Integrating Innovation Style and Knowledge Into Strategy

Edward F. McDonough III, Michael H. Zack, Hsing-Er Lin and Iris Berdrow
Traditional thinking about strategy is woefully incomplete in its focus on the positioning of products or services. Porsche Automobil Holdings SE, for example, sells expensive sports cars to wealthy individuals who covet status and a thrilling ride, while Kia Motors Corp. sells more utilitarian vehicles to frugal consumers who are merely looking to get from point A to B in a cost-effective manner. Defined this way, strategy is about staking out and defending a unique competitive position.¹

While useful, this approach to strategy underplays much of what most people would agree makes a company truly competitive. Not only does it give short shrift to what a company knows; it completely ignores the fact that in today’s dynamic economy, organizations have to continually reinvent who they are and what they do in both large and small ways. One important means of doing this is through innovation.

An effective strategy thus is comprised of three key components that must be aligned: product/market, knowledge and innovation. And as the competitive landscape changes, organizations need to continually revisit their alignment among these positions.

This article introduces the notion of competing based not only on what an organization makes or the service it provides but also on what it knows and how it innovates. Each aspect represents a competitive position that must be evaluated relative to the organization’s capabilities and to others in the marketplace battling for the same space.

Based on our research with over 50 organizations, we describe what it means to compete based on product, knowledge and innovation and to align, and if necessary realign, all three positions and provide several implications for strategic managers. (See “About the Research,” p. 54.)

Knowledge Positioning

Products and services are like the tip of an iceberg when it comes to positioning. They are the visible, tangible realization of an organization’s product/market position. But, like an iceberg, most of what is important lies below the

Edward F. McDonough III is professor of innovation management at the College of Business Administration at Northeastern University in Boston. Michael H. Zack is the Patrick F. and Helen C. Walsh Research Professor in the College of Business Administration at Northeastern University. Hsing-Er Lin is a research associate at the Faculty of Applied Economic Sciences at the University of Antwerp in Belgium. Iris Berdrow is an associate professor of management at Bentley College in Waltham, Massachusetts. Comment on this article or contact the authors through smrfeedback@mit.edu.
surface. What remains out of sight (and too frequently, out of mind) is the organization's knowledge that enables it to deliver those products and services.

Once taken for granted, knowledge is now being explicitly regarded as having value and therefore as a resource that must be managed. For instance, companies have created the position of chief knowledge officer and have instituted a host of knowledge management initiatives. The problem, however, is that managing knowledge has been viewed as an operational issue, not as a strategic one. The link between knowledge and strategy has rarely been made explicit. That is a mistake.

The set of strategies an organization can execute successfully is limited by what it knows. And what it needs to know and the knowledge it needs to create and share depend on the strategy it would like to execute. The difference between what an organization knows and what it needs to know to successfully compete creates a strategic knowledge gap that it must try to eliminate. This can be done either by changing product/market position to be more in line with existing organizational knowledge or by changing what the organization knows to better support its product/market position.

Either approach can work. What won't work is not addressing the problem. For example, Polaroid Corp.'s attempt to execute a digital strategy without having sufficient knowledge about digital imaging ended in the company filing for bankruptcy in 2001. What the company did know was based on designing, costing, marketing, manufacturing and distributing physical film and analog cameras. It attempted to move from chemistry to computer systems without changing what it knew. Its strategy, based on product/market positioning, failed to a large extent because it ignored the knowledge gap.

Thinking in terms of knowledge provides a radically different way of describing and mapping the competitive landscape and an organization's strategic position within it. Mapping an organization and its competitors based on knowledge — that is, mapping knowledge positions — can produce very different results than using a product/market map. Companies not on a business's competition "radar screen" because they do not make the same products or sell to the same markets may in fact be direct knowledge competitors. Until food companies began selling cholesterol-lowering spreads, for instance, pharmaceutical companies did not envision them as competitors. Yet they might have, had they realized the large overlap in knowledge held by both industries.

Knowledge competitors are especially dangerous and stealthy because they could potentially produce a rival company's products or serve the same markets. Could Polaroid have known that consumer electronics and computer systems companies such as Sony Corp. or Hewlett-Packard Co. would produce the next wave of imaging equipment — digital cameras? Perhaps, if they had regarded competition and strategy from a knowledge perspective.

An organization's knowledge positioning is as important as its product/market positioning when evaluating the success or failure of its competitive strategy. The two cannot be treated independently but must be seen as parts of a strategic whole. Yet what an organization knows is but a static snapshot of its learning trajectory. In today's dynamic economy, organizations have to continually reinvent who they are and what they do in large and small ways or risk being made obsolete. One important means of doing so is through innovation — a concept that traditionally has been all but ignored when it comes to the usual discussions of strategy.

**Innovation Positioning**

The business world has begun to take innovation seriously more recently. For example, the number of articles published in the
Early followers, which learn about markets and customer needs from early entrants, typically focus on marketing, and in these cases an innovation position focused on services and connection to customers may be correct. Finally, late entrants typically compete on volume and low cost, and therefore an innovation position may best be focused on operational process efficiency.

An organization’s innovation capability defines and constrains where it is currently capable of competing based on innovation, but its product/market position sets the guidelines and requirements for that innovation. Polaroid, for example, attempted to stay viable with incremental chemistry-oriented innovation when it needed to be radically innovative in digital imaging technology.

**Linking Knowledge and Innovation**

The relationship between knowledge and innovation positions is often given the least attention when formulating strategy. Specifically, this link addresses the following questions: What does the organization need to know in order to innovate in a way that supports the product/market position? And how does the organization’s knowledge limit the kinds of innovation it can successfully execute?

An organization can choose to innovate based on what it already knows or, if existing knowledge alone is not sufficient to enable the level of innovation required, it can attempt to obtain or develop new knowledge. These positions are interrelated. On the one hand, the focus of an organization’s innovation activity needs to be guided by the knowledge it currently has and the knowledge it needs. On the other hand, the focus of its innovation activity influences the knowledge it has and the knowledge it needs in order to compete in its chosen arena.

**Overall Strategic Alignment**

Even if a company masters the three strategic positions of product/market, knowledge and innovation independently, it is still at risk. Only when all three positions are aligned and mutually reinforcing can a strategy succeed.

In adopting the notion of alignment, organizations need to view each position — product/market, knowledge and innovation — as aspects of their overall strategy. Creating an integrated strategy thus requires focusing not on each position separately, but rather on all positions simultaneously. (See “Strategic Alignment,” p. 56.)

Acer Inc., the largest manufacturer of laptop computers in Taiwan, is an example of how to do strategic alignment well. Since 2000, its top priority has been delivering the newest, most affordable technology for the benefit of consumers worldwide. Its product/market position is to offer computers with user-friendly technologies that make life easier for home and commercial users. Everything the company does when it comes to the three parts of strategy supports that overarching goal. For example,
Acer gains knowledge about industrial and fashion trends so that it can make its products as appealing as possible.

**Strategic Transitions: Buckman Laboratories**

As important as alignment among the three positions is, maintaining that alignment as the competitive landscape changes provides an even greater challenge. Buckman Laboratories International Inc., a Memphis, Tennessee-based manufacturer of specialty chemicals operating in over 90 countries, provides an example of a company that has been able to do this successfully.6

Buckman has gone through three major strategic transition phases since its founding in 1945, with a specific strategic position dominating in each phase. (See “Buckman Laboratories’ Strategic Transitions.”) The key to Buckman’s success has been its ability to explicitly bring all three positions into alignment.

**Phase 1: A Focus on Product/Market** Buckman originally competed on product leadership. Its product/market position was to manufacture the most effective microbicides and sell them at a competitive price, thereby offering greater value than the competition. The company did not focus on specific market segments at this point. Its knowledge position was focused broadly on acquiring knowledge of chemistry and chemical engineering associated with microbicides, and it typically hired people with advanced degrees in these areas for all functions within the company, including sales, customer support and even information systems. It did not ignore customer needs, but because it was not focusing on specific market segments, innovation tended to be internally driven, incremental and focused on advancing the chemical properties of its products. New products were developed based on the company’s existing chemistry knowledge, augmented through relationships with research universities.

Buckman thus established an effective alignment among its product/market, knowledge and innovation positions. Because its products were generally superior to those of the competition and the markets were relatively unsaturated, this strategy was successful.

**Phase 2: A Focus on Knowledge** As the industry became more competitive, many of Buckman’s key products became commoditized, prices were forced downward and margins began to shrink. The company’s product leadership position was becoming less effective.

Buckman’s response was to shift its strategic focus from a product-oriented position to a knowledge-based position. It decided to focus on developing a specific and unique body of knowledge from which it could derive leading-edge products. It also began to shift from selling products alone to selling value-added services based on showing customers how to make the most effective use of its products. Finally, Buckman began to narrow its market focus, identifying pulp and paper, water treatment and leather manufacturing as its three primary segments. This allowed the company to focus the knowledge and innovation required to support its new product/service/market position.

The knowledge Buckman now required shifted from product-oriented chemistry to chemical “application” knowledge. The company was no longer selling a chemical to get rid of slime on paper rolling mills. Rather, it was offering the best (most effective, yet least costly) methods for treating a slime that built up on a particular type of paper mill running at a particular speed in a particular climate with water of certain acidity. This knowledge and the means to capture and share it were more complex than before, yet provided a way to compete that was more proprietary and difficult to copy — and thus more strategic.

Buckman’s innovation position shifted from internal, chemistry-driven product innovation to external, customer-driven service innovation. This required the company to develop innovative communication and knowledge-sharing processes that tapped into the experience and expertise developed by its field technicians. Once again, Buckman had
aligned the three dimensions of strategy, but to a significantly different set of positions.

The shift to this new strategy involved a complex transition on many levels. While the move from selling products to knowledge-based services was relatively easy, the transition to the new product/market position proved much more difficult. Buckman had to change the fundamental domain of strategic knowledge upon which it competed, as well as its approach to innovation.

In fact, the company experienced a temporary misalignment while making the transition. At first, Buckman did not shift its knowledge position — the knowledge basis on which it competed — to support its new service position. It continued to focus on the creation of product-oriented knowledge even as it implemented its new service/market position. For example, it created online repositories of product information and training programs for new sales and support employees to teach them the chemistry behind the Buckman product line. At this point, Buckman was not yet capturing and had no efficient mechanism for sharing the field-based application knowledge and experience of its front-line employees from around the world.

Buckman’s innovation position likewise required a complex shift that was temporarily out of alignment. Innovation was no longer to be centered in a research and development laboratory and driven out to customers but rather was to be driven from the customer into the company. It was no longer to be focused on product chemistry alone but also based on services driven by the particular chemical application problems that customers were facing in their operations. The key to the new innovation position was recognizing the need to shift the focus from chemical manufacturing processes to knowledge-sharing processes and from products to solutions, and dominating these new positions relative to competitors, both of which Buckman accomplished.

**Phase 3: A Focus on Innovation** While the second phase of Buckman’s strategic journey was reactive, the third and current phase, which began about five years ago, represented a proactive strategic move to claim and control a unique and highly defensible competitive position based on what Buckman calls “continuous innovation.”

The company’s continuous innovation initiative is aimed at providing measurable, cost-effective improvements in output and quality for customers by delivering new customer-specific services and products. This shift in Buckman’s product/service/market position once again required a commensurate shift in knowledge and innovation positions.

The company’s new knowledge position builds on, but significantly expands, the knowledge previously required to compete on application services. It still focuses on problem-solving skills and applications expertise, but it has added customer relations and communications skills, the ability to learn and innovate with the customer, and a deep understanding of customers’ strategy, operations, economics and manufacturing processes and systems.

Buckman’s new innovation position is based on continuous, collaborative, customer-specific, problem-focused innovation. By establishing such a close relationship, the company can maintain and defend its unique access to the customer-specific learning that is fueling the next round of innovation for that customer.

Buckman’s new knowledge position and innovation position are tightly aligned in support of its new service/market position. To support its innovation position, Buckman again had to innovate not only with regard to its products and services but also internally with its organizational structure and processes. This may have been the most important aspect of innovation, especially as it aligned with and enhanced the other two strategic positions.

One of the outcomes of continuous innovation is that it enables the company to make adjustments in various areas of the customer relationship to improve performance outcomes. Thus the continuous innovation process addresses both service innovation and process innovation. The mutual learning between Buckman and its customers that occurs within this process and the equity built into the relationship create a significant disincentive for customers to switch suppliers.

One of the keys to executing Buckman’s successful new strategy has been its ability to support communication and knowledge sharing across its global operations. The company created two
Structural and process innovations: global workgroups and global account teams. The cross-functional global teams were created to build trust, improve communication and enhance the exchange of information companywide — not only from the bottom up but horizontally as well. They are responsible for implementing Buckman’s threefold strategy by directing activities and managing the business globally in each of the major market segments. Global key corporate account teams directly apply Buckman’s knowledge and application expertise to improve customers’ operations and obtain feedback from these customers. These teams are responsible for gathering information, developing strategies and coordinating global innovation and service delivery activities with specific customers.

Buckman’s relationship with Voith AG, the German machinery and factory-related manufacturer and distributor, provides an excellent example of how its threefold strategic alignment supported its strategy of joint, customer-focused continuous innovation. Based on expertise Buckman had accumulated in tissue paper manufacturing, Voith’s tissue division approached Buckman to collaborate on the development of products for a revolutionary new machine that would produce high quality tissue at a significant cost savings. Buckman developed a new line of chemicals specifically for use on this machine. Buckman and Voith then created a formal partnership agreement designating Buckman as the preferred supplier of this chemistry. As a result of the collaboration, Buckman has been able to innovate and expand its new line of chemicals, increase its expertise in tissue manufacture and extend its new expertise to the water treatment market.

Implications
The product/market position is only one part of an organization’s competitive strategy. Organizations also need to explicitly regard and evaluate their knowledge position and innovation position by asking the following: (1) Are all three positions aligned and mutually reinforcing? (2) Is each position unique or superior to competitors’ positions? and (3) Does that position align with their capabilities?

Mapping competitors based on knowledge and innovation positions can provide results that differ significantly from traditional product/market mapping. Organizations that may not appear to be competitors because they make different things or sell to different markets may in fact be knowledge competitors because they share the same knowledge as rivals or innovation competitors because they innovate and learn in a similar manner. These “stealth competitors” may be the real threats. Strategic change is not merely a matter of changing the organization’s product/market position but may require changing the organization’s knowledge and innovation positions as well in order to maintain strategic alignment.

Organizations like Polaroid that merely change their product/market position set themselves up for failure by ignoring the hidden complexity involved in changing their knowledge and innovation positions, which are in fact more difficult to change successfully than their product/market position.

Although changing all three positions simultaneously is not impossible, having one position act as a focus makes strategic transition easier, reduces the degree of misalignment during the transition period, and thus provides a greater chance of success.

Alignment of the three strategies occurs in their execution. For example, Buckman integrated its service, knowledge and innovation positions through its global key account teams. What made these teams different from traditional global account teams, which merely provide one face to the customer, is that their mission was directly tied to integrating and executing the company’s three strategic positions.

Competitive advantage increasingly is coming from an organization’s knowledge and its ability to innovate based on that knowledge. But successfully leveraging an organization’s knowledge and innovative capability requires that the company explicitly recognize the role of knowledge and innovation in developing its strategy. Organizations need to consciously design and develop their strategy in a way that ensures the integration of the three key strategic positions — product/market, knowledge and innovation. Success and competitive advantage also depend on the organizations’ ability to not only align these positions initially but also to realign them as market externalities dictate. This will require constant monitoring of the competitive landscape and altering their current alignment in light of changes in their environment.

REFERENCES
3. This conclusion is based on a knowledge strategy audit performed at Polaroid by one of the authors shortly before Polaroid’s turn towards bankruptcy.
6. The case study is based on primary research conducted over several years by one of the authors and the company’s 2005-2007 annual reports.

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