



# Knowledge Creation and Competitive Advantage

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## ABSTRACT

Knowledge management enables organizations to better utilize their current stock of knowledge and position themselves to recognize opportunities to create knowledge faster than their competitors, thus increasing an organization's value and competitive standing. Economic value is increasingly related to an organizations ability to innovate and innovation requires that the organization engage in learning on a continuous basis.

This research in progress paper investigates the relationship between an organization's structure and its ability to create knowledge and increase value. The author suggests that any organization can gauge its potential to create new knowledge by giving careful consideration its intellectual bandwidth for knowledge creation and discusses the key enablers of knowledge creation.

## INTRODUCTION

Interest in knowledge management as a crucial organizational resource has grown dramatically over the past decade as refinements in technology have enabled instant communication and access to information on a global scale. Knowledge management enables organizations to better utilize their current stock of knowledge and position themselves to recognize opportunities to create knowledge faster than their competitors, thus increasing an organization's value and power. The ability to transform information to make it more productive is critical to an organization's ability to maintain a competitive advantage [Drucker, 1998]

Information is data that has been transformed and is actionable; it is easy to duplicate and it is codifiable. Knowledge goes a step further; Knowledge is information that has meaning and is always in a state of becoming. It is the result of taking existing information that is inert and static and transforming it by giving it new meaning. [Bhatt, 2000] "Knowledge is information possessed in the mind of individuals' it is personalized information that is related to facts, procedures, concepts, ideas and judgments." [Alavi & Leidner, 2001] Knowledge is a justified belief system, held by individuals and groups, that leads to action. [Nonaka & Takeuchi, 1995] How one characterizes knowledge is intimately related to the perspective of knowledge held by the organization. Understanding knowledge perspectives and its implications for action is of critical importance to an organization's ability to harness its power and create new knowledge. New knowledge should lead to innovative products or services that increase the organization's stature, revenue stream or profits and enhance its ability to acquire or maintain a competitive advantage.

## TACIT AND EXPLICIT KNOWLEDGE

Knowledge can broadly be categorized as either explicit or tacit. Explicit knowledge can be codified, communicated without difficulty, recorded, written, and transferred into other formats or embedded in technology. [Davenport & Prusak, 1998] Organizations make use of explicit knowledge in best practices, manuals, specifications and routine, programmed activities. Tacit knowledge is content specific, abstract, difficult to articulate, with cognitive, intuitive and technical components. [Nonaka and Takeuchi, 1995, Bhatt, 2000, Alavi & Leidner, 2001] Tacit knowledge is flexible, fluid and self-fortifying. It builds on an individual's experiences and mental models, combining them and giving new meaning as the context changes. Organizations need to be able to draw on the tacit knowledge found in individuals and transform it into tacit knowledge held by a group or into an explicit form. This is a difficult task

since tacit knowledge results from life experience, which include the social, cultural, emotional and cognitive backgrounds of individuals, therefore, the ability to externalize this knowledge so that others might directly learn from it may not be possible. [Polyani, 1998, Nestor-Baker & Hoy, 2001] Hence, organizations must provide the environmental accouterments that will enable individuals to utilize their tacit knowledge and expertise to increase organizational performance and productivity.

## INNOVATION & KNOWLEDGE IDENTIFICATION

An organization must be able to leverage knowledge to create value consistently. "Innovation is essential to competitive advantage and the chances of survival will be enhanced when the organization attends and responds to more and different stimuli." [Belardo & Belardo, 2002] Innovation requires that the organization engage in learning on a continuous basis. The process of learning and creating value can be viewed as a time line, in which the process moves through four distinct but continuous phases, identification, elicitation, dissemination and utilization. [Huber, 1991, Nevis et al, 1995, Belardo, 2001] Identification entails determining what the knowledge needs of an organization are, elicitation involves extracting the knowledge from the source(s), dissemination involves making sure that all who need to know do know and utilization is the process of making the knowledge one's own to improve organizational performance. [Belardo & Belardo, 2002] The identification stage is crucial to knowledge creation, both from a macro perspective, which helps the organization develop its strategy, and from a micro perspective, so that the right knowledge gets to the right person at the right time. [Belardo & Belardo, 2002]

## INTELLECTUAL BANDWIDTH FOR KNOWLEDGE CREATION

The concept of an intellectual bandwidth has been discussed in conjunction with an organization's ability to create value. [Nunamaker et al, 2001] Opining on this concept and building on previous literature on knowledge creation, absorptive capacity, and innovation, the author suggests that any organization can gauge its potential to create new knowledge by giving careful consideration to the key enablers, leadership, culture, knowledge creators and

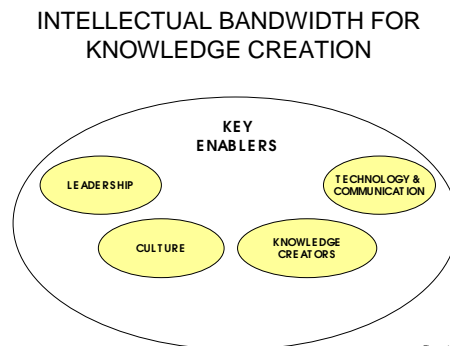


Figure 1

technology and communication, described in Figure 1, which comprise the Intellectual Bandwidth for Knowledge Creation [Cohen & Levinthal, Von Krogh, et al, 2000, Belardo & Belardo, 2002]

- **Leadership**

Leadership plays a critical role in identifying the knowledge that an organization will acquire and use. Leadership determines whom the organization listens to externally and to what degree this knowledge is disseminated inside the organization. Knowledge creation is often chaotic and disorderly but if managed correctly can result in the creation of new skills and competencies. [Bhatt, 2000] The relationship the organization has with its external and internal environment must critically examined to identify and correct assumptions and behaviors that are not value adding. Leadership must also examine the basis for rewarding employee performance and a fine balance must be struck between rewarding units or teams for the sharing of knowledge and rewarding individuals in cases where their tacit knowledge leads to innovations.

- **Culture**

Culture is a reflection of the values and practices of the organization. One cannot ignore the role culture plays in knowledge seeking as it can serve to facilitate or restrict knowledge. "Organizations and parts of organizations develop particular cultures and particular practices. They may have originated for good reasons, or simply by chance, but they tend to become accepted and, indeed, unseen" [DeLong, 2000] Organizations may have difficulty identifying the true culture as there are usually two cultures in an organization, "the espoused culture" and the "true culture." [Schein] It is the apparent demonstrations of the "true culture" and the realities that it presents, i.e. behavior that it supports and norms that must be transformed. Strategies for change need to be grounded in a clear understanding of where the organization is now, where it wants to be and what it will take to get there.

While culture has a major influence in the management of knowledge, the ability of an organization to put together teams of individuals with diverse but complementary experiences can serve to ignite sparks of creativity where they might otherwise lie dormant. Socialization and activities where individuals can informally share knowledge with teammates and other colleagues is vital. [Davenport & Prusak, 1998, Von Krogh et al, 2000]

- **Knowledge Creators**

The capability of building on existing knowledge is affected by an organization's intellectual capacity. "The ability to evaluate and utilize outside knowledge is largely a function of the level of prior related knowledge." [Cohen & Levinthal, 1990] Therefore, it is important that the organization employ individuals whose experience will enable them to recognize and assimilate new sources of information, produce something unique and innovative or contribute to team productivity.

Knowledge creators are individuals who have a role in seeking out knowledge sources, who recognize the potential of information to be reused in a novel way or who are able to create new or improved products and services by working individually or in groups with other knowledge creators. When an organization realizes the importance of having individuals who function as gatekeepers, constantly spanning the external environment for sources of new information, and the need for individuals who can absorb this information, it will seek to employ individuals with this potential. It will also provide the intellectual sustenance needed within the organization to allow this potential to develop more fully. [Davenport & Prusak, 1998]

- **Technology & Communication**

One of the biggest misconceptions about knowledge management is the belief that technology plays a major role in the success of any knowledge management initiative. Getting the right information to the right people at the right time is important, and technology is a key enabler in disseminating information throughout the organization. However information technology is limited and its ability to facilitate teammaking, elicit tacit knowledge or build trust. [Davenport & Prusak 1998, Belardo & Belardo, 2002] As knowledge creation has more to do with "relationships and community-building then databases ... investments in information technology alone cannot make the knowledge-creating company happen." [Von Krogh et al, 2000]

Technology can be used to design systems to support collaboration and communication, and to facilitate the flow information throughout the organization. There are knowledge management tools and technologies that support the identification of new knowledge opportunities, such as sophisticated GroupWare, web retrieval software and recommender systems. [Resnick & Varian, 1997, Stenmark, D., 2001]

Communication should be multi-dimensional; formal, informal, social, oral and written; it must initiate at all levels within the organization. The ability to express and share ideas must be encouraged and fostered. When people trust that what they say will not result in negative criticism, they will feel free to communicate their ideas. When communication is encouraged and varied opportunities to foster dialogue are facilitated by the organization, people learn to understand each other and develop relationships, which are important to the sharing of tacit knowledge. [Davenport and Prusak, 1998, Von Krogh et al, 2000, Belardo & Belardo, 2002]

## RESEARCH METHOD

My study will explore knowledge creation in organizations. Three organizations identified in current literature as engaged in knowledge management and who have demonstrated superior performance over time, as indicated by revenue, market capitalization and recognition, will form the source of case study research. The study will involve interviews, observations and review of documents, to determine the characteristics and factors that facilitate knowledge creation in the organization. Particular inquiry will focus on the role played by the four key enablers, leadership, culture, knowledge creators and technology and communications. The author purports that the degree to which an organization possesses these key enablers, correlates closely with the level of knowledge creation occurring within the organization.

The study will add to the body of knowledge in the field of knowledge identification by identifying characteristics found in organizations that are widely recognized as leaders in this area. It will provide support to the importance of the four key enablers in the role of knowledge creation and may lead to the discovery other factors that may also play a significant role in this area.

The study will seek to identify similarities in knowledge creating activities across organizations. The study will draw on inferences from documents, interviews and observations, to give both depth and validity to the results. The subjects in the study will initially be identified by organizational leadership as individuals engaged in knowledge creating behaviors and/or in knowledge management positions. Additional subjects will be identified for inclusion through information gained in interviews and through observations.

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