

Use of New Knowledge and Knowledge Management to Gain Competitive Advantage

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Abstract

New knowledge may perhaps be the only remaining and one of the most critical sources of competitive advantage available to an organization in the 21st century. This is true; more so, as previously available traditional resources may no longer offer any significant competitive advantage. To remain competitive, organizations must create and use new knowledge. However, the current practices in knowledge acquisition, utilization, and management are mostly limited to capturing, recycling, and deploying the existing information, and making it available on a technology platform. This is done with the hope that individuals will not only use the information made available to them, but will also voluntarily contribute to the growth of the organization's knowledge pool. Most organizations are also woefully reluctant to realize that knowledge obsolescence is inevitable, and that the knowledge based on organizational consensus or common wisdom based on collective experiences can be wrong. To create new knowledge and attain competitive advantage, organizations need to locate and gather information and business intelligence about their internal and external consumers of knowledge and convert them into new knowledge.

Keyword: Knowledge Management, competitive advantage

Links among New Knowledge, Knowledge Management, and Competitive Advantage

McFayden and Canella (2004) suggest that knowledge may be the only or one of the most important sources of competitive advantage available to an organization in the 21st century. Thurow (2003) adds that historians will refer to the period covering the late 20th and early 21st century as the third industrial revolution, during which the knowledge-based economy prevailed. Knowledge-based technologies, such as microelectronics, computers, telecommunications, manmade materials, robotics, and biotechnology developed during this period, are individually and collectively sending the economy in never-before-witnessed directions and producing a knowledge-based economy that is systematically changing economic and social lives. According to Jackson Hitt, and Denisi (2003), firms will compete in complex and challenging business environments during this period, essentially transforming the business environment by factors such as generation, use, and management of new knowledge. Deed and Hill (1996) posit, "Firms

that are effective in acquiring knowledge will be able to create and sustain a competitive advantage in the knowledge-based economy. Those [firms] that are not will have difficulty maintaining their competitive position" (p. 58).

Thurow (2003) compares sources of wealth before the knowledge-based economy and during the knowledge-based economy. In the period before the knowledge-based economy, sources of wealth and competitive advantage were physical and tangible (e.g., land, oil, metals, etc.), whereas in the knowledge-based economy, the source of wealth and competitive advantage are the knowledge processes. Thurow cites that an example of the later is Microsoft's Bill Gates, who has acquired unprecedented wealth by controlling the knowledge processes. The knowledge processes Microsoft markets has both quantitative and qualitative value and is the "method to create, manage, and make use of right knowledge to the right people at the right time" (Marcus & Watters, 2002, p. vi).

Toffler (1999) points out that access to resources such as the raw materials, labor, and capital, once considered a source of competitive advantage, are no longer required for

organizations to gain and sustain an advantage over competitors. Yet, a large number of organizations throughout the world have reached an equilibration in resources traditionally attributed to competitive advantage. Chaston (2004), in *Knowledge-Based Marketing*, argues that the value of a company's share of capital is based upon the net worth of the balance sheet and not on its stock market value. One reason for the widening gap between the balance sheet and stock market value is the investors' perception of the knowledge and skills that reside within the organization. Chaston's argument is based on the premise that knowledge is the primary resource and allows the organization to achieve uniqueness; therefore, it is more important than the traditional form of competitive advantage. Thurow (2003) contends that with everything in the competitive equation being equal, knowledge and core competencies are perhaps the only remaining sources of organizational uniqueness in the marketplace.

So, how does one gain and manage new knowledge? The literature suggests that knowledge can only be extracted from the experience of individuals and can only be employed through the skills of individuals. Thurow supports the notion suggesting that in the current context, knowledge should not be extracted from collective organizational experience, as common wisdom based on consensus and collective experience can often be wrong. He reasons that since the economy is changing too fast, old knowledge cannot be a true benchmark or a predictor of an organization's future. In order to create every scrap of new knowledge, and to stay competitive, organizations must make use of well-defined and meticulous business and competitive intelligence-gathering processes. This new knowledge must then be used and managed to gain competitive advantage, thus allowing the organization to be positioned differently from similar organizations operating in the same market sector.

Porter (1985) theorized that there are four possible generic competitive advantage options available to an organization: cost leadership, focused cost leadership, differentiation, and focused differentiation. To implement any one, or a combination of the four possible generic competitive advantage options, an organization would possibly require the following types of knowledge: (a) strategic knowledge to include

knowledge of market conditions, customer needs, customer and competitor behavior; and (b) operational knowledge to implement managerial and operational processes associated with logistics such as procurement of raw materials and distribution of goods, and production, etc. However, Chaston (2000) suggests that these types of knowledge are of historical nature and utilized in reactive response to market opportunities.

Chaston (2000) recommends this type of historical approach must be replaced by a proactive approach in which information is the basis for creating new knowledge that supports the firm's proactive strategies. Kotler (1994) supports the notion of relationship marketing in which the onus is on collecting new information to attain insight into customers' needs. The purpose is to convert this new information into actionable new knowledge, and manage it to maintain and sustain relationships with key customers. Firestone and McElroy (2003a) use the terms supply side and demand side knowledge.

According to Firestone and McElroy (2003a), the supply side of KM relies on capturing, recycling, integrating, and sharing existing knowledge, assuming that certain preexisting knowledge can then be supplied to the right person at the right time. Following this logic, organizations assume that the use of existing knowledge can sufficiently predict and create the future. Conversely, according to Firestone and McElroy, the demand side of KM fosters new knowledge making, because it assumes that new knowledge must be produced in response to new demands.

Supporting the theory that knowledge can only be extracted from the experience of individuals and can only be employed through the skills of individuals, Sveiby (1997) believes that human beings have the ability to create new knowledge. However, in the past, most organizations have not fostered an environment in which both existing and new knowledge are openly shared. Unlike conventional assets, knowledge grows when shared.

However, Drucker (1995), one of the most prolific and innovative thinkers and authors on management trends in the 20th and 21st centuries, worries that people hoard knowledge because it is considered a source of power. Drucker added

that in the future, power would come from transforming knowledge and not from hoarding it. While people are capable of sharing, the organizational culture stifles their willingness to share the knowledge freely and openly. Buckman (2004) purports the notion of value in sharing the knowledge openly and freely. According to Buckman, the value of knowledge depends upon the intelligence with which it is freely shared and used throughout the organization and not hoarded as a source of power. The new knowledge as a resource, unlike the traditional resources that gave a competitive advantage, is inexhaustible, renewable, inclusive, and grows phenomenally when shared (Toffler, 1999). What gives competitive advantage in a knowledge-based economy is not the material assets, but the new knowledge that emerges from organizations' contacts, its people, its processes, and ideas that reside inside the minds of its customers and competitors. Toffler adds that the knowledge, therefore, becomes an infallible resource of competitive advantage.

If the knowledge is seen as a valuable resource that is quintessential to an organization's competitive advantage and survival, then it must shift from the practices that have not worked in the past. However, the challenges are steeped in a myopic focus on (a) integrating, supplying, and sharing the preexisting knowledge instead of producing new knowledge in response to demand for it; (b) over and exclusive reliance on technologies driven by the vendors; and (c) ignoring how learning and knowledge transfer take place within an organization.

Unquestionably, the central issue in KM has been the ability to bring relevant and valid new knowledge to bear at will. Capturing, codifying, and communicating knowledge is the lesser problem that KM must solve. According to Wiig (1994), organizations do not do anything; people do—and organizations do not learn; people do. Given that the ability to create and deploy new knowledge is the central issue, in the final analysis new knowledge must occur through people.

Capturing implicit knowledge, the private expertise held by people and that resides in their heads, raises fears and concerns. Conversely, explicit knowledge, the kind that cannot be articulated, is, by definition, impossible to capture. Even though it cannot be captured, tacit knowledge can be communicated. Nevertheless,

making data and knowledge warehouses available will not guarantee their use, nor will highlighting best practices guarantee their adoption by people.

So, how does an organization ensure that it is capturing the private expertise and effectively communicating its processes to tap into this gold mine of new knowledge that would give it competitive advantage? There are two keys to achieving this goal, at least in theory. First, foster an environment of KM processes, which includes sharing existing knowledge, gathering new information, and developing the processes to convert the new information into new knowledge. Second, find accessible and affordable ways to implement and extend the knowledge in the organization.

Knowledge Management, New Knowledge, and Competitive Advantage

Simply put, KM is the process of figuring out what information an organization has that can boost its advantages, and making that information available to its people. However, without formal KM processes in place, the knowledge that has accumulated might never be discovered or passed along or shared. Formal KM practices include creating repositories of information about the best practices, establishing both formal and informal networks among employees, and establishing formal processes and procedures to ensure the lesson learned are passed along to others. These processes and procedures must be much more than simply dumping the information into a repository. Knowledge sharing is not something that occurs naturally—it must be encouraged, rewarded, and managed.

According to Lelic (2004), editor of *Knowledge Management* magazine, “traditional knowledge-management initiatives tend to focus primarily on re-using knowledge, looking at ways organizations can identify and get the most from the intellectual capital already at their disposal” (p. 6). This practice may serve the organization in a very tough economic climate; however, Lelic adds that one way an organization is able to differentiate itself from its rivals is by implementing truly innovative ideas. “The process of knowledge creation is therefore something business cannot ignore if they are to remain competitive” (p. 6). To further the cause of knowledge creation, Lelic adds that as

organizations reorganize themselves to become more competitive, an imminent wave of people leaving the organization threatens to exacerbate problems related to knowledge losses. Sadly, most organizations do very little, if anything at all, to address this problem, primarily, because they do not know how.

According to Firestone (as cited in McElroy, 2003), "Knowledge Management, new as it is, is changing" (p. ix). Firestone contends that there are three or more theories connected to the change. One theory is that information technology, best practices and knowledge sharing originally drove the KM field. Everyone, including the theoreticians, practitioners, and business executives, fallaciously believed that technology was the answer to any organizations' KM needs. It was a widely accepted belief that if you build it, they'll come to use it. This generation also believed that the next logical step would encompass the human factor, system thinking, and knowledge creation, viewed as the natural conversion among tacit and explicit knowledge. Firestone concludes that the augmentation to this theory would have included arrangements and management of content through elaborate taxonomy, which, again, was highly influenced by information technology vendors.

The second KM theory, according to Firestone (2003) was propagated primarily by David Snowden, who thought that the first stage KM was concerned with would be distributing the information to decision makers to help them make timely decisions about using the technology. Then came the SECI model—socialization, externalization, combination, and internalization—put forward by Nonaka and Takeuchi (1995).

The third theory, according to McElroy (1999), suggests, although paradoxically, that KM is both a thing and a flow concerned with context, content management however, it rejects scientific management and its mechanistic tools as relevant to knowledge management. This theory, according to Firestone (as cited in McElroy, 2003), is the best, as it has the longest gestation period. Within the context of the third theory, McElroy makes a clearer distinction between KM and knowledge processing, and between these two and knowledge use. McElroy also views information technology not as a driver, but as an enabler.

Firestone and McElroy (2003a, 2003b) suggest that the future value of KM in the corporate context is dependent on the discipline's ability to overcome many limitations of its current guise. The literature on new knowledge points to following issues that will likely define what Firestone and McElroy term as new knowledge management.

Well-defined business and competitive intelligence processes.

According to Anthony C. Robinson, U.S. Representative and former chairman of the Permanent Select Committee on Intelligence, broader use of intelligence in the private sector will be a key factor in improving the competitive position of the United States in the global economy (as cited in Kahaner, 1996). However, most organizations treat the functions of business and competitive intelligence gathering as separate and ill-defined processes and activities. Shaker and Gembicki (1999) suggest that maximizing the flow and control of information will be the key component to competitiveness, and an organization's ability to compete will, in large part, be determined by how well it collects, analyzes, shares, and safeguards its information. However, according to Kahaner, "in today's business environment, having the right information is not enough any more" (1996, p. 15).

Transcending the Nonaka and Takeuchi SECI model and the need for new-knowledge, which has its inherent limitations. According to Firestone and McElroy (2003b), the SECI model is fallacious to begin with, as it incorrectly interprets Polanyi's work on tacit/explicit knowledge, on which Nonaka and Takeuchi have built their model. Additionally, their premise of socialization, externalization, combination, and internalization is too limited and limiting. According to Firestone and McElroy (2003a), "the conventional practice of KM begins with the assumption that valuable knowledge already exists" (p. 12). The authors argue that people create knowledge, and it does not simply exist. Therefore, new knowledge can be created with the information gathered through well-defined business and competitive intelligence gathering processes. Firestone and McElroy suggest, "the new KM focuses on the whole of knowledge processing, both knowledge integration (including sharing) and knowledge production"

(p. 12). The authors contend that knowledge, its integration, and sharing implied in the SECI model, was the supply side of KM, whereas knowledge integration, sharing, and knowledge making are the demand and supply sides of KM.

Enterprise-wide knowledge leveraging and knowledge sharing. Buckman suggests:

The enterprise's competitiveness and profitability depends directly on the competitive quality of its knowledge assets and the successful application of these assets in all business activities; that is, the realization of the value of knowledge assets in conducting work and in other ways of leveraging these assets. (p. 299)

He further contends that such organizations explicitly and deliberately create, capture, organize, renew, share, use, and otherwise exploit knowledge enterprise-wide, by all reasonable means possible. Therefore, the knowledge that workers could gain by having access to better knowledge throughout the organization could help them innovate and adopt the most suitable practices and approaches that would, in turn, help them deliver higher quality work.

Dixon (2000) suggests that organizations must continually reinvent and update their common knowledge. This requires them to engage repeatedly in supply side and the demand side of knowledge activities. To do so, the organizations must find effective ways to translate their ongoing experience into common knowledge creation and then leverage such knowledge to their advantage. According to Dixon (as cited in Wiig, 2004), "technology solutions provide these services with great effectiveness" (p. 301). Conversely, Stenmark (2002) suggests, "knowledge has widely been acknowledged as one of the most important factors for corporate competitiveness, and we have witnessed an explosion of IS/IT solutions claiming to provide support for knowledge management" (p. 1).

Developing tandem and integrated enterprises. Adam suggests "Towards an integrated future while knowledge-management efforts continue to be important based on proven value to date, greater value must be realised [*sic*] through implementation of integrated solutions" (2003, p. 17). In the past, he contends, KM solutions were implemented separately. This, in his opinion,

was done mainly to satisfy different interests and needs. Adam further adds, "There is a growing realization [*sic*] that providing right information at the right time to right people means all the right information" (p. 17). Those trying to do their work do not really care what it is called, as long it gives them the right tools to perform their job.

Long-running and sustainable competitive advantage. Knowledge has a profound influence on every strategic decision a company makes. According to Goldstein (2004), "in order for a company to compete successfully, there are things it must know how to do well" (p. 29).

Freeing up KM from the bonds of strategy. Firestone and McElroy (2003b) contend that KM, for the most part, is driven by the corporate strategy. In order for KM to have a meaningful and successful future, KM should drive the strategy formulation. The reason for this change, Firestone and McElroy assert, is that the business environment is too fluid and dynamic to continue to rely on past data. The new strategy-formulating model must place the KM function reporting directly with the organization's board of directors. This will allow the KM function to create new knowledge to formulate new strategies, and not merely ascribe to the wishes of its CEO or president.

It is evident from the literature that achieving competitive advantage has become one of the most enduring goals for an organization's long-term survival and success. Because competitive advantage is paramount to the organization's long-term survival and success, it has spawned a large body of literature that addresses a wide array of contributing elements that are essential to achieve this goal. However, the literature does not present a single, unified, and encompassing concept to achieve such a goal. The aforementioned literature points to the fact that competitive advantage can be achieved through well-crafted KM strategies. These strategies include gathering relevant information about the following: (a) the customer's needs, wants, and buying drivers (both internal and external and these can be achieved through Customer Relationship Management (CRM)); (b) the core competencies of the organization's competitors (external and can be achieved through competitors intelligence); (c) the market trends and external competitor capabilities (can be achieved through competitive intelligence); and

(d) organization's core competencies (entirely internal and can be gathered through business intelligence).

Competitive Advantage

Although Hamel and Prahalad (1989, 1990), Porter (1985), and Thurow (2000) have been credited with championing the concept of competitive advantage, Alderson (1937) first suggested the principle that the suppliers need to adopt competitive specialization. Alderson also first recognized that firms should acquire unique characteristics to distinguish themselves from competitors (as cited in Douglas & Craig, 1999). Later Hamel and Prahalad (1989, 1990) discussed the need for firms to create new advantages that will allow them to stay ahead of their competitors. Following Day (1984), who first coined the word sustainable while recommending strategies that would help the firms "sustain the competitive advantage" (p. 32), Porter (1985) discussed the use of, "cost leadership and differentiation" (p. 3) to achieve sustainable competitive advantage. Lester Thurow later suggested that knowledge was the only remaining competitive source available to organizations, as all other resources no longer offered any competitive advantages (as cited in Buckman, 2004).

Competitive advantage may come, among other organizational activities, from or through faster learning, sustained innovation, reduced cycle times, improved sensitivity and co-evolution with markets, or a unique blend of technology and practice. However, KM can play a key role in all these aspects. The key to a successful KM initiative is a shared understanding within the firm of exactly what aspects of knowledge are important and open communications to take advantage of tacit knowledge and insights. A culture that allows failure, learns from mistakes, and appreciates the fundamental role of knowledge, as a strategic driver in the sustainable effort to create competitive advantage, is also important to organizations.

Competitive advantage is directly proportionate to the core competencies that an organization has over its competitors. According to Hamel and Prahalad (1990), core competencies are the set of specialized expertise that occur simultaneously and are concordant with a unique blend of new technologies and work activities. Emulous activities that the organization can do better than its competitors take place within the

organization; they are also difficult for competitors to copy. According to Brackett (1999), capital, human resource, and data resources are the most common and primary competitive resources available to most organizations; however, these competencies can be anything from product development to employee dedication. Day and Wensley (1988) listed two sources that support creating competitive advantage: superior skills and superior resources. Hamel and Prahalad (1990) recommend that organizations combine these two sources to create core competencies. They define the core competencies as the activities in which firms excel over their competitors and are impossible for the competitors to copy.

Conclusion

Organizations can no longer rely on the rudimentary resources that gave them the advantage over competitors in the past. The emergent thinking in the KM movement is that knowledge is the only remaining source of competitive advantage for organizations. Use of the proper new knowledge in business can mean gaining competitive advantage.

Since knowledge can become obsolete over time, capturing and using existing, knowledge to predict the future can be woefully wrong. Using old knowledge to predict the future is predisposed to failure. In order to take advantage of this remaining competitive resource, organizations need to create new knowledge. The process of creating new knowledge can start by using well-defined business and competitive intelligence-gathering processes. The newly gathered business and competitive intelligence can then be converted into new knowledge. In order to profit from the newly created knowledge, this knowledge must then be openly shared throughout the organization. In order to achieve this, organizations will need to create and foster a knowledge-sharing culture. Creating a culture of trust and sharing can overcome the notion that the people in an organization are unlikely to share knowledge. Competitors can replicate and take away all sources but the knowledge an organization created and processed. Cumulatively, the new knowledge-creating process can help organizations gain long-running, sustainable competitive advantage.

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