

A Sociological Overview of Knowledge Management in Macro Level Health Care Decision-Making

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Abstract

Purpose - The study aimed at providing a thorough conceptual overview of knowledge management as a critical conduit in ensuring effective macro level health care decision-making. **Design/Methodology/Approach** - Unobtrusive methodology involving content analysis was adopted for the study. Relevant contemporary literature were systematically reviewed to inform the discussion made in the paper. **Findings** - The study revealed that knowledge management though well grounded and utilized by the business sector, its application in informing health care decision-making, particularly at the macro level is weak. This amplifies the relevance of the study in providing the basis upon which knowledge management can be built and institutionalized in informing macro level health care decision-making.

Research limitations/Implications - Macro level health care decision-makers as a matter of urgency need to embrace the utilization of knowledge management as an important precursor in making effective health care decision-making. It is highly recommended that knowledge management be perceived and pursued in a systemic fashion in order to maximize its gains in the health care sector. This cannot be more important especially in an era of evidence-based medical practice. **Originality/Value** - Evidently, knowledge management and its application in informing macro level health care decision-making is lacking, in spite of the prominent nature of its application in many other spheres of human endeavour, particularly in the business sector. A conceptual overview of knowledge management and its application in informing macro level health care decision-making, therefore, provides the intellectual platform in fortifying knowledge management in macro level health care decision-making.

Key words - Knowledge Management, Knowledge System, Knowledge Processes, Health Care, Macro Level, Decision-Making, Evidence-Based Medicine, Organizational Success.

Paper Type - Conceptual Paper

Introduction

Knowledge management in the context of health care decision-making, particularly, at the macro level remains under explored. The literature is relatively mute on the main knowledge form as well as various knowledge management strategies used in informing macro level health care decision-making. This needs to be understood in order to identify the conditions that facilitate and/or impede the decision making processes. Again, an understanding of the knowledge management processes in macro level health care decision-making will assist in creating the enabling organizational culture to sustain effective management of knowledge.

This is critical because modern health care systems, particularly at the macro level, are confronted with the task of effectively managing the resources necessary for improving the health and wellbeing of those they are committed to serving. Fulfilling this task successfully implies sound and effective decision making at critical points throughout the entire system. Contemporary health care systems can be divided into macro-, meso-, and micro-levels of decision-making. Each level has a distinct mandate, but all are intertwined somehow to contribute to overall health care system performance.

Macro-level decisions involve the overall planning, organizing, delivery and evaluation of health services within the health care organization. Decisions made at this level are entrusted in the hands of decision-makers who generally are not medical staff, but non medical experts with experience to serve as advisors and to oversee the functions and operations of a health organization.

Administrative decisions and priorities made by the senior management working in collaboration with health care professionals and local stakeholder groups take place at the meso-level of the health care decision-making process. Decisions made at this level have to be endorsed by the macro-level health care decision-makers, some being politicians or appointed by politicians as an advisory board. The fact that macro level decision-makers normally do not initiate but rather endorse administrative technocratic decisions has given a dual connotation of their role. On one hand, they are perceived as advisors. On the other hand they come across as decision-makers. Officially, macro level decision-makers have the mandate to validate all decisions made within the health care organization, thus making them important players in the overall health care decision-making process.

The third level of health care decision-making takes place at the micro-level. Decisions at this level are made by individual medical practitioners, clinicians or teams. They are generally based on clinical information, and affect directly the treatment of patients. These are decisions made by frontline staff of health care organizations.

Decisions made at each level can influence the other levels. Micro level decisions, for example, are influenced broadly by the macro level, though this is often restricted to budget-based resource allocation; there is no direct relationship between decision-makers at the macro and the micro levels. Meso-level health care decision-makers, however, exercise tremendous influence on decisions made at the micro level. Health targets to be attained by

clinicians and resources to be used for that purpose are determined by the meso-level decision-makers upon approval from the macro-level decision-makers. In this paper focus is placed on macro level health care decision-makers who in the literature are yet to take advantage of knowledge management and its various strategies and practices in informing their decisions.

Knowledge management is defined as “the process by which an organization creates, captures, acquires and uses knowledge to support and improve the performance of the organization” (Kinney, 1998, p. 2). It can also be understood as the exploitation and development of the knowledge assets within an organization, aimed at furthering the goals and objectives of the organization (Metaxiotis et al., 2005). Knowledge management, therefore, can be said to involve a conscious effort to incorporate strategies and practices that ensure maximum use of knowledge in organizations with the aim of advancing the goals and objectives of the organization. It is presently recognized that successful organizations are those that create new knowledge, disseminate it widely throughout the organization, and represent it into new technologies and products (Metaxiotis et al., 2005; Hansen et al., 1999; Leonard, 1999). Perceiving knowledge management as a condition of organizational success makes it imperative for all organizations to embrace and engage in it.

The Knowledge System Perspective and its Implications for Knowledge Management

Since knowledge management involves a number of interconnected processes, the best way of understanding it is through the knowledge system perspective. The knowledge system concept refers to the institutionalization of knowledge processes in modern societies (Holzner and Marx, 1979). Knowledge processes include those activities related to the production, organization, distribution, application and mandating of knowledge. The knowledge system is, therefore, related to the entire learning capacity of society (Holzner and Marx, 1979). It is conceptualized as a holistic approach in understanding knowledge-based processes in modern societies, and implies that knowledge processes should be perceived as interdependent processes. Such interdependency is enhanced when all of the knowledge processes are well managed. The knowledge system is thus strengthened through knowledge management.

The concept and practice of knowledge management is essential to understanding the knowledge system, particularly because the knowledge processes themselves are not necessarily linked in a rational fashion (Holzner and Harmon, 1998). According to Alavi and Leidner (2001), the processes of knowledge creation, storage/retrieval, and transfer do not necessarily lead to enhanced organizational performance. Effective knowledge application or utilization does.

Effective knowledge management for organizations should view the knowledge processes from a systemic perspective. Placing any aspect of the knowledge management above the others may diminish its value within organizations. The objective of knowledge management within organizations is not contentious. The attainment of this objective, however, involves all the knowledge processes, from creation to application, as well as an alignment of strategies to the overall objectives and aspirations of organizations.

The attainment of these objectives entails the coordination of managerial, resource

and environmental factors (Holsapple and Joshi, 1997). Such factors have been broken down into more specific factors such as culture, leadership, technology, organizational adjustments, employee motivation, and external factors, and represent critical prerequisites for the attainment of the knowledge management objectives (Holsapple and Joshi, 2000).

The multidimensional nature of these factors suggests complexities involved in translating knowledge into assets within organizations. Translating knowledge into assets implies changes in organizational activities and practices, as suggested by Metaxiotis et al. (2005). Since knowledge management is comprised of many different processes, organizations can best maximize knowledge use by ensuring proficiency in coordinating all the activities involved in the processes. Deliberately managing knowledge in organizations, therefore, becomes one of the critical activities and practices, as organizations aim to maximize the use of knowledge at its disposal. This constitutes a central pivot in the current and the third generational tenets of knowledge management.

The periods between 1990-1995, 1995-2000, and 2000 to present time, have been regarded as the first, second and the third generational periods of knowledge management, respectively (Metaxiotis et al., 2005). The period between 1990-1995 constitutes the first generation of knowledge management. This period is characterized by foundational issues of knowledge management such as (1) attempts at and initiatives related to defining knowledge management, (2) investigations into the potential and benefit of knowledge management (for businesses in particular), and (3) the designing of specific knowledge management projects.

The second generation of knowledge management, from 1995 to 2000, also centers on knowledge management definitional issues, organizational philosophies, objectives, knowledge systems, frameworks, operational practice, and the use of advanced technologies in knowledge management. This period explored the enabling conditions for the introduction of knowledge management in organizations.

The present or third generation aims at integrating knowledge management into an organization's philosophy, strategies, goals, practices, systems, and procedures. This generation sees knowledge as inherently social and cultural, implying that organizational knowledge can only be realized through changes in organizational activities and practices.

The generational categorization, however, does not make the field of knowledge management new. It has existed in various guises for several decades (Habermas, 1972; Wenger, 2002). What is new, however, is that organizations are becoming more intentional and systematic about managing knowledge and making it an asset (Wenger, 2002). The historical/generational categorization of knowledge management by Metaxiotis et al. (2002) draws on research into the private sector, which has experienced knowledge management longer than any other sector. The issues that engaged the first generation, such as definitions, conceptual clarifications, and the general potential of knowledge management, together with other issues such as knowledge strategies and frameworks, are currently receiving attention in the health care industry among many others. Knowledge management in the health care sector is best understood as being situated in its first generational period. The private sector, therefore, has much to offer by

way of experience to the health care industry.

It is clear that knowledge management is a complex and all-embracing concept, one that focuses on the functions of knowledge as related to organizational activities and performance. An understanding of knowledge management from a knowledge system perspective makes it a strong analytical tool for understanding the organizational use of knowledge. The ways in which knowledge is acquired, created, stored, retrieved, and applied, therefore, constitute the main parameters or dimensions of knowledge management. It is to these specific dimensions that I now turn.

Knowledge Creation and Acquisition

According to Mahesh et al. (2005), an organization's knowledge creation is generative in nature. This involves the active construction of knowledge from pre-existing information obtained from the organizational environment, and implies that organizations acquire and create knowledge to guide their actions through social and collaborative encounters. The way an organization acquires and creates knowledge depends mainly on the objectives and goals of the organization. Organization's efforts at knowledge acquisition and creation, therefore, should be guided by its core strategy (Morse, 2000). Explicit organizational objectives regarding the general mission of the organization and knowledge management are important prerequisites in successful programs aimed at the maximization of knowledge in organizations.

Knowledge acquisition in organizations is also subject to a mixture of filters (e.g. norms, values and procedures) that influence greatly the kind of information organizations focus on and ultimately accept (Mahesh et al., 2005). An organization's culture in general affects individual members' predisposition toward externally generated knowledge. Externally generated knowledge is filtered to ensure that it is valuable in the organization. The acceptance or rejection of external knowledge is dependent on the prevailing organizational norms and values supporting its fundamental objectives. The characteristics of the organization and its enabling conditions regarding knowledge management can support or hinder knowledge flow into the organization. Attention, therefore, must be paid to organizational norms and values that support knowledge management. This can help organizations maximize the benefits associated with knowledge management.

Knowledge Storage and Retrieval

Functional and effective knowledge storage systems pave the way for the categorization of knowledge around organizational learning needs, work objectives, user expertise, knowledge use, and storage location (Mahesh et al., 2005). It is important, therefore, that organizations first determine what type of knowledge is best retained and how best to retain it. This decision should be made strategically in order to ensure that knowledge is stored in accordance with the core objectives of the organization. Some of the key enabling technologies for storing knowledge include multimedia databases, text indexes,

storage servers, advanced computer storage technology, and document management. Such technologies allow an organization's knowledge—which is often dispersed among varieties of retention facilities—to be effectively pooled, stored, and made accessible to individuals and departments within the organization (Alavi et al., 2001).

The choice of organizational knowledge storage systems again depends on the organization's objectives, and the availability of expertise and resources to support the system. Any system an organization pursues in storing knowledge at its disposal should be user friendly in order to facilitate easy and ready access to knowledge within the organization.

Knowledge Transfer

Knowledge transfer from an intra and/or inter firm perspective involves the mechanical, electronic, and interpersonal movement of knowledge both intentionally/formally and unintentionally/informally through an organization (Mahesh et al., 2005). Knowledge transfer is facilitated by a host of factors. Alavi et al. (2001) identify key elements related to the knowledge transfer process. These include the perceived value of the source unit's knowledge, the motivational disposition of the knowledge source (i.e. a willingness to share knowledge), the nature and richness of the transmission channels, and the motivational disposition of the receiving individual or organization regarding their ability to acquire knowledge. Characteristics of the knowledge source and the recipient individuals or organizations are central to facilitating the transfer process.

Though knowledge is generally useful when appropriate to an organization's interests, it can also be unhealthy for the growth of an organization if it is found to conflict with the core interests of the organization. Since the knowledge transfer process can either be intentional or unintentional, organizations are better off if they develop strategies that ensure the free flow of functional and valuable knowledge within the organization. Knowledge is bound to creep into organizations occasionally as employees interact with the outside world. One way of ensuring that such knowledge advances the objectives of an organization is to encourage informal interactions and discussions among employees. Communities of practice, for example, can be used as a knowledge transfer media, as they encourage individuals to form smaller groups to share and discuss knowledge related to a passion or interest.

Knowledge Utilization/Application

As previously stated, the processes of knowledge creation, storage/retrieval, and transfer do not necessarily lead to enhanced organizational performance. Effective knowledge application or utilization does. Organizational performance often depends more on the ability to turn knowledge into effective action and less on knowledge itself. This, however, does not imply that knowledge management processes other than knowledge application are insignificant and, therefore, must be ignored. All knowledge management processes must ultimately be seen at work in order to ensure effective action from knowledge.

A number of explanations of the knowledge utilization process have been given in the literature. Most of these explanations are understood as alternative models of knowledge utilization. These include the science push, the enlightenment, the demand-pull, the engineering, the strategic, the dissemination, and the interaction models (Weiss, 1979; Landry, 1990; Denis et al., 2004). Despite the fact that these models explicitly trace the transfer of research findings from researchers to decision-makers, they still have some implications for understanding knowledge management, especially in macro level health care decision-making process. This is particularly important given the dearth of research utilization in macro level health care decision-making (Frankish et al., 2001). Reversing this trend is necessary if we are to expect macro level health care decision-makers to make use of relevant research to inform evidence-based decisions.

Knowledge Management Strategies

A knowledge strategy is simply a plan that describes how an organization intends to better manage its knowledge for the benefit of that organization and its stakeholders. A good knowledge management strategy is closely aligned with the organization's overall strategy and objectives. Selecting the right knowledge management strategy is, therefore, an important prerequisite for attaining organizational objectives. As indicated earlier, Hansen et al. (1999) point at two contrasting strategies for knowledge management: codification and personalization. They believe that the best knowledge management strategy is always a combination of the two, but with a stronger emphasis on one. While a codification strategy is appropriate for explicit knowledge to thrive, the personalization knowledge management strategy better supports the use of tacit knowledge in organizations (Jasimuddin et al., 2005). Since tacit and explicit knowledge forms are complementary, an organization's efforts towards knowledge management should be focussed on instituting the most appropriate strategy.

These two knowledge management strategies have distinctive features. The codification knowledge management strategy ensures the re-use of explicit knowledge by capturing, codifying, classifying and making available knowledge to support routine problem solving. Uniformity in action is ensured since knowledge is recycled to guide decision-making. Questions regarding organizational problems and the usual response to them serve as the primary questions guiding codification strategies in organizations. For such questions to be resolved, libraries of procedures, policy documents, guidelines, data collection forms, typical cases and outcomes, and risk assessment tools derived from all parts of the organization must be developed and made available to all individuals in the organization. The codification knowledge management strategy also thrives on the availability of incentives to encourage staff to use the system. This implies that organizations adopting the codification knowledge management strategy should reward the use of, and contributions to, document databases as recognition of staff adherence to policies. The codification strategy, in general, involves intensive investment justified by multiple knowledge re-use.

At the same time, the codification strategy seems to overemphasise internally

generated explicit knowledge re-use, without any reference to the use of external explicit knowledge in the form of research evidence. This is a flaw that is not addressed in the strategies of knowledge management presented by Hansen et al. (1999). Since explicit knowledge comes from both internal and external sources, attempts at its management should be comprehensive enough to reflect this duality.

This notwithstanding, the codification knowledge management strategy based mainly on internal explicit knowledge can complement the evidence-based decision-making paradigm, which also seems to be tilted towards externally generated explicit knowledge to the neglect of explicit knowledge generated internally in an organization. Harmonizing the codification knowledge management strategy and the evidence-based decision-making paradigm has the potential to provide a more comprehensive perspective on explicit knowledge management in organizations.

The personalization knowledge management strategy, on the other hand, is suitable for a one-off, medium to long-term, high risk, strategic problem with no solution precedent. This strategy shares tacit knowledge by helping staff to identify experts and enhance conversations to create novel solutions. The forms that solutions to problems might take—and who in the organization might know about the solution—are the primary user questions guiding the personalization knowledge management strategy. Online resumes, list of skills and publications for staff and external experts, e-mail discussion lists, regular case meetings, workshops, video-conferencing, co-located staff, the provision of a coffee area, and staff secondment assist in identifying individuals who might have solutions to problems on hand (Wyatt, 2001). Since communication is the bedrock of the personalization strategy, organizations adopting this strategy must reward direct communication with others, as well as recognizing experts and original solutions. This strategy of managing knowledge entails a modest investment, justified by improved frequency and quality of communications (Hansen et al., 1999; Wyatt, 2001).

Since codification and personalization knowledge management strategies exhibit contrasting features, they should be commensurate with the dominant knowledge form of any given organization. The features of the two knowledge management strategies indicate clearly that organizations embedded with routine and non-routine tasks lend themselves largely to codification and personalization knowledge management respectively.

Hazlett et al. (2005), following Hansen's knowledge management strategies, propose computational and organic paradigms as two main paradigms for managing knowledge in organizations. They view computational paradigms as system/techno-centric in nature and organic paradigms as people-centric, similar to the codification and the personalization strategies of Hansen and his colleagues. The computational paradigm, like the codification strategy, stresses the need for technology and its importance in identifying, classifying, categorizing, storing, and retrieving knowledge. The organic paradigm, like the personalization strategy, takes a softer stance on knowledge and acknowledges that knowledge cannot always be formalized and used in an explicit fashion, but rather tacitly in an organization's decision-making processes. As the name implies, the computational paradigm (and the codification strategy) concentrates primarily on the use of information

technologies to manage knowledge. The main purpose of computers in the organic paradigm/personalization strategy is to facilitate communication among knowledgeable individuals rather than to classify, codify or store knowledge.

The two knowledge management strategies have their unique advantages and disadvantages. The personalization strategy is recommended for its sustainable advantages because of its immobility and inimitability (Spencer, 1995; Ambrosini and Bowman, 2001), its contribution to innovation (Alversson, 2001), and its low investment in information technology (Johannessen et al., 2001). Disadvantages associated with the personalization strategy include an organization's inability to store knowledge beyond the minds of individuals without some process of articulation. In other words, personalized knowledge is difficult to be communicated to others (Connell et al., 2005). There is also a reluctance to share tacit knowledge when pursuing personalization strategy because of fear of losing power and status associated with an individual's possession of knowledge (Szulanski, 1996). The most serious difficulty associated with personalization strategy is the risk of losing knowledge due to loss of employees (Jasimuddin et al., 2005), thus making organizations "internally vulnerable" (Hall and Andriani, 2003).

The codification strategy does protect the loss of knowledge associated with the exit of employees because such knowledge is taken from individuals and codified for general organizational use. The fact that knowledge is codified, however, makes organizations "externally vulnerable" because codified knowledge can easily be leaked out of the organization. It is also costly pursuing a codification strategy because it is based heavily on information and computer technologies.

The choice of knowledge management strategy should also be based on the organization's knowledge and objectives. Business and profit-oriented organizations are more likely to embrace the personalization strategy to insulate themselves against knowledge leakage to "business rivals" (Jasimuddin et al., 2005). All other things being equal, health care decision-makers, like most decision-makers in non-profit oriented organizations, may not necessarily be afraid of knowledge leakage. In this case, they are likely to be better off if they codify knowledge and share it with others in the industry for quality service outcomes.

Implications of Knowledge Management in Macro Level Health Care Decision-Making

Evidence-based decision-making in health care demands the effective use of externally generated scientific or explicit knowledge in informing decisions. Tacit knowledge derived on the job is downplayed by the evidence-based practice paradigm. Meanwhile, two main forms of knowledge inform health care decision-making: explicit and tacit. These forms of knowledge are expected to complement each other in decision-making process. Emphasis, however, should be placed on one form of knowledge than the other to reflect the goals and objectives of the organization. The two main knowledge strategies, codification and personalization, are noted as supporting explicit and tacit knowledge forms, respectively. Knowledge management strategies supporting evidence-based

medical practice, therefore, should be based on relevant knowledge informing health care decision making.

The choice of knowledge strategy is a test for knowledge management, which is a channel for knowledge system manifestation. The knowledge system, defined as the institutionalization of knowledge processes in modern societies, is best championed through knowledge management, by capturing the entire knowledge processes from creation, through retrieval, storage, distribution, evaluation, absorption, application to the institutionalization of knowledge.

The inclusion of macro level health care decision-makers in health care administration demands that such decision-makers are equipped with the requisite knowledge and “info-structure” to make their decisions. This implies that health care organizations should perceive and embrace knowledge management in a systemic fashion as a critical tool in ensuring effective health care decision-making. Without a doubt whatever knowledge management strategy that health care organization decides to adopt should be premised upon the objectives of the organization. In other words effective health care decision-making should be pursued in a manner ensuring a commensuration between organizational objectives and knowledge management strategies and practices in order to maximise the gains associated with knowledge management. This move is particularly important in an era of evidence based medical practice and decision-making.

Unfortunately however, the extent to which macro level health care decision-makers are resourced to manage knowledge in making their decisions still remains unclear in the literature. This study has therefore provided a conceptual overview as a starting point in understanding knowledge management as a critical tool in ensuring effective macro level health care decision-making.

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