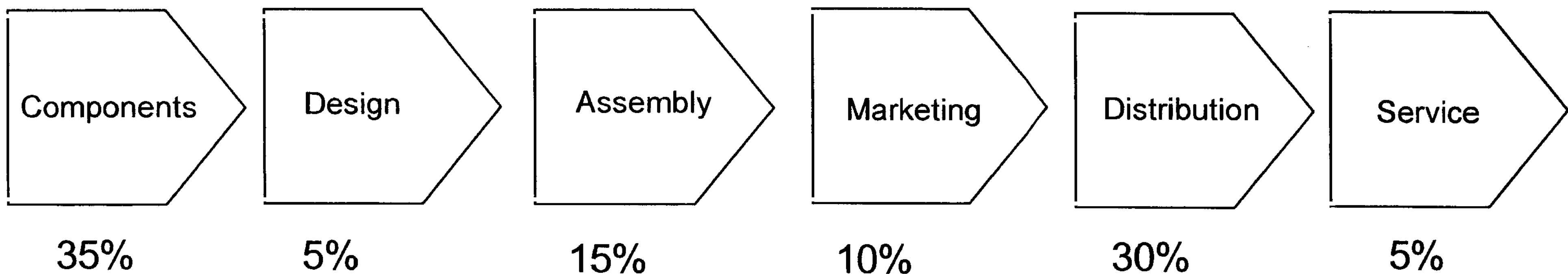


Figure 2
The Natural Value Chain or Network

Assumption: No Barriers

Example: The computer (PC) natural value chain




*Percentages represent the share of final cost*

Figure 4 Building toward enacted value chain: Compaq

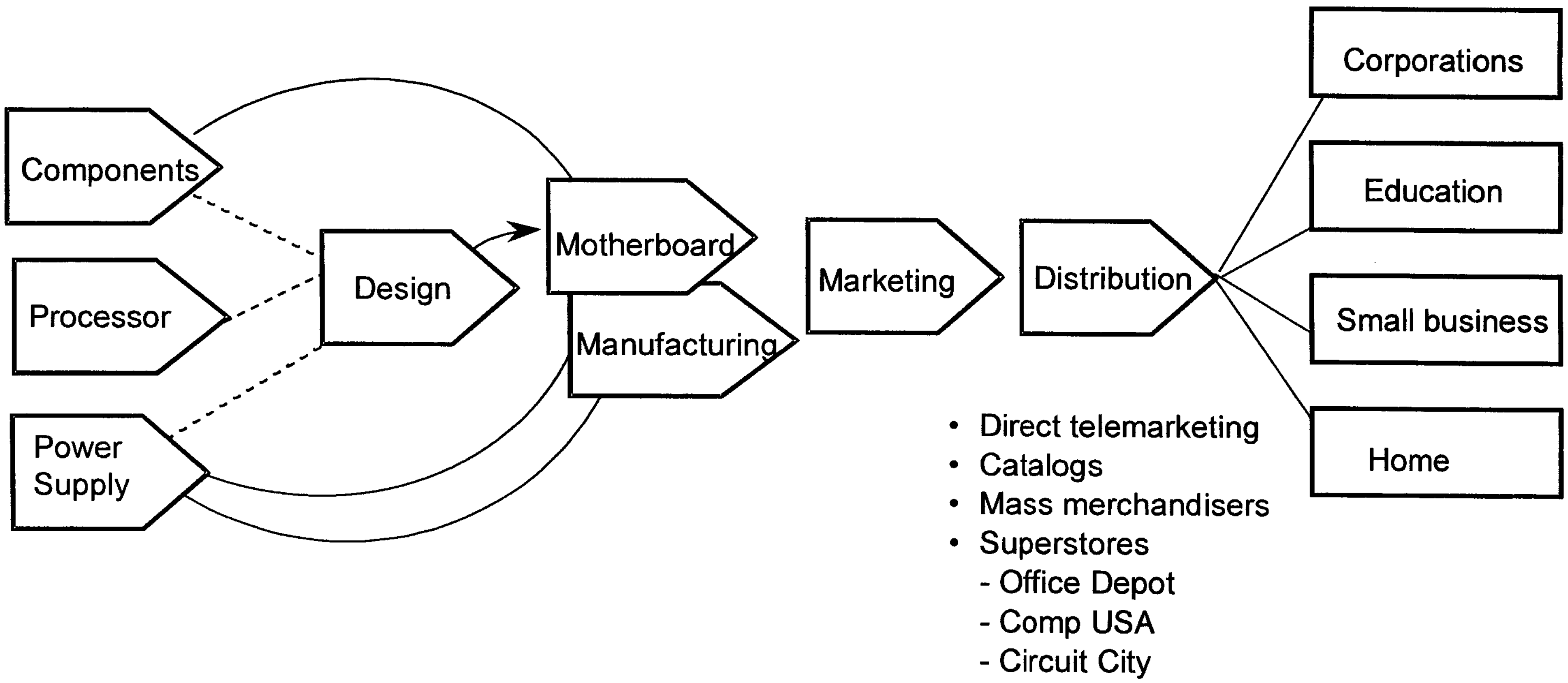


Figure 3
Defining the scope, depth of interactions
competitive environments of value networks

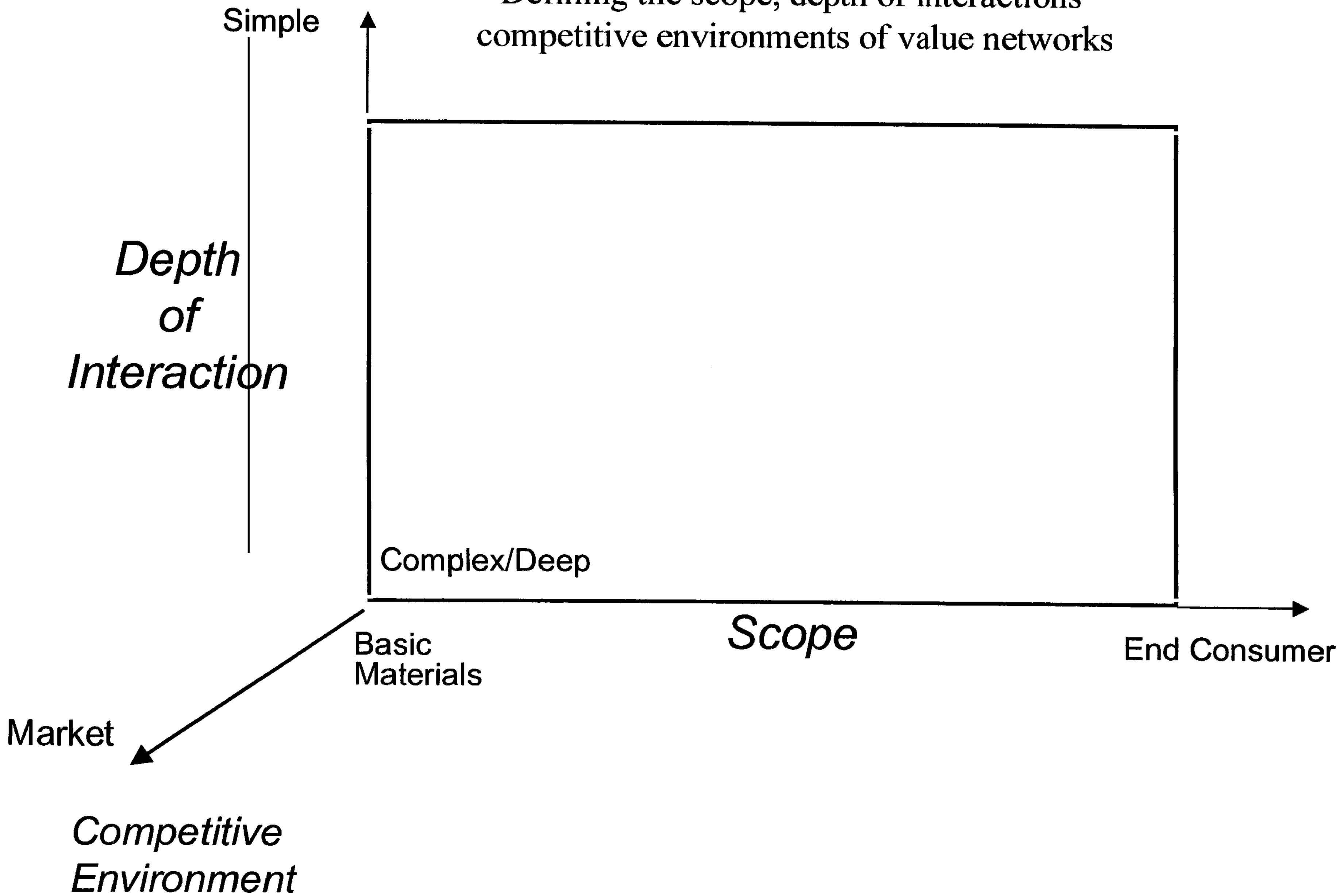


Figure 5
Building toward enacted value chain: Dell Computer

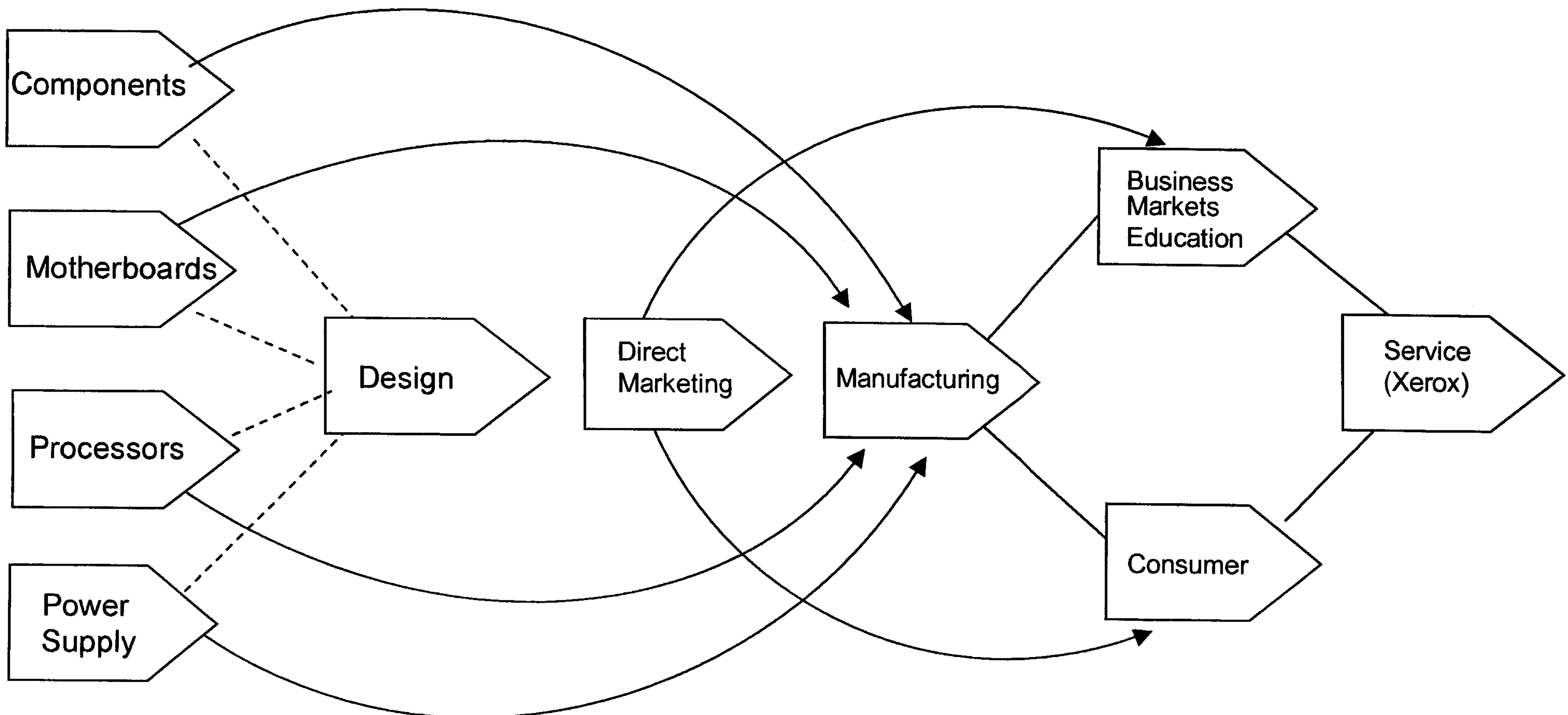


Figure 6
Distribution from grower to consumer: traditional method

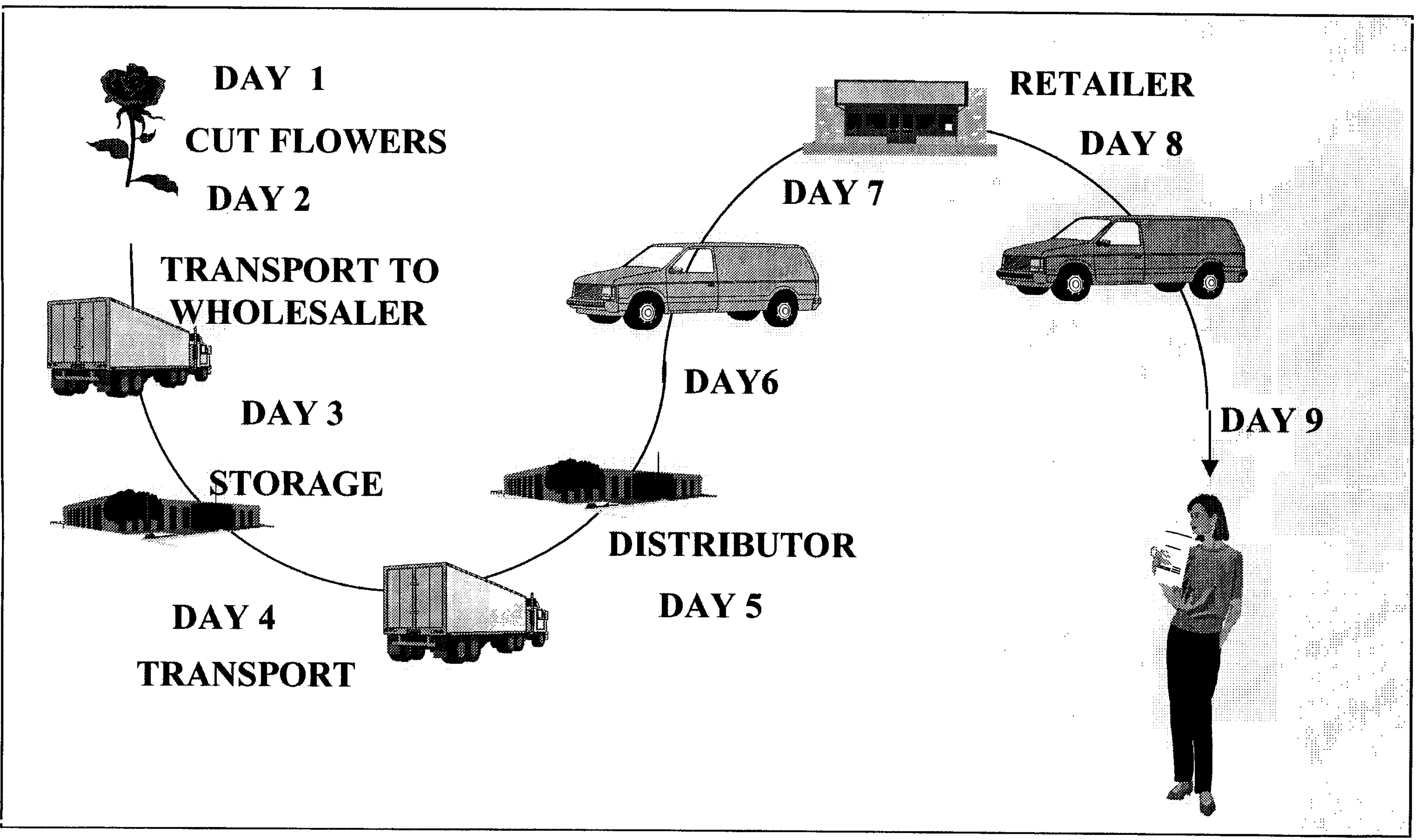


Figure 7
distribution from grower to consumer :calyx & corolla