

Value Chains Versus Supply Chains

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Abstract

The concept of a Value Chain has existed for twenty years but we find it still is an unclear concept. It has been suggested that the third generation supply chain is based on customer intimacy and is fully synchronized. In this paper, the authors discuss the need to relate the concepts of the value chain and the supply chain in a more comprehensive and integrative manner. We begin with a discussion of value and the development of the concept of value chain. We then discuss similarities and differences of the value chain and the supply chain, and conclude with suggestions regarding the need for synchronizing value and supply chains to optimize business performance.

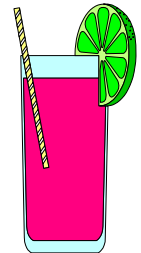
What is Value?

The Value Chain concept was developed and popularized in 1985 by Michael Porter, in “Competitive Advantage,” (1) a seminal work on the implementation of competitive strategy to achieve superior business performance. Porter defined value as the amount buyers are willing to pay for what a firm provides, and he conceived the “value chain” as the combination of nine generic value added activities operating within a firm – activities that work together to provide value to customers. Porter linked up the value chains between firms to form what he called a Value System; however, in the present era of greater outsourcing and collaboration the linkage between multiple firms’ value creating processes has more commonly become called the “value chain.” As this name implies, the primary focus in value chains is on the benefits that accrue to customers, the interdependent processes that generate value, and the resulting demand and funds flows that are created. Effective value chains generate profits.

To bring the concept of value into focus, consider for a moment a person walking in the desert, a person who is dying of thirst. As that person walks they have one thing on their mind, and that is water. At that moment there is little consideration for the form of the water, the container, or who will be providing it. Water has a unique value to that person. When they find water, or they are offered some, money would be of little concern. What is the point of this example? First is that value is a subjective experience that is dependent on context. In the context of a busboy clearing a table, a glass of water sitting there has no value, or even negative value – it’s just more work for him. But for the man dying of thirst, that same glass of water is extremely valuable. Second, value occurs when needs are met through the provision of products, resources, or services – usually during some form of transaction or exchange. Finally, value is an experience, and it flows from the person (or institution) that is the recipient of resources – it flows from the customer. This is a key difference between a value chain and a supply chain – they flow in opposite directions. Many views of Value Chains can be created. Examples of Value Chains are

- One that takes an order from a customer
- One that fulfills a customer requirement
- One that defines a product or service
- And many others

We depict the Order Fulfillment Value Chain in Figure 1 as a pictorial of the comparison.



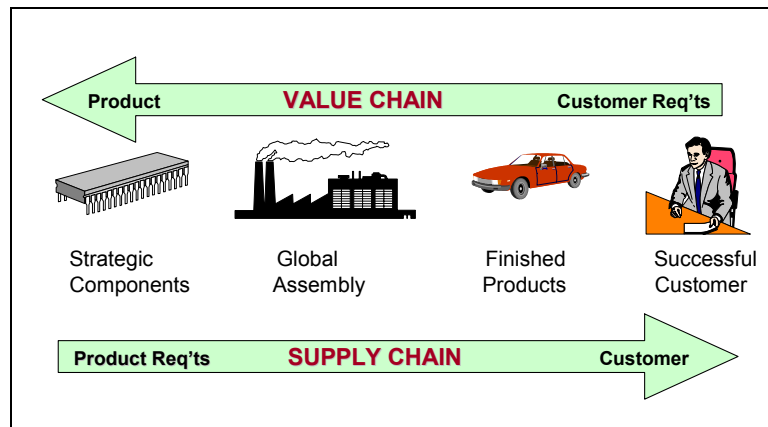


Figure 1. A Comparison of a Value Chain with a Supply Chain

From this simple example, we see that value, like beauty, is in the eye of the beholder. Value has meaning in a number of contexts, including trading relationships, consumer purchases, and the interests of company shareholders. In “Lean Thinking” (2) by Womack and Jones, the first Lean Principle was “defining value from the customer’s perspective.” From this come two critical factors that need to be clarified when strategizing the creation of value:

- 1) Who is the customer?
- 2) What do they value?

Most corporate initiatives are really about developing appreciation and awareness of customer needs and values, and then organizing the firm’s activities around efficiently providing for those needs – quickly, accurately, and at minimum cost. This is because value occurs when customer needs are satisfied through an exchange of products and/or services for some form of payment. The degree to which the needs that are met exceed the price paid in the exchange is one objective way that value can be measured. That is why paying \$1,000 for a gallon of water in the desert when dying of thirst might seem reasonable if there were no other alternative.

A key distinction in defining value is whether the exchange that generates value is between firms – i.e., Business to Business (B2B) – or between a firm and a consumer – i.e., Business to Consumer (B2C).

There are three forms of value that occur in B2B commercial transactions (3).

- Technical (Resource Value);
- Organizational (Business Context); and
- Personal (Career and Idiosyncratic)

Technical value is intrinsic to the resource being provided and occurs in virtually all exchanges. For the thirsty man, the water has a technical value regardless of the source or any other consideration. The cup can be used or even dirty, the man providing it a criminal, and the water will still have the same technical value.

Organizational value is built upon the context of the exchange, and may derive from a range of factors such as ethical standards, prestige, reliability, and association. Brand image may build organizational value, as well as company reputation. When at a fine dining establishment, the label on the water bottle generates value far in excess of the bottle’s content.

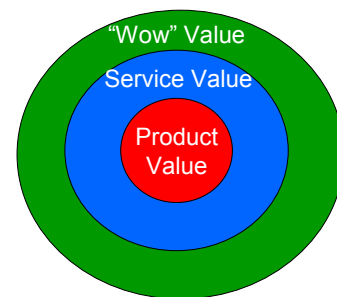
Personal value is derived from the personal experiences and relationships involved in the exchange of resources and the benefits provided. While technical and organizational value accrues to the firms involved in a commercial exchange, personal value accrues to the individual.

Manager motivation, preferences, feelings of comfort and trust create value for individuals that engage in trading relationships on behalf of firms, and can be extremely influential in the determination of successful exchange. For example it is a cliché that many corporate IT managers responsible for purchasing computer systems have selected IBM equipment because “no one was ever fired for buying IBM,” whether the system was the best choice or not.

Finally, there are competitive forces affecting the *market value* of any exchange of resources when comparisons can be made between competing offers. Competing offers can erode value (and margins) by making the lowest price a deciding factor in evaluating an exchange.

At the consumer level of exchange, value is layered, and has been described by three concentric rings (4). In the center ring is *product value*, the technical value derived from providing a source of supply. A second ring of *service value* is provided by the services that surround the product such as personal care and warranty service. The third ring has been called the new service/quality battleground, and was made popular by business thinkers such as Peters and Waterman (“In Search of Excellence”) (5). This third level of value is achieved by providing enhanced service, to “make your customer successful” rather than just satisfied. At this level, the experience surrounding the exchange of resources provides its own unique “wow” value, and the product itself is secondary. Ronald McDonald, happy-meal toys, and playgrounds have added value to McDonald’s burgers for years without any nutritional or flavor change in the basic product.

For corporations, the capability of providing value to customers generates revenues in excess of costs – creates profit, which in turn generates *shareholder value*. Thus, the exchange of value (or the value created in exchange) is the basic engine that drives our industrial economy. The upstream (value stream) impact of value creation is shareholder value. This is the value generated for the provider of those financial resources that enable value generation, based on a firm’s stock price and dividends or a private company’s return on investment.



Because value is derived from customer needs, activities that do not contribute to meeting these needs are “non-value-added” waste, or “muda” in the parlance of lean thinking (2). Careful consideration of the tasks and functions that occur in many of the industries we serve shows considerable waste still available for process improvement activities to uncover and reduce or eliminate. By streamlining the processes that generate the goods and services that customers value, fewer resources need to be expended, and the margin between customer value and the cost of delivery increases, improving a firm’s profit margin. This is the essence of corporate strategies that focus on operational excellence. In contrast, innovation and marketing strategies focus on improving customer perceptions of the value of goods and services by innovatively improving the perception of what gets delivered. In either strategy, increasing the margin between delivery cost and perceived value is the foundation for improved business performance.

Similarities and Differences Between a Supply Chain and a Value Chain

Supply Chain Management (SCM) emerged in the 1980s as a new, integrative philosophy to manage the total flow of goods from suppliers to the ultimate user (4), (5), and evolved to consider a broad integration of business processes along the chain of supply (6). Keith Oliver coined the term “supply chain management” in 1982 (7), (8). Oliver, a vice president in Booz Allen Hamilton’s London office, developed an integrated inventory management process to balance trade-offs between his clients’ desired inventory and customer service goals. The original focus was the “management of a chain of supply as though it were a single entity, not a group of disparate functions,” with the primary objective of fixing the suboptimal deployment of inventory and capacity caused by conflicts between functional groups within the company (8). SCM evolved quickly in the 1990s with the advent of rapid response initiatives in textile and

grocery industries, and was refined by large retailer Wal-Mart who used point-of-sale data to enable continuous replenishment (9). Supply chain is a term “now commonly used internationally – to encompass every effort involved in producing and delivering a final product or service, from the supplier’s supplier to the customer’s customer” (6). As the name implies, the primary focus in supply chains is on the costs and efficiencies of supply, and the flow of materials from their various sources to their final destinations. Efficient supply chains reduce costs.

In common parlance, a supply chain and a value chain are complementary views of an extended enterprise with integrated business processes enabling the flows of products and services in one direction, and of value as represented by demand and cash flow in the other (3). Both chains overlay the same network of companies. Both are made up of companies that interact to provide goods and services. When we talk about supply chains, however, we usually talk about a downstream flow of goods and supplies from the source to the customer. Value flows the other way. The customer is the source of value, and value flows from the customer, in the form of demand, to the supplier. That flow of demand, sometimes referred to as a “demand chain” (10), is manifested in the flows of orders and cash that parallel the flow of value, and flow in the opposite direction to the flow of supply. Thus, the primary difference between a supply chain and a value chain is a fundamental shift in focus from the supply base to the customer. Supply chains focus upstream on integrating supplier and producer processes, improving efficiency and reducing waste, while value chains focus downstream, on creating value in the eyes of the customer. This distinction is often lost in the language used in the business and research literature.

For example, in 1998, the Global Supply Chain Forum (GSCF) defined supply chain management as “the integration of key business processes from end user through original suppliers that provides products, services, and information that **add value** for customers and other stakeholders” (11), thereby adding the notion that supply chain processes must “add value” and blurring the distinction between a supply chain and a value chain. In a recent conference, Mike Eskew, Chairman and CEO of UPS, described supply chain management that seeks to optimize costs as second generation supply chains (SCM 2.0), and went further to describe the third generation supply chain management as being focused on customer intimacy, and being a synchronized supply chain where consumers have the power to pull value (21). This description reflects the evolution of supply chains that synchronize the flows of value and supply.

A recent survey of the main usages of the term “value” in the economics, marketing, strategy, and operations fields indicates that the notion of a value chain may actually be a misnomer (3), although a widely used one. According to this analysis, only resources move along the chain of linkages between firms – supplies going one way and money going the other, while value is a metaphysical perceived quality associated with the benefits that occur at the various points of exchange along the resource chain. According to this analysis, value surrounds the movement of resources – is perceptual – and accrues to both parties in a transaction, suppliers and customers. Therefore, value chains can be thought to operate in *both* directions, with suppliers accruing value from the financial resources, payment terms, stability, and future order cover that their customers provide, while customers derive value from the delivered products and services.

Misnomer or not, the value chain concept has become a staple idea in the management and research literature, and is the focus for evolving strategies, enterprise models, and numerous efforts at improving business performance (12), (13), (14). Creating a profitable value chain therefore requires alignment between what the customer wants, i.e., the demand chain, and what is produced via the supply chain. And while supply chains focus primarily on reducing costs and attaining operational excellence, value chains focus more on innovation in product development and marketing.

Why Value Chains Now?

The growing interest in value chains began with Porter's seminal work, "Competitive Advantage," (1) and has increased ever since. Researchers in business and economics have been concerned with the notion of value since the early work of Adam Smith distinguished between use-value and exchange-value (15). At the time of this writing, a Google search on the term "value chain" produces nearly 4 million hits, while an ABI/Informs search of articles produces a total of 1673 documents including 675 from scholarly journals over the last 20 years and 26 Ph.D. dissertations produced over the 6 years between 1997 and 2003. Clearly, the interest in value chains is not new. In Industrial Engineering, however, the primary focus has been on achieving operational efficiency – leading to a focus on production operations and supply chains. There are a number of significant trends that are now driving the need for operations oriented analysis from a value chain perspective. These include

- Increasing competition and an increasing focus on innovation as an element of strategy
- Evolving governance models for the extended enterprise
- The trend towards globalization of supply and production
- Benefits already wrung out of manufacturing and the supply chain
- Trends in Management Discourse

Increasing Competition and the Primacy of Strategy – The value chain is first and foremost a strategic concept, arising from a strategic theory of firm competition (1). As companies struggle to compete in an environment of globalization and intense competition, the focus shifts to alternative means to remain competitive. This creates an increasing interest in Value Chains as a tool to model the extended enterprise and formulate strategies for how to remain competitive (16).

Evolving Governance Models for the Extended Enterprise – The information era spurred on by the recent focus of capital investment on internet technologies and "dot-com" business models has increased general business and research interest in alternative value chain and business models. This has been promoted in the research literature by the focus on Core Competencies and the Resource Based View (RBV) of the firm (17). This growth in modular/virtual collaborative enterprise business models has increased interest in the Value Chain as a primary construction for analysis of new models for business governance (18).

Globalization of Supply and Production – The growth in global sourcing and supply has begun a long-term process of leveling the playing field for adding value world wide (19). This leads to the need to model global value chains as the predominant mode of business in many industries.

Many Benefits Already Wrung out of Manufacturing and the Supply Chain – The Industrial Engineering and Operations Management disciplines, combined with management and operations improvement initiatives such as lean manufacturing, TQM, and Six Sigma, have been improving the efficiency of manufacturing and supply chain operations for many years. While there is still considerable work to do in the field, academic theoreticians and practitioners at many of the more advanced firms are beginning to turn to a broader view of the enterprise to continue making a contribution to improving competitive stance (16). Improving the operational capability of other value added activities in the enterprise, such as product development, requires shifting perspective from the supply chain to the value chain (9).

Trends in Management Discourse – A final reason for the growing interest in Value Chains may simply be the nature of management fashion trends in academic and management discourse. A lifecycle process revealing how management knowledge entrepreneurs participate in the creation of trends in discourse was described in a study of Quality Circles by Abrahamson and Fairchild (1999) (20). This study derived two propositions that are relevant:

- 1) Management fashions tend to have a lifecycle characterized by a long latency phase followed by a wave-like, often asymmetrical and ephemeral popularity curve.

- 2) Three conditions occurring in conjunction trigger a management fashion within a niche: (a) a fashion in that niche must collapse; (b) there must be a widespread performance gap that a latency-phase replacement fashion in that niche can believably address; and (c) discourse must have brought this gap to the attention of many management-fashion consumers.

The collapsing wave of interest in supply chain management associated with the dot-com era bubble bursting may qualify for condition (a), while the growing global competition in business certainly creates a performance gap – condition (b). Value chains have had a long latency period since the mid-1980s, are an accepted terminology in academic discourse, and are believably positioned to address many of the concerns that business practitioners have in industry – condition (c). Value chain discourse has come on as a strong contender in the past several years to fill the operations and supply management niche in management fashion, and may be ready for a continuing rise in popularity. Strategically, it is being positioned as a dynamic differentiator (22).

Conclusion - The Case for Synchronizing Value and Supply

Value is highly conditioned by the larger social and economic environment through which complex and numerous interactions affect the human perception of value-based transactions. Advertising, social trends, and economic conditions all influence consumer and business valuations of products, services, and resources flowing through the value systems in our economy. One of the most watched figures in the marketplace is the consumer confidence index based on a survey of households. This index is an aggregate measure of confidence in the economy and a leading indicator of how consumers will value, and therefore how they will spend money on goods and services. When perceptions of value in a marketplace become exaggerated, market bubbles occur such as the internet technology bubble several years ago. When significant trends take hold in this larger environment it is difficult, if not impossible, for individual companies or households to avoid being swept along in the sudden creation and destruction of value that may result.

For supply chains to generate maximum value in this dynamic environment, they must synchronize the flows of supply with the flows of value from customers in the form of rapidly shifting tastes, preferences, and demand. We need to stop thinking of supply chains and value chains as different entities, but, rather, should integrate the two. Third generation supply chains require that the material flow and product delivery be synchronized and lean, and that the information, knowledge, and financial flows be fully integrated and instantaneous. SCM 3.0 requires that product design be fully integrated with production capability, delivery processes, and information about customer demand. This can be achieved by taking a holistic view of the end-to-end business process throughout the product life cycle and across geographical borders. To continue to debate the importance of supply chain management versus the value chain concept would be folly. Instead, the next level of business performance will be achieved by companies that learn to integrate fully the concurrent flows of value and supply.

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