



KNOWLEDGE MANAGEMENT: KEY TO SUSTAINABLE COMPETITIVE ADVANTAGE

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Abstract: *Competitiveness is the ability of a firm to survive and prosper, given the competition of other firms for the same profits. The competitiveness of a firm is the result of a competitive advantage relative to other firms. Competitive advantage defined as the ability of a company to make products that provide more value to the customer than rival products, leading to higher sales and higher profits, is only achieved if a company manages to sustain its edge over its rivals over time. Knowledge is increasingly claimed to be a key critical resource and source of competitive advantage in the modern global economy, especially with the rise of the service economy, the growth in the number of 'knowledge workers', the increasingly rapid flow of global information, and the growing recognition of the importance of intellectual capital and intellectual property rights. This paper examines the strategic relevance of KM in enhancing human capital management in firms. To achieve this objective the present a detailed literature review on the implications of KM on effective human resource development, and the consequences for an organization's ability to attain and sustain competitive advantage in the marketplace. The paper proposes that firms that develop and apply strong KM culture would be able to achieve consistent high performance. In addition, when a firm is able to perform better than competitors; such a firm would be able to achieve sustainable competitive advantage. This paper will serve as a frame of reference for researchers, and could enable practitioners to gain better understanding of key requirements for maintaining a competitive advantage via effective integration of KM and human capital initiatives.*

Key words: *Knowledge management, competitive advantage, sustainable competitive advantage, knowledge workers, human capital.*

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INTRODUCTION

Knowledge is increasingly being recognized as an essential aspect in the strategic direction of organizations. The most established paradigm is that knowledge is power. This has led to individuals within an organization or organizations themselves to hoard it to maintain an advantage. The common attitude of most people is to hold on to one's knowledge since it is what makes him or her an important asset to the organization. Today, knowledge is still considered power; an enormous power in fact, however, the understanding has changed considerably, especially from the organizational perspective. The new paradigm is that within the organization knowledge must be shared in order for it to grow. It has been seen that the organization that shares knowledge among its management and staff grows stronger and becomes more competitive. This is the core of knowledge management – the sharing of knowledge (Uriarte, 2008).

DEFINITION AND DISCUSSION OF KNOWLEDGE

In order to comprehend knowledge management, it is necessary to first understand the concept of knowledge. What is knowledge and how is it different from information? Further we shall differentiate information from mere data. Data can be defined as a number or word or letter without any context. For example, numbers like 4 or 30, without any context, are mere data. Without reference to either space or time, these numbers or data are meaningless points in space and time. The key phrase here is “out of context”. And since it is out of context then it has no meaningful relation to anything else. A mere collection of data is not information. This means that if there is no relation between the pieces of data, then it is not information. Data is transformed into information through the understanding of the relationships between the pieces of data or between the collection of data and other information. The context in which the data is collected becomes more important especially in terms of the relationship between the pieces of data. In our earlier example, the numbers 4 and 30 may mean nothing to us if left as they are, however if we look at them in term of relationship we may understand them as four weeks in a month thereby creating a context. With the context, the data becomes meaningful therefore it's transformed to a piece of information.

Since information merely provides the relationship between data, it therefore does not provide a foundation for why the data is what it is and does not indicate as to how the data

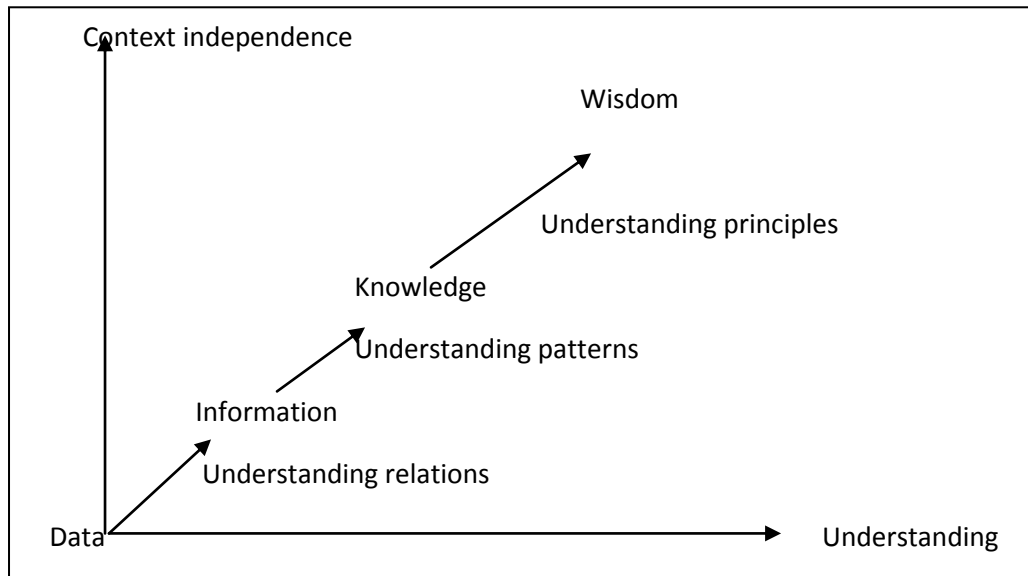


is likely to change over time. In short, information is a relationship between data that is dependent on context for its meaning and with little implication for the future. In order to show how data, information and knowledge relate, we take an example of a university that develops a data bank for its academic staff: indicating the number of lecturers in each faculty and their academic qualification i.e. number of lecturers with master, doctorate degrees, or number of professors and the courses offered. This data will remain out of context unless the university is able to develop some relationship between the data and its core functions (quality education). The university management should relate the information available with their functions in order to make it meaningful. How this information will assist the university in carrying out its functions forms a pattern of thought. The pattern of thought which will evolve out of the relationship over time becomes knowledge, which when understood will help the university understand the results of the relationship.

When information is further processed, it has the potential for becoming knowledge. Information is further processed when one finds a pattern relation existing among data and information. And when one is able to realize and understand the patterns and their implications, then this collection of data and information becomes knowledge. But unlike mere information that is context dependent, knowledge has the tendency to create its own context. In other words, the patterns representing knowledge have a tendency to be self-contextualizing. These patterns which represent knowledge have a characteristic of being complete – a feature that mere information does not contain. These patterns are dynamic. They are constantly changing. But when these patterns are fully understood, there is a high level of predictability and reliability as to how the patterns will change or evolve over time. The figure1 below summarizes the relationships between data, information and knowledge. In the modern economy, knowledge has emerged as an asset to be valued, developed and managed. It is a critical factor affecting an organization's ability to remain competitive in the new global marketplace. Indeed, it has been argued that it has bypassed the traditional factors of production – land, labor and capital – to become the most essential corporate and competitive resource (Bogdanowicz, & Bailey, (2002). This is because of its duplicability without cost and that it does not wear out. It is a source of value and productivity, where

knowledge can add value to an otherwise closed, zero-sum system of value and it can increase value without diminishing it somewhere else.

Figure 1.1 Conceptual Progressions from Data to Knowledge



Source: adopted from Uriarte (2008)

Soliman and Spooner, (2000) define Knowledge as the ability to sustain the coordinated deployment of assets and capabilities in a way that helps the firm achieve its goals. This asset, or "Knowledge Treasures", need a knowledge map which describes how to find, what to find and where to find useful knowledge within the organization. Acquisition and enhancement of this asset has become crucial management concerns (Al-Atahari and Zairi, 2001). According to Soliman and Spooner, (2000), knowledge or "intellectual capital", could be classified in three categories, namely:

1. Human capital (staff's knowledge, skills and talents)
2. Structural capital (composed of systems for codifying, storing, transmitting and sharing knowledge); and
3. Customer capital (emanating from connections between organizations and clients, vendors and partners).

Bollinger and Smith (2001) have defined knowledge as understanding, awareness, familiarity acquired through study, investigation, observation, or experience over the course of time. It is an individual's interpretation of information based on personal experiences, skills, and competencies. To the organization, knowledge is defined as what people know about customers, products, processes, mistakes and success (Audrey and Smith, 2001). This



knowledge resides in databases or through sharing of experiences and best practices, or through other sources both internal and external to the organization. There are many arguments in the literature stressing that knowledge is the subject for companies to focus on because of the increasing competitive market place. For instance, Civi, (2000) indicates that in classical economies, the sources of wealth are land, labor and capital. However, in this 21st century, other engines of wealth are at work and they take many forms: technology, innovation, science, expertise, creativity and information. In one word, it is knowledge.

Knowledge is thus, certainly the best resource and the only sustainable competitive advantage. According to Civi, (2000), in a growing number of countries, with expanding firms contributing, this knowledge is migratory in some forms, embedded, and slow to be retrieved in other forms. Borrowing from this, Nonaka and Takeuchi (1995) pointed out that successful companies are those that consistently create new knowledge, disseminate it widely throughout the firm and quickly embody it in new technologies and products: There are two forms of knowledge explicit and tacit (McCampbell, Clare and Glitters, 1999) which are considered important.

TYPES OF KNOWLEDGE

Explicit knowledge:

Explicit (objective) knowledge is clearly formulated or defined as easily expressed knowledge without ambiguity or vagueness, and codified and stored in database. Following its nature of being easily shared and communicated, most organizations have captured this knowledge in ordered repositories, thus making it available to all members of the organization. This knowledge resides in three forms in a firm: cognitive knowledge, advance systems skills and system understanding (Meso and Smith, 2000). Cognitive knowledge, also termed as “know what”, is the “basic mastery of a discipline that professionals achieve through extensive training and certification”. Advance system skills or “know how” refer to the “ability to apply rules of a discipline to complex real world problems.” While system understanding, also termed “know why” is the deep understanding of the web of cause and effect relationships underlying a discipline. This knowledge is stored in books, formulae, reports and other electronic gadgets found in the libraries and other centers of information in an organization.



Tacit knowledge:

McCampbell et al., (1999) defines tacit (subjective) knowledge as the unarticulated knowledge that is in a person's head, which is often difficult to describe and transfer. It includes lessons learned, expertise, judgments, rules of thumb and intuition (Audrey and Smith, 2001). It resides within the individual and is difficult to express in words. Meso and Smith, (2000) argue that there is a great wealth of tacit knowledge inside people's heads and embedded in the way we do things. Every employee has a wealth of tacit knowledge deeply rooted in his/her actions and his/her commitment to a particular craft or profession, a particular technology, a product market or the activities of a work group or team. Building on the above Bagshaw, (2000) noted that it is vital for business success that tacit knowledge is shared so that, when people leave, their knowledge does not disappear with them. Further, Bagshaw, (2000) states that rediscovering the knowledge of an employee who has gone can be a very long and expensive process. Tacit knowledge can also be seen as that knowledge, which resides in the culture of the firm (Meso and Smith, 2000). For example self motivated creativity, which refers to the will, motivation, and adaptability for success exhibited by employees working within certain corporate cultures. They further elaborate that it is difficult to identify the precise cause of care-why. However, literature on KM acknowledges that high levels of care-why significantly enhance overall performance of the firm (Meso and Smith, 2000). Nonaka and Takeuchi (1995) in establishing the dynamic model of knowledge creation have explain the critical assumption that human knowledge is created and expanded through social interaction between tacit knowledge and explicit knowledge (Civi, 2000). This interaction is known as "knowledge conversion" and their belief is that explicit and tacit knowledge are not totally different. They interact with and interchange into each other in the creative activities of human beings. Nevertheless, creating the interaction between tacit with explicit knowledge could be a very complex task and in some circumstances may not be possible Soliman and Spooner (2000). In other words, reconciling what is in the employees' minds with what is stored in databases requires extensive research, in spite of major advances in knowledge-based technologies.

KNOWLEDGE MANAGEMENT DEFINED

The scope of knowledge management (KM) is wide and the existing literature gives an endless number of definitions for knowledge management. The definitions and activities



involved depend largely on what they are intended for, and every firm has different approaches to their knowledge management practices. In the literature, knowledge management is concerned with capturing a firm's stock of expertise through creation, collection, storage and application (Bollinger and Smith, 2001). It means identifying and harnessing the collective knowledge of the organization gained through experience and competencies. Mathis and Jackson, (2010) have defined Knowledge management as the way an organization identifies and leverages knowledge in order to be competitive. It is the art of creating value by using organizational intellectual capital, which is what the organization (the people in the organization) knows. Knowledge management is a conscious effort to get the right knowledge to the right people at the right time so that it can be shared and put into action. Bergeron, (2003) argues that the whole-mark of Knowledge Management is the ability to selectively capture, archive, and access the best practices of work-related knowledge and decision making from employees and managers for both individual and group behaviors. For example, a lecturer may have knowledge of how to effectively deliver subject content to the students (individual behavior) as well as how to work with other members of the faculty in getting policies pushed through the institutional hierarchy (group behavior).

Knowledge Management (KM) is the process of gathering, managing and sharing employees' knowledge capital throughout the organization. Knowledge sharing throughout the organization enhances existing organizational business processes, introduces more efficient and effective business processes and removes redundant processes. It is a discipline that promotes a collaborative and integrated approach to the creation, capture, organization access and use of an enterprise's knowledge assets. Capturing a company's most valuable asset (Knowledge) and distributing it effectively across the enterprise is a business critical issue for many help desk, customer support and IT departments (Ishak, Eze, and Ling, 2010).

WHY DO WE NEED KM?

Organizations are interested in managing knowledge for several reasons. One reason is that core competencies are based on the skills and experience of the people who do the work and may not exist in the physical form (Kridad and Goulding, 2006). Therefore, it is important that firms find ways to tap into this knowledge base in order to preserve and



expand their core competencies (Bollinger and Smith, 2001). In view of this, knowledge management has become a critical subject of discussion in the business literature in the recent years. Both business and academic communities believe that, by leveraging knowledge, a firm can sustain its long-term competitive advantage. Knowledge management ideally captures, transfers, and leverages what everyone in the firm knows. Thus, there is a daunting challenge as who is 'everyone in the organization' and how does the firm manage its knowledge, human capital, thus transforming it into intellectual capital? The systematic process of finding, selecting, organizing, distilling and presenting information, improves an employee's comprehension in a specific area of interest. KM, as emphasized by Abdul Kalam, (2004), helps an organization to gain insight and understanding from its own experience. Specific knowledge management activities help focus an organization on acquiring, storing and utilizing knowledge for problem solving, dynamic learning, strategic planning and decision making. It also prevents intellectual assets from decay, adds to firm intelligence and provides increased flexibility.

KM is not only about Knowledge Technology. KM must be an enabler to achieve strategic business objectives. The organizational debris from failed attempts to impose new technical infrastructures that are either inappropriate to their work environments, or where people are not willing to share knowledge is ample evidence. Hence the need of Knowledge Management initiative arises to become solution for such problems, which brings together people, process and technology and helps corporate to achieve its goals and vision.

Knowledge management is an audit of "intellectual assets" that highlights unique sources, critical functions and potential bottlenecks, which hinder knowledge flows to the point of use. It protects intellectual assets from decay, seeks opportunities to enhance decisions, services and products through adding intelligence, increasing value and providing flexibility.

KM complements and enhances other organizational initiatives such as total quality management (TQM), business process re-engineering (BPR) and organizational learning, providing a new and urgent focus to sustain competitive position.

The Gartner Group (2005) defines KM as a discipline that promotes an integrated approach to identifying managing and sharing of all of an enterprise's information assets. These information assets may include database documents, policies, procedures as well as previously unarticulated expertise and experience resident in individual workers.



Knowledge management issues include developing, implementing and maintaining the appropriate technical and organizational infrastructure to enable knowledge sharing.

Broadbent (1997) defines KM as 'a form of expertise management which draws out tacit knowledge, making it accessible for specific purposes to improve the Knowledge Management; about how the organization's 'know-how' should be structured, organized, located and utilized to provide the most effective action at that point in time'.

According to Harman and Brelade (2007): "Knowledge management is the acquisition and use of resources to create an environment in which information is accessible to individuals and in which individuals acquire, share and use that information to develop their own knowledge and are encouraged and enabled to apply their knowledge for the benefit of the organization."

INFLUENCE OF ORGANIZATIONAL FACTORS ON KM

Effective knowledge management is most likely in businesses that find the right balance between organization systems, which on the one hand are sufficiently open and flexible to allow creativity to flourish, but on the other possess enough formality and discipline to ensure that creativity produces tangible outcomes. It is argued that bureaucracy and formal communication inhibit spontaneity, experimentation and the freedom of expression necessary for innovative responses to environmental change. It is also acknowledge that a great deal of knowledge originates from personal intuition, networking and chance encounters, but contend structured and standardized procedures are needed to capture, control and connect the knowledge thus gained to business objectives.

The focus of KM should be placed on individuals themselves, and the impact made by human resource management on KM practices, and that KM is actually an evolved form of human resource (Svetlik and Starvrou-Costea, 2007). Boxall and Purcell, (2003) while borrowing from the resource based-view theory of management indicate that, employees with all their capacities become desirable and real resources for the firm if they are to a high degree: valuable and scarce, inimitable, non substitutable and appropriable.

SUSTAINING PERFORMANCE WITH KM

Choi, Kang and Lee, (2008) indicated that numerous firms have recognized that knowledge plays an essential role while Alton and Dion, (2008), Anantatmula and Kanungo, (2007), noted that it is a crucial resource in gaining sustainable performance in any industry. Civi



(2000) on the other hand found that achieving competitive performance ranks high as the most important application of knowledge in terms of its contribution in attaining an effective human capital management and the overall firm objectives. For many firms, gaining sustainable advantage lies in the capability to create and apply intellectual expertise (Choi et al., 2008). Firms should, therefore view knowledge as a valuable asset for building a strong human capital in the firm.

According to Lloria (2008), the strategic objectives of KM vary along such areas as developing new opportunities or creating value for the customers. Effective integration of human capital management (HCM) and KM would enable a firm to harness its capabilities in a systematic and comprehensive fashion, which will aid in the effective allocation of firm resources. This would consequently, create avenues for cost reduction and enable greater maximization of capabilities. As a result, the firm would have greater strength in taking up opportunities in the marketplace. The ability of a firm to utilize its human capital and expertise in a way superior to competitors would create key competencies in the firm that could be rare and inimitable, which could provide the firm a chance to gain and maintain high performance in the industry. Lubit (2001) argues that firms are able to use their knowledge resources to not only create effective performance, but also build sustainable competitive advantage in the market. Further he explains that to create competitive advantage, firms' need to: 1) internally spread tacit knowledge, and 2) create KM capabilities and approaches in fostering innovation. In essence, creating integration between tacit and explicit knowledge.

CONCLUSION

Knowledge is fast becoming a key success factor for many companies. The current knowledge management trends indicate that a significant proportion of global organizations are increasingly evolving as knowledge based and it is reasonable to propose that the its importance to a firm's ability to gain and maintain competitive advantage will exceed that of other types of organizations in a greater magnitude. Managers and their firms will need to develop innovative ways of accessing, harnessing, utilizing knowledge critical to coping with these new realities. Managers will need to shift their focus from old organizing models to new ones, together with a change in their systems to more flexible, process-oriented and knowledge-based systems.



These new systems will be based on different forms of leadership, authority and structure from those that now prevail, and will be critically important in determining the environment of a successful knowledge-intensive firm. Whether or not a corporation speaks of knowledge management, Corporate Managers will have to learn to redirect themselves and their corporate culture toward sharing, collaboration and cross functional teams. They also have to apply those standards to finding and retaining the best talent in the market, along with capturing as much as possible employees' knowledge before they leave the firm. A healthy interaction between knowledge management efforts and the existing organizational culture will undoubtedly result in changes to that culture, which may indeed lead to the competitive and successful application of knowledge management initiatives.

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