Nature and Application of Knowledge and its Significance to Organizational Management Leaders

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Introduction

Epistemology is a branch of philosophy, which provides an individual with tools for understanding what he or she knows, but epistemology cannot be separated from an individual’s metaphysics. It is almost impossible to separate a thinker’s epistemology from his or her metaphysics, because epistemology connects with specific ethics and politics and metaphysics connects all of that, in a coherent philosophical system. Metaphysics connects the philosophical system because epistemology does not fit well with randomness but does connect with specific ethics and politics. In 1854, the term epistemology appears to have been used for the first time, correlating with an intense move towards professionalism in academia. During this time, psychology branched out from epistemology, which created the need for a better understanding of knowledge, because some individuals were reasoning about the nature of the world without considering how we got that knowledge, and others were theorizing about the nature of knowledge without considering the nature of the mind. In addition, epistemology did not take into account social aspects, but recently this has shifted, and two types of epistemology have emerged: classical and social. Classical epistemology emphasizes individual knowing and knowledge, and social epistemology emphasizes organizational knowing and the social routes to knowledge (Nonaka & Nishiguchi, 2001). However, social epistemology existed well before the term recently emerged. Philosophers throughout history “have made critical discussion and deliberation central to their social epistemologies by…claiming…that rational dialogue between two or more individuals improves reasoning over what can be accomplished by individuals working alone” (Solomon, 2006, p. 28).

Medieval philosophers began the quest to understand knowledge through the use of public venues. Both Plato and Aristotle believed in knowledge originating from forms. However, Plato believed “forms occupy a realm independent of sensory objects, whereas Aristotle maintained that the forms were instantiated by sensory objects” (Moser & vander Nat, 2003, p. 31). Plato believed knowledge was based on reason or explanation, which was accepted until 1963 when Edmund Gettier published his influential article, Is Justified True Belief Knowledge. Gettier showed in his paper that justified true belief is not sufficient for one’s having knowledge (Moser & vander Nat, 2003).

Aristotle’s view of knowledge through sensory objects was built upon by Descartes, Locke, Hume, and Kant who believed “mental propositions…are different from abstract propositions, [and] mental propositions…are the thoughts we think as we go about our daily business” (Moser & vander Nat, 2003, p. 5). However, these philosophers did reject the idea of knowledge obtained through the direct awareness of the forms. Descartes believed knowledge had to be certain, but for individuals to be able to validate knowledge, they had to question everything they believed (Moser & vander Nat, 2003). “If after such a strategy some propositions cannot be doubted, then,” Descartes concludes, “we shall know with certainty that those propositions are true” (Moser & vander Nat, 2003, p. 111). An individual may not have the necessary background, information, or skills to determine this level of certainty, and each individual may define certainty differently. John Locke’s views differed from those of Descarte’s
views; he believed that the mind is blank with no preconceived notions or ideas to question (Moser & vander Nat, 2003). “Through abstraction from sensory experience...the mind gradually comes to have concepts [and these] concepts [are] manipulated by the mind according to its natural abilities and manners of operation” (Moser & vander Nat, 2003, p. 111). Immanuel Kant was the only early modern philosopher who did not reject the doctrine of innate ideas (Moser & vander Nat, 2003). Kant believed “that a priori synthetic knowledge would not be possible if synthetic knowledge were determined solely by factors that the objects of experience brought to the mind...[Kant] postulated that our synthetic knowledge was partly determined by certain conditions” (Moser & vander Nat, 2003, p. 114). However, there are synthetic a priori principles concerning space that can be anticipated in advance of experience. Thus, through the combination of past experiences and conditions, knowledge can be validated (Moser & vander Nat, 2003).

Bertrand Russell and G. E. Moore began the period of contemporary philosophers; unlike Kant, Russell and Moore believed knowledge was not tied to certain conditions, but rather that facts were independent of experience and other mental activity. Russell and Moore’s origin of knowledge rests on the idea of empiricism, which states that nothing can exist without experience (Moser & vander Nat, 2003). Russell goes on to distinguish between appearance and reality, stating that individuals only have “knowledge of sensory data...not actual physical objects” (Moser & vander Nat, 2003, p. 220). “Knowledge of physical objects is...a standard example of empirical knowledge, whereas knowledge of logical and mathematical truths is a standard instance of nonempirical knowledge” (p. 2).

From Greek and medieval philosophers to contemporary philosophers, the history of epistemology does not provide one idea or definition of the nature of knowledge but, rather, many different views (Moser & vander Nat, 2003). As contemporary philosophers continue the quest for understanding knowledge, a systemic approach is used as a point of departure (Johannessen, Olaisen, & Olsen, 2002).

Purpose

Knowledge acquisition begins with stimuli, which change an individual’s knowledge base. However an individual needs to be aware of these stimuli to convert the stimuli into information. Once an individual has information, his or her actions will determine whether the information becomes knowledge, or is discarded. Our senses need to be continuously aware of our surroundings to discover new data. This data can be found in all settings, whether formal or informal. However, an individual can only gain knowledge through the action of information, and information is only gained through bits of categorized data, which enters our brain through stimuli (Moser & vander Nat, 2003; Nonaka & Nishiguchi, 2001).

Understanding the knowledge acquisition process is critical for organizations because the nature of employees have been changing (Drucker, 1999). The 20th century brought a paradigm shift from manual workers, who perform physical work, to knowledge workers who use knowledge to perform tasks. Drucker recognized this shift from manual to knowledge workers, and he stressed the importance of knowledge growth within organizations. However, creating a knowledge infrastructure is not easy because many individuals become experts in one discipline and do not venture beyond that discipline into other fields. Drucker referred to this as the silo effect, and this stifles creativity within organizations. One way for organizations to avoid the silo effect is by placing emphasis on education, training, and team-based approaches, which fosters the sharing of tacit knowledge (Herschel, Nemati,
& Steiger, 2001; Kiessling & Richey, 2004). Organizations can promote knowledge within their organization by implementing knowledge management systems, encouraging job shadowing, and continued education. However, leaders within organizations need to develop knowledge action plans, understand how employees learn, and reflect upon past achievements or failures and set new goals; otherwise, the systems put in place by the organization will be useless. Having the right leader is more important than the right processes because with the right people, the right processes will emerge (Collins, 2001).

Drucker’s concern with knowledge workers is determining how to measure knowledge worker’s productivity because knowledge is not easily quantifiable, whereas, manual workers are measured by output, which is easily quantifiable. Drucker addressed his concern by developing six factors, which increase knowledge worker’s productivity: Determining the task at hand, providing knowledge workers with complete autonomy, innovation as a task of the knowledge worker, continuous learning and teaching, measuring productivity based on quality, and recognizing knowledge workers as assets, not costs.

Organizations need to treat knowledge workers properly because knowledge worker’s means of production are his or her brains, which are portable (Drucker, 1999). Additionally, knowledge workers are gaining voices in the community and government, which can negatively impact the reputation of an organization if a worker is disgruntled. Drucker believed with the right leader this transition from manual to knowledge worker could be handled successfully. He did not make a distinction between a leader and manager, and today, an individual is either referred to as a bad manager or a good leader (Teo-Dixon & Monin, 2007).

Discussion

Acquiring Knowledge
Knowledge is not information, nor is information knowledge, and the distinction is critical to understanding the purpose of knowledge. To understand fully the distinction between knowledge and information, the process of acquiring information and the ways in which this acquisition changes our knowledge needs to be examined. The knowledge spectrum consists of three stages: First, sensory data is absorbed, second, the data is converted into information, and finally, information becomes knowledge when acted upon (Nonaka & Nishiguchi, 2001). Data is categorized through cognitive processes, and these categories impact future interpretation of data. However, the vast number of data categories help to scan and interpret data in a selective manner (du Toit, 2003). Interpretations of data help an individual to make sense of the data because sensory data does not have any meaning on its own (Johannessen, Olaisen, & Olsen, 2002).

Sense-making turns data into information, and two types of information exist: salient and discrepant. Salient information has high stimulus value, typically resulting in salient information being stored in memory for a longer period. Discrepant information has less value or possible impact, resulting in discrepant information being stored in memory for a shorter period (du Toit, 2003,). Information with low stimulus value needs to be discarded for efficiency, and salient patterns need to be acted upon (Nonaka & Nishiguchi, 2001). According to Hotz (1996), the brain remodels throughout life in response to new stimuli and the self makes sense of this process because new stimuli challenge existing understanding. The self is a product of language, and without language, an individual is not able to express knowledge. Language provides the structure for reality, but philosophers also recognize the limitations of language and its inability to portray fully reality with a single array of words. A shared language reflects the epistemological belief that the world is perceived through the particular forms shared language creates. Each individual’s personality is known as the self, which processes and interprets stimuli based on past experiences. The interpretation of stimuli based on past experiences reflects reality for an individual (du Toit, 2003).

These actions lead to conclusions and understanding that need to be stored in our brains rather than the raw data because these conclusions and understandings are knowledge. Two types of knowledge exist: explicit and tacit. Explicit knowledge is easily quantifiable and transferable, whereas tacit knowledge is maintained in one’s head and typically displayed through action, making it difficult to transfer (Johannessen, Olaisen, & Olsen, 2002). Converting tacit knowledge to explicit knowledge is often time consuming and problematic, so tacit knowledge is usually overlooked by organizations, which stifles knowledge creation activities (Herschel, Nemati, & Steiger, 2001). In addition, when tacit knowledge is overlooked, organizational knowledge cannot be created because in order for organizational knowledge to be created, explicit and tacit knowledge need to merge (Johannessen, Olaisen, & Olsen, 2002).

Nature of Knowledge in Organizations

Managing knowledge in organizations is changing due to advancements in technology, providing companies with tools for increasing globalization. Due to this increased globalization, companies are shifting to a team based approach (Chan, Beckman & Lawrence, 2007) as one mechanism for capturing and sharing knowledge within organizations (Nosek & McNeese, 1997). Individuals who have a hard time switching from an autonomous approach to a team based approach will be putting organizations at a disadvantage, and leaders will need to acquire skills to manage these situations (du Toit, 2003).
Teams should be self-managed, so they can organize and structure their work to meet the goals of the organization. This structure provides teams with the authority to make decisions, and by empowering them, greater commitment to the organization’s goals will result. However, this shift towards teamwork involves employees to buy into the team and feel challenged by the team (Ingham, 1994). According to D’Andrea-O’Brien and Buono (1996), buy-in can be facilitated by encouraging employees to look at outcomes from the stakeholder’s perspective and by focusing on anticipating the needs of the customers. This approach will help change organizational perspectives and create new challenging visions for the organization. Additionally, team conflicts should be handled by the team, which will help employees to structure their teams in a way to increase collaboration and trust among members (Langfred, 2007). Teams are expected to work with other teams within the hospital and sub units to build a learning infrastructure by sharing tacit knowledge, which will result in the development of social networks (Bono, 2005).

Challenges and barriers exist due to globalization, advancements in innovation, and consumer shifts. Globalization has produced a greater diversity in the workforce causing management to shift their approach (Vaishampayan, 2006), and these diverse employees are providing a competitive advantage for organizations (McCuiiston & Wooldridge, 2003) because they have knowledge of the culture and customs in which organizations are beginning to do business (Vaishampayan, 2006). Innovations have expedited the processes and information flow within organizations, which has resulted in increased time pressures. Due to increased time pressures, employees are making decisions under less than optimal conditions and employees do not have time to validate data (Nosek & McNeese, 1997). Validating data can be done through questioning as Descartes suggests, or it can be done by using past experiences as Locke suggests (Moser & vander Nat, 2003), and this validation step is critical to organizational decision-making. Employees need to validate the information that is being input so management can feel comfortable with the outputs (Becerra-Fernandez, Gonzalez, & Sabenwal, 2004). Innovation has also changed the nature of the consumer, providing them with more information to make decisions and more options to choose from (Chan, Beckman, & Lawrence, 2007). This shift in consumerism is causing organizations to change their focus to meet the demands and needs of their consumer to remain competitive (Hansemak & Albinson, 2004). One way organizations have been addressing this is shift is by having focus groups, face-to-face conversations, co-development, alpha and beta site testing, in-house demos, and market studies (Callahan & Lasry, 2004).

Evaluating and transferring knowledge in a global team-based environment is challenging due to the increased amount of knowledge transfer taking place, and leaders need to readapt their practices for working across multinational borders. One approach leaders are taking to evaluate knowledge in this new environment is using a bottom-up approach rather than a top-down approach because lower level employees are closer to the problems and customers (Nonaka & Nishiguchi, 2001). Leaders also need to develop tools for sharing knowledge among teams because with this team-based approach, self-management is increasing, which could lead to isolation of knowledge if not properly managed and transferred (Carte, Chidambaram, & Becker, 2006). In addition, as employees increase their knowledge base, their tacit knowledge also increases, which is difficult to transfer (Crawford, 2005). However, with a better understanding of how to store knowledge and use language in communication, it will be easier for organizations to transfer knowledge (Nosek & McNeese, 1997).

Application of Knowledge in Management
The concept of knowledge management has been around for centuries but only recently defined because of rapid changes in innovation. The Organisation for Economic Co-operation and Development (OECD) defines knowledge management as “the need for continuous learning of both codified information and the competencies to use this information” (O’Sullivan, 2002, p. 8). Expanding on this definition, the Labor’s Knowledge Nation Report defines knowledge management as “the ability to use knowledge to transform society, the economy, and the environment” (p. 8). In the world of business, knowledge management is defined as knowledge that, “promotes the creation, sharing, and leveraging of the organization’s knowledge” (Becerra-Fernandez, & Gonzalez, 2004, p. 2) and “continues to create knowledge out of knowledge” (Nonaka, & Nishiguchi, 2001, p. 13).

Organizations are responsible for fostering knowledge management and dissemination and for encouraging employees to seek new knowledge. These three areas are critical to organizational success because of the shift from manual workers to knowledge workers (Drucker, 1999). Knowledge workers are more productive than manual workers because of knowledge, but organizations find it difficult to quantify the productivity of knowledge workers because productivity is based on the ways in which they put together, organize, and execute knowledge (Drucker, 1999). With this shift from manual workers to knowledge workers, tacit knowledge is more abundant, and according to Crawford (2005), knowledge management is about making tacit knowledge more accessible. Tacit knowledge is unarticulated knowledge in a person’s head (Crawford, 2005). They are the thoughts we think as we go about our daily business (Moser & vander Nat, 2003) which are often difficult to describe and transfer (Crawford, 2005). One way organizations can transfer tacit knowledge is by connecting people to people to enable them to share what expertise and knowledge they have at the moment. However, explicit knowledge can be expressed in words and numbers and easily transmitted, and when tacit and explicit knowledge converge, knowledge is created (Nonaka & Nishiguchi, 2001).

Dissemination of knowledge is critical for inspiring visionary thinking and developing future organizational leaders. One way to accomplish this is with the leader-as-teacher model. Organizational leaders need to understand the way employees learn, the way they value knowledge, and the stages they go through in knowledge comprehension and management. Additionally, organizational leaders need to understand how knowledge is valued so they will know how employees will respond to various learning opportunities. Organizational leadership styles need to adapt quickly to change, and leaders need to be coaches to help followers learn and gain autonomy (Hollis, 2007). Adapting quickly to change is driven by advancements in technology. Innovation is a characteristic of knowledge management. According to Crawford (2005), with these advancements, obsolescence in the workplace has increased, creating a need for continuous flexibility and leader adaptability. Obsolescence is being witnessed in organizations in many different forms. For example, employees are finding their skills outdated with the increase in new technologies, a phenomenon known as skills obsolescence (van Loo, de Grip, & de Steur, 2001); data storage is becoming obsolete because individuals do not know how to care properly for media storage devices (Krause, 2006); technological innovations are driving the need for new business models, causing older models to become obsolete (Utaka, 2006); and knowledge in general is becoming obsolete, but many companies do not have systems in place for judging and discarding obsolete knowledge (Moser & vander Nat, 2003).

Organizational leaders need to recognize the impact of technological change on employees because “innovations effect the process of leadership by speeding up the inputs, requiring faster and more
personal transformation of the products, all in a business climate building competition through response time to customer demands" (Crawford, 2005, p.1). As a result of technology, consumers have access to more product choices and information, causing businesses to refocus their products or services to meet consumer demands (Hansemann, & Albinsson, 2004). For an organizational leader to be effective, he or she needs strengths in both rapid change and knowledge management.

Strategic Management

Strategy is both an art and a science, but some philosophers believe strategy is only an art or science perspective. Parnell (2005) is concerned with leaders who believe in only one perspective because without blending both perspectives, a successful strategic plan cannot be implemented. Proponents of the art perspective believe strategic planning is limited due to a lack of environmental predictability. In addition, art perspective proponents believe leaders should incorporate creativity and intuition into his or her strategic design. In contrast, philosophers who believe strategy is a science believe business is objective, analyzable, and predictable, and they reject creativity and innovation when developing strategic plans. According to Parnell (2005), a blend of the two perspectives is essential for strategic flexibility to emerge. Strategic flexibility needs to be incorporated into strategic planning because without strategic flexibility, an organization cannot adapt to change, resulting in strategic inaction. In addition, strategic flexibility is necessary to obtain first mover advantage and to improve desired performance levels among knowledge workers.

Strategic management is using information to make the right decision, and when philosophy is added, strategic philosophy emerges. Strategic philosophy takes into account the different perspectives of individuals as he or she makes the right decision. Different perspectives will create issues within organizations because different levels of managers will have different perspectives on an issue. There is anecdotal evidence to suggest that lower-, middle-, and upper-level managers may not share philosophical views of the strategy process due to differences in experience and responsibilities associated with their respective positions (Parnell, 2005).

Organizational strategists need to know when organizations need to change based on external pressures. Strategists should not be promoting change if the environment does not call for change. Knowing when to change is critical to organizational functionality because constantly obsessing over change leads to inaction when change is necessary because employee loyalty, trust, and buy in is lost. Additionally, strategists need to know how to detect minor discontinuities in the market place. Large discontinuities are easy to detect, but minor discontinuities are harder to detect and typically impact organizations more than large discontinuities because the possible impact of the minor discontinuities it typically overlooked. To be an effective strategist today, a strategist needs to involve knowledge workers because knowledge workers can provide a strategist with a vast array of information to assist in strategy formation. Strategists need the real time information which knowledge workers possess rather than accounting or finance data which present the strategist with historical information.

Many organizational strategist’s try to avoid conflict because it slows the decision making process. However, a good organizational strategist will not try to avoid conflict because conflict can reveal alternative opportunities. A good organizational strategist will search for common ground when conflict arises and use framebreaking as a way to mitigate the conflict. Framebreaking takes different perspectives and places them into scenarios to discover the pros and cons of each scenario. Then, based on the scenarios, the best decision for the organization should be determined (Mintzberg,
Conclusion and Future Direction

Understanding the process and importance of knowledge management is critical to leaders as organizations continue to expand globally and reduce hierarchies, resulting in employees becoming more autonomous and handling increased responsibilities. The command and control leadership style will no longer suffice as the market continues to change shifting market power from the organization to the consumer. To increase creativity, learning, knowledge creation, idea generation, and so on, leaders need to become coaches and promote social structures to develop through the implementation of self-managed teams. Team leaders need to rotate based on expertise and power, and authority needs to be pushed down the hierarchy to the employees interacting directly with the customers, so the organization can meet their needs more efficiently. The ultimate success of any change initiative is senior management’s buy-in into the change initiative (Ingham, 1994).

Future research can look at employees’ needs and see how organizations are meeting their needs. Also industry trends should be researched as well as the impact of globalization on these needs. This research will be critical to maintaining talented and well educated employees within large organizations. As needs are not met, employees will opt out of traditional career paths and begin their own businesses, which will deplete the resource pool of talented employees.

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