

Making the case for the added-value chain

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Is the time ripe for an update of Michael Porter's value-chain model? Until some basic research is done, there will not be a definitive answer. Nor is the updating process yet at the stage where managers can review the results of the practices of leading companies. However, the following case, a consulting assignment that proposed a radical two-pronged innovation in a firm's business model, suggests that value-chain analysis needs to take into account newly important business drivers.

The story starts when a market-leading company that was hugely successful during the growth phase of its industry, was unable to adjust to the challenges as the industry matured. The firm, a manufacturer of construction equipment, grew rapidly during the 1990s as its products became a must-have for construction projects across North America and Europe. The firm's glory days ended abruptly in 2001 as the market reached saturation at the same time as the construction industry's growth in North America slowed dramatically. To make matters worse, the company's own used equipment was being refurbished by small competitors and sold back into the market to compete with new equipment. The reliability and quality carefully engineered into the firm's product over the years was quickly turning into a liability.

A thorough strategic review of the firm revealed two assets that many firms would envy – a strong management team and a reliable product with a good reputation. But the firm was not able to achieve a profit with a strategy focused on sales and leasing of new products – the same formula that had been solidly successful just a few years previously.

The consulting team's first strategic recommendation to management suggested changing the firm's focus from the sale of new equipment to the sale of parts and service for their large installed base of equipment. It was a hard sell; the managers were committed to their old business model. But, by walking management through an analysis based on Michael Porter's value chain, the consultants were able to convince most of the leadership that the firm could develop a second important business selling parts to its installed base of customers.

As a crucial second step in this radical change of focus, the consulting team recommended that the firm aggressively manage the sale of used equipment from product coming off-lease and used equipment channels. To do this, the primary tactic was to move used equipment out of North America and into secondary markets to reduce competition and increase the sale of new products in their primary markets. However, the management team was not convinced by the consultants' arguments that managing used equipment was also a sound business model. The consultants again based their recommendation on a value-chain analysis even though the management of used product is not included in Porter's original value chain.

In the months after the assignment ended, the consultants continued to be convinced that they had identified an important missing unit in the traditional value-chain model – the management of used products. This led them to consider whether the whole model needed updating. If extra elements could be added to the value chain, what would they be? How could Porter's model be augmented to reflect the new reality that intangible rather than tangible assets now account for the market valuation of most large firms? Could the value chain be adapted to incorporate contemporary developments in strategic-management thought, for example, those based on the "resource-based view" and "stakeholder approaches" associated with strategy theorists such as Professors Jay Barney, C.K. Prahalad, and R. Edward Freeman? Would these adaptations lead to more effective strategy-making by practitioners and, more importantly, improve the communication of these strategies effectively across the firm? Trying to answer these questions led to the development of the added-value chain.

Re-examining the methodology

In 1985, Harvard professor Michael Porter introduced the value chain, a strategy tool that provides a model for "systematically examining all the activities a firm performs and how they interact" (Porter, 1985). The value chain looks at primarily inwardly focused core activities from which companies traditionally derive value. However, business and its functional activities have changed significantly in the last 20 years. Given today's trends in what drives market valuation of firms, such as the overwhelming importance of intangible assets, a purely inward focus is no longer useful. Successful firms are now replacing internally focused strategy-development models with alternatives that allow a broader view of the firm as a part of the world around it. If, as Porter describes, competitive advantage "comes from all of the activities of a firm acting in harmony," then for the value-chain model to be effective for the firm, a full representation of all of the available activities should be included in the model – including those activities aimed at creating value through external relationships.

In order to capture the possible external activities in which firms could choose to engage, an analysis was completed of many of the leading business and strategy models that are commonly used by firms. The elements of these models that suggest specific activities rather than ways of viewing the world were extracted and grouped together to provide a list of activities that could be added to the value chain to expand the available set of activities. Our model search included traditional tools like PEST (political, economic, social and technical factors) and Porter's five-forces framework, as well as models such as resource-based, stakeholder- and network-based approaches to strategic management (Barney, 1991; Wheeler *et al.*, 2003; Prahalad and Ramaswamy, 2004).

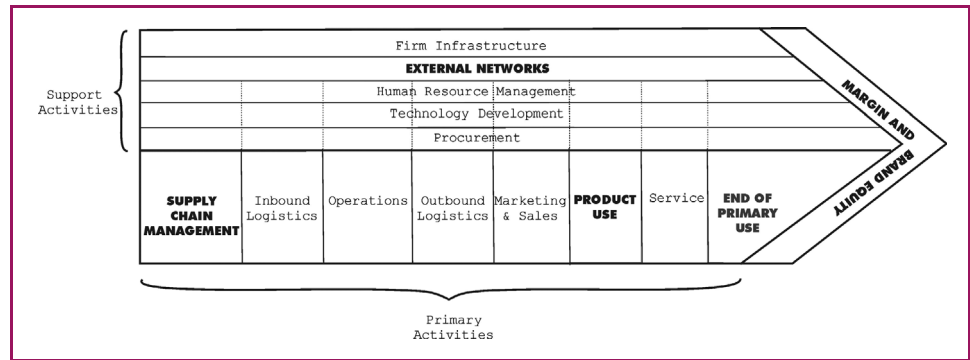
Added-value chain model

A proposed added-value chain model (see Exhibit 1) includes an expanded set of business activities extracted from a broad range of business models plus a revised definition of value that incorporates brand, reputation, and the relationship-based value drivers of the firm, like social capital or goodwill. The expanded activity set ensures that no potential strategic activity is forgotten and no opportunity for enhancing value is over-looked.

Margin and brand equity

The value of a firm is no longer solely based on a traditional financial analysis of asset base and profit margin. The value of the firm in the marketplace now incorporates intangible assets like leadership quality, innovative capability, brand equity, and competences in strategic-alliance development as demonstrated by companies like Apple and Google. The added-value chain converts the definition of "value" from profit margin alone to the sum of net margin plus brand equity and other intangible assets. Adding brand equity and other factors to the value equation gives a firm the ability to evaluate how strategic choices can affect both "hard" and "soft" assets of the firm, and thus future competitiveness.

Exhibit 1 The added-value chain



This thinking is not necessarily new. Various activities of the firm have always had the ability to exploit a firm's intangible assets, but in a time of instant global communications, firms need to be more aware of the effect that their choice of activities can have on their reputation in capital markets if they are to protect the value of the firm. The strategic choice of specific activities can now be based on both short-term profitability and a longer-term view of building reputation, relationships, and brand equity.

Expanded activities

The added-value chain includes the addition of three new primary activities and one new support activity to the set of activities originally included in Porter's value chain:

1. *Supply chain management.* Activities involving the interaction of a firm with its suppliers such as product quality, R&D, product-development partnerships, and sharing of production knowledge.
2. *Product use.* Activities related to how the customer uses the product, including managing customer networks, product testing and development, and outsourcing.
3. *End of primary use.* Activities related to the management of the product after the customer is finished with it – such as, leasing management, product take-back, management of secondary markets, and recycling.
4. *External networks.* Activities related to the management and interaction of external networks that may include other firms, educational institutions, communities, governments, civic organizations and groups of customers, which provide an opportunity to co-create unique value.

Supply chain management

In *Competitive Advantage*, Porter clearly lays out how the firm's value chain interacts with the supply chain through suppliers and channels (Porter, 1985). In his analysis, the firm's value chain was kept distinctly separate from the supplier's value chain. Bringing the supply chain directly into the firm's value chain may be a tough sell with strategy traditionalists, but it is clear that the relationships between companies and their suppliers has become far more complex and that the activities that a firm engages in to manage these relationships should become a primary activity of the firm. The purchasing department is no longer the only department within a company that interacts with the firm's suppliers. Depending on the industry, firms may have links with their suppliers through purchasing, R&D, sales and marketing, human resources, health and safety, quality, and many other operations.

As in the original value chain, the supply chain itself remains outside the added-value chain, but the set of activities required to manage the supply chain is now incorporated into the

model. The set of activities and processes that a company chooses in dealing with suppliers can become a strong factor in its success.

One industry that clearly shows the intertwining of buyer and supplier is the automotive industry. An automotive company that does not include the activities required to manage its supply chain as a key component of its strategy risks being left behind by firms with a better understanding of the importance of the supply chain. For example, Toyota's success is attributed in part to the knowledge-sharing network that it has created and manages within its supply chain (Dyer and Nobeoka, 2000). Toyota has invested significant resources into a set of activities for creating and supporting the supplier network, including developing supplier networks like the Bluegrass Automotive Manufacturers Association in the US and providing senior-management support to suppliers to help them solve production problems through Toyota's Operations Management Consulting Division. The result is a network of suppliers that provides more value to the supply chain than the suppliers of Toyota's competitors, allowing Toyota to capture more value from its product and develop a competitive advantage. This corporate mindset also applies to Toyota's downstream relationship-building through dealers to purchasers. The net result, in the case of the Lexus brand, is that customers demonstrate unrivalled loyalty, an intangible of great value (Reichheld, 1996).

The personal-computer industry is another example of an industry where the supply chain has become an integral part of a firm's value chain. Apple, Dell, Gateway, Biogen and others have reinvented their supply-chain operations to allow them to deliver custom-configured products directly to their customers. For these firms, "the supply chain is not a set of mundane tasks delegated to purchasing and inventory managers" but the "backbone of their business designs and the source of their competitive advantage" (Bovet and Martha, 2000).

A firm's supply chain may work successfully with little strategic focus, but the opportunity to select and perform activities that can extract more value from the supply chain should not be ignored. Communication of the value of the supply chain will change the activities and methods used by the firm. Do the firm's employees treat suppliers with respect because they are a valued part of the value chain or are they treated as replaceable and unimportant? A symptom that a problem exists is that cost reduction and total flexibility in inventory management becomes the primary topic of conversation with suppliers. In contrast, as IKEA and Amazon have demonstrated, if the firm makes the strategic decision to invest resources and perform activities to build stronger supply-chain relationships – from manufacturer to customer – then it has the opportunity to gain a competitive advantage over its rivals.

Product use

Integrating the use of a product or service into the added-value chain is based on similar logic to the supply chain management component. In the same way that supply-chain management goes beyond the purchasing department, customer interaction goes well beyond the marketing, sales, and order-taking departments. Activities related to product use can include a broad range of activities related to developing networks of product users or developing own/operate strategies that allow the company to shift from selling products to also providing services. Adding product usage intelligence (as a means of informing product development) to the Added-Value Chain allows the model to incorporate the new thinking around value networks and co-creating value with customers (Prahalad and Ramaswamy, 2004). This leverages the interaction of customers and the firm. At some companies, like Harley-Davidson and Saturn, customer networks run customer events, while a few firms, such as Linux, use them to develop completely new products.

Another strategic approach is demonstrated by companies that have moved from being the suppliers of products to becoming the suppliers of services in order to capture a larger portion of the added value. For example, Praxair provides on-site gas-supply services for its clients instead of selling gas cylinders or equipment to make specialty gases. This strategy



has allowed it to grow through strategic relationships rather than compete on price. DuPont Refinish sells technology services and consulting in addition to paint. The opportunity to develop a competitive advantage and capture value from the customers' use of the product or service (as distinct from only capturing value from the sale of the product) can be enhanced by new methods for extracting knowledge from customers and building brand value. Communicating the strategic importance of including product use in the value chain allows firms to ensure that interacting with customers is viewed as an integral part of the value chain for all employees and is not just the responsibility of the sales and service departments.

End of primary use

Another innovation of the added-value chain is that it identifies the value of capturing some of a product's residual value – what it's worth when a customer is finished using it. In cases like leased product returns, managing the product at the end of its primary use is critical to the success of the firm. Many firms stop thinking about their product once it leaves the warehouse, but the product can be managed further to capture both increased value and repeat sales.

The challenges and opportunities at end of primary use exist for many industries because of the increase in equipment leasing that has occurred since the late 1980s. Products like photocopiers, computers, cars, and construction equipment are frequently leased instead of purchased, but what happens to the equipment that comes off-lease? Depending on the industry, the returned products are:

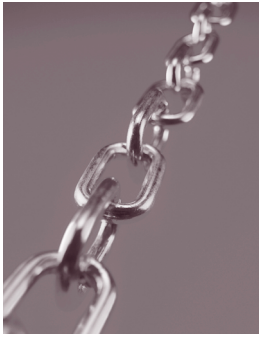
- refurbished and resold as new;
- resold into used-equipment channels (auctions, internet, etc.);
- sent to secondary markets;
- dismantled and used for spare parts;
- recycled; and
- sent to the landfill at a cost.

The strategies and activities that firms use to manage the end of primary use can be the difference between increasing the value captured and incurring significant loss of value.

A good example is in the computer industry, where equipment suppliers have been dealing with off-lease product for many years. IBM leases about \$40 billion worth of products through IBM Global Finance (Rutman, 2002), which has formed a division – Global Asset Recovery Services (GARS) – to manage the return of off-lease product. GARS uses a variety of methods to recover value from the returned IBM products including cleaning the product and selling it as used, restoring it with new parts and reselling it, modernizing with new components and reselling it, or tearing it down and using it for spare parts. GARS is also generating revenues by providing its asset-recovery service to other electronics manufacturers.

There are numerous advantages to IBM in managing the end-of-primary-use portion of the added-value chain. Not only does the firm maintain customer loyalty and recover value from the returned products, but it also provides more competitive leasing options by managing the off-lease value, improves product design by providing knowledge gained from managing off-lease products back to its R&D and product-design groups, and provides its sales team with better information about residual values to improve on the pricing structures of the original leases. With respect to its reputation, IBM is also able to compete globally with confidence knowing that its products are being re-used and recycled properly.

Managing the end-of-primary-use activities is allowing IBM to extract more value from the product itself, plus valuable product-development information, client-sales information, and enhanced brand value. Firms that include the end-of-primary-use activities in their strategies



have a distinct competitive advantage compared to firms that do not. Not only do most products retain value after the customer is finished with them, but also taking the opportunity to engage with the client at the end of the product's initial life can provide the firm with an opportunity to capture the next sale. Communicating the potential to add value by capturing value at the end of the product lifecycle across the entire firm can engage every employee in identifying improvements and activities that can increase value captured at the end of primary use.

External networks

In many ways, the hardest place to communicate value in the added-value chain model is in the management of external networks – with customers, suppliers, vendors, institutions, peer associations, and stakeholders. A clear connection between a firm's activities with its external networks and direct impact to the bottom line can be hard to demonstrate empirically. However, stakeholder-management and social-capital theorists describe how firms can protect reputation, develop new product ideas, and expand value by engaging effectively with external networks (Wheeler *et al.*, 2003).

The interaction of a firm and specific networks in its external environment has been recognized as a potentially important component of a corporate strategy, one specific example being membership in technology clusters. As Porter explains in his discussion of clusters, “companies have much to gain by engaging beyond their narrow confines as single entities” (Porter, 1998). Being an active part of a cluster of companies and academic players can create a competitive advantage, but “to maximize the benefits of cluster involvement, companies must participate actively and establish a significant local presence” (Porter, 1998).

The key point here is that firms must select activities that will allow them to build value from their external networks. It is not sufficient to be merely involved with technological peers and supply chains, or even industry associations or community groups. The firm must make these interactions strategic. The firm must choose which external networks it needs to be part of and select the activities that it will perform to create value for it and its network partners. Firms that add the interaction with external networks to their analysis of the Added-Value Chain can determine how the relationships they develop fit into the overall value proposition for the firm and how these external networks can be used to increase value through, for example, innovation, knowledge capture, and reputation-building.

Putting the added value chain into action

The added value chain provides practitioners with a model that incorporates both traditional business activities that continue to provide value for the firm and a broader set of activities from modern strategic theory. The model brings a new approach to the value chain that encompasses:

- changing the definition of value that includes intangible elements like reputation, innovation, and brand value;
- moving from a firm-centric view to a view of the firm as part of a broader community; and
- adding categories of activities that do not clearly fall into departments but involve cross-functional teams of employees from across several areas.

Implementing the added-value chain is straightforward and maintains the same efficiency that has made the value chain a reliable strategic model. Putting the added-value chain into action involves a simple process that includes:

- creating a list of current and possible activities within each of the categories;
- evaluating how these possible activities could add value (both tangible and intangible) both by themselves and together with other activities;
- selecting the set of activities that provide the best value for the firm;

- developing a strategy based on the analysis;
- communicating the strategy across the organization; and
- implementing the strategy.

The added-value chain provides practitioners with a more complete conception of value-creating opportunities and helps to consider new activities by allowing managers to pose such additional questions as:

- What are the impacts of our current strategic activities on the intangible value of the firm?
- Which “upstream” supply-chain partners contribute to our brand, reputation, and capacity to innovate, and how can we retain their loyalty?
- Which “downstream” supply-chain partners, such as dealers and other sales channels, best ensure the loyalty of end-customers, and how can the combined value proposition exceed that of the firm’s competitors?
- What product characteristics (both in use and at the end of its product life) will create continuing and/or enhanced value for the firm’s customers and ensure their loyalty?
- What external network members could promote access to valuable resources and which network members could block such access?
- How might the firm build goodwill with such actors in order to achieve a competitive advantage?
- What activities are our competitors pursuing to maximize their engagement with our shared external networks?

Addressing such questions should help ensure that managers identify activities that will contribute to the innovation process by better identifying the network-based sources of new ideas and customer needs, and will assist in the protection and nurturing of brand equity and reputation as enduring sources of competitive advantage.

The full spectrum of value-adding activities

Every day, corporate leaders are faced with the problem of defining which activities their firm should invest in. The purpose of the value-chain model is to assist companies to evaluate and select the optimum set of activities and methods of performing them to create the most value for the firm.

The added-value chain proposes adding an expanded set of activities to the original value-chain concept. It thus incorporates the strengths of Porter’s value chain with current thinking on business strategy to help address the modern challenges and current realities facing the firm. By providing a look at the full spectrum of value adding activities, the added-value chain may assist strategists and managers to develop and communicate new activities that will allow the firm to remain successful in today’s business environment.

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