ISSN: 2006-1463

LIBRARY AND INFORMATION SCIENCE DIGEST

Journal of the Nigerian Library Association Anambra State Chapter
Volume 7, June 2014.

Article

CONCEPTS AND APPLICATIONS OF KNOWLEDGE MANAGEMENT IN LIBRARIES

Udo Nwokocha*

and

Jonathan Chimah**

*Department of Library & Information Science, Abia State University, Uturu
udoyes@yahoo.com

**National Centre for Energy Research & Development Library,
University of Nigeria, Nsukka Jonachim2000@yahoo.com

Abstract

In this work, the researchers reviewed the concepts of knowledge in three perspectives: simplistic view, subjective view and objective view. The main concepts of knowledge: explicit and implicit knowledge were examined and diagrammatically illustrated. Differences between data, information, knowledge and wisdom were discussed. The roles of libraries in knowledge management were also examined. The paper offers recommendations that librarians and libraries in the digital and knowledge era should be in charge of knowledge management in their respective organizations in order to leverage the intellectual assets and to facilitate knowledge creation and sharing.

Keywords: Knowledge Management, Knowledge Management concepts, Knowledge Management Applications, libraries.

Introduction

The emergence of new economy that is based on knowledge in the present era has definitely affected everyone and every organization, including libraries. Knowledge is seen by most organizations as an overriding and important commodity and if managed properly can assist the organizations to improve their services and remain sustainable and significant in the near future. The development of knowledge Management (KM) in recent years has become the key concern of librarians and libraries. Knowledge can be viewed from three perspectives, namely:

Simplistic view – involves introducing the concept of information management and knowledge hierarchy from the simplest form of data to wisdom. Information is turned into knowledge when an individual processes and internalizes it.

Subject view – presents knowledge as a state of mind and as a practice. This view explains it in terms of social construction. Knowledge is seen as an accomplishment which affects and is influenced by social practices (Boland & Tenkassi, 1995).

Objective view – advances that knowledge can be discovered, improved, stored, transformed and can exist in a variety of locations (Bender et al, 1995).

The concept of knowledge

Knowledge is defined as what people understand about things, concepts, ideas, theories, procedures, practices and 'the way we do things around here.' It can be described as 'know-how' or, when it is specific, expertise. There is a distinction between 'knowing how' and 'knowing that.' Knowing how is the ability of a person to perform tasks, and knowing that is holding pieces of knowledge in one's mind. Blackler (1995) noted that: 'knowledge is multifaceted and complex, being situated and abstract, implicit and explicit, distributed and individual, physical and mental, developing and static, verbal and coded.'

Nonaka (1991) suggested that knowledge is held either by individuals or collectively. In Blackler's (1995) terms, embodied or embrace knowledge is individual and embedded, and cultural knowledge is collective. It can be argued that knowledge emerges from the collective experience of work and is shared between members of a particular group or community (Scarborough & Carter, 2000).

Explicit and tacit knowledge

Nonaka (1991) and Nonaka & Takeuchi (1995) stated that knowledge is either explicit or tacit. Explicit knowledge can be codified – it is recorded and available and is held in databases, in corporate intranets and intellectual property portfolios. Tacit

knowledge exists in people's minds. It is difficult to articulate in writing and is acquired through personal experience. As suggested by Hansen et al (1999), it includes scientific or technological expertise, operational know-how, insights about an industry and business judgment. The main challenge in knowledge management is how to turn tacit knowledge into explicit knowledge.

Koulopoulos & Frappaolo (1999) further expatiate on the difference between the two main types of knowledge. They noted that explicit knowledge is documented information that can facilitate action. It can be expressed in formal share language. Examples include formulas, equations, rules and best practices. Explicit knowledge is packaged, easily codified, communicable and transferable.

Whereas tacit knowledge is know-how and learning embedded within the minds of the people in an organization; it involves perceptions, insights, experiences, and craftsmanship. Tacit knowledge is personal, context-specific, difficult to formalize, difficult to communicate and more difficult to transfer.

Data, information and knowledge

A distinction can be made between data, information and knowledge:

- Data – consists of the basic facts (the building blocks) for information and knowledge;
- Information – is data that have been processed in a way that is meaningful to individuals: It is available to anyone entitled to gain access to it. As Drucker (1988) wrote, "Information is data endowed with meaning and purpose."
- Knowledge – is information put to productive use; it is personal and often intangible and can be elusive. The task of typing it down, encoding it and distributing it is tricky.

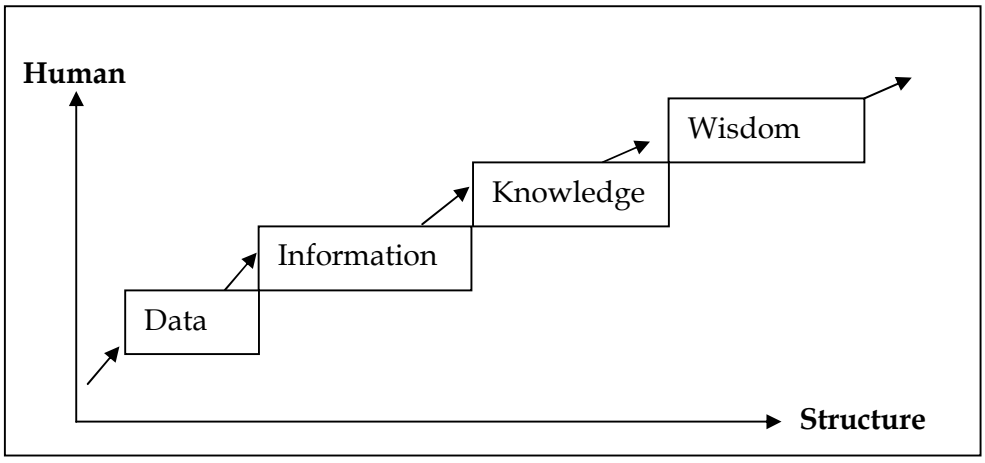
Various Knowledge Concepts: from Data to Wisdom

Many writers have addressed the distinctions among data, information and knowledge. According to Suurla, Markkula & Mustajarvi (2002: 35), "Data refers to codes, signs and signals that do not necessarily have any significance as such." It means that data are raw facts that have no context or meaning of their own. Organizations collect, summarize and analyze data to identify patterns and trends. Most of the data thus collected is associated with functional processes of the organization. On the other hand, information as a concept takes up different meanings, depending on the context in which it is discussed. Data becomes information when organized, patterned, grouped, and or categorized; thus

increasing depth of meaning to the receiver (Boone 2001: 3). Through learning and adoption, information can be changed into knowledge (Suurla, Markkula & Mustajarvi, 2002). It is evident from literature that knowledge is an intrinsically ambiguous term, and therefore defining it precisely is difficult. It is because different disciplines use the term of denotes different things. Despite the difficulties in defining knowledge , it is well agreed that, "knowledge, it is the expertise, experience and capability of staff, integrated with processes and corporate memory" (Abell & Oxbrow, 2001: 73).

Knowledge is always bound to persons and validated in the context of application. A well- known distinction in this respect is that between explicit and tacit knowledge, a distinction first elaborated by Michael Polanyi (Skyrme, 2002). According to Beijerse (1999: 99) "Personal or tacit knowledge is extremely important for human cognition, because people acquire knowledge by the active creation and organization of their own experience." This implies that most of the knowledge is tacit and becomes explicit when shared. Tacit knowledge is personal, contest-specific (Allee, 1997) and therefore hard to formalize and communicate. It resides in the brains of the people. Explicit or "codified" knowledge, on the other hand, refers to knowledge that is transmittable in formal systematic language (Nonaka and Takeuchi, 1995). In other words, explicit knowledge is expressed as information in various formats that include published materials and manuals or rules, routines and procedures.

Figure 2: From Data to Wisdom



Source: Aina, Mutula, & Tiamiyu, (2008) (Eds.)

Knowledge and management of knowledge appear to be regarded as increasingly important features for organizational survival (Martensson, 2000). In addition, knowledge is a fundamental factor whose successful application helps organizations

delivery creative products and services. Today, organizations are fundamentally different as compared to organizations that have existed in one or two decades ago in terms of their functions, structures and style of management. Yu (2002) pointed out that organization put more emphasis on understanding, adapting and managing changes and competing on the basis of capturing and utilizing knowledge to better serve their markets. The central argument around which knowledge management revolves is that people hold a wealth of knowledge and experience that represents a significant resource for an organization. Most of this knowledge is represented in a wide variety of organizational process, best practices and know-how (Gupta, Iyer & Aronson 2000).

However, knowledge is diffused, and mostly unrecognized. It is important for organizations to determine who knows what in an organization and how that knowledge can be shared throughout the organization. Knowledge management is thus: "The explicit and systematic management of vital knowledge and its associated process of creating, gathering, organizing diffusion, use and exploitation. It requires turning personal knowledge into corporate knowledge into corporate knowledge that can be widely shared throughout an organization and applied" (Skyrme, 1997).

Formalizing knowledge management activities in an organization may help create consistency of methods and the transfer of best practices. Furthermore, knowledge should add value to the organization as well as being an important dimension. However, most organizations operate in environments operate in environments that they cannot control. It is because of the changes and challenges that organizations are faced with in the global knowledge economy. Knowledge management is a viable means in which organizations could improve their performance in the global economy. The success of organizations is subject to both internal and external forces that they must operate in order to survive.

Relationship between Data, Information and Knowledge

Data, information, knowledge and wisdom can be perceived as artifacts, while processes involved in their transformation constitute the management aspects of these artifacts. The management of these artifacts is needed to improve organizations' performance of their activities (Aina, Mutula & Tiamiyu, 2008). The path to knowledge management from data management goes through information management, because data, like knowledge, is really a type of information; and because knowledge management encompasses both data and information management. Subsequently, the difference between Knowledge Management (KM) and Information Management (IM) is that KM is a more robust form of IM that

provides management not generally available in information management. Davenport (1998: 9) identified the relationship between them, thus:-

Table 1: Relationship between Data, Information and Knowledge

Data	Information	Knowledge
Simple observation of the states of the world	Data endowed with relevance and purpose	Valuable information from the human mind, includes reflection, synthesis, context.
Easily captured	Requires unit of analysis	Hard to capture electronically
Easily structured	Needs consensus on meaning	Hard to structure
Easily transformed	Human mediation necessary	Often tacit
Compact, quantifiable	Often garbled in transmission	Hard to transfer
		Highly personal to the source

***Source**: Thomas Davenport, Information Ecology (1998)*

Objectives of Knowledge Management in Libraries

One of the objectives of knowledge Management in Libraries is to promote the Knowledge exchange among library staff, strengthen consciousness and abilities, arise the library staff's enthusiasm and ability for learning making the knowledge most efficiently applied to business activities of the library, and rebuilding the library into a learning organization. The main objective of knowledge management is to ensure that the right information is delivered to the right person just in time, in order to take the most appropriate decision.

Challenges of Knowledge Management Implementation in Libraries

According to Mallik (2013), the challenges of KM in libraries include the followings:

- Lack of communication skills.
- Every library cannot participate in terms of modern technology and its management.
- Generally, the junior staff cannot share their knowledge and ideas when they feel there is no benefit of this in terms of salary increases.
- There is no cooperation between senior and junior staff.
- Understanding of the principles of "Organization of Knowledge."

Barriers to Knowledge Management in Academic Libraries

Every library professional who works in academic, public or any special library wants to use the techniques of knowledge management to achieve the organizational

goal and provide better services to its users, but due to some following barriers they are not able to use that. These barriers include:-

- Information literacy skills creating, finding, sharing and using.
- Understanding of knowledge creation process and impact of knowledge.
- Creativity and ability to learn and adapt the new technologies to provide better services to its clients and ability to create, share, harness and utilize knowledge.
- What is the current usage of these sources and how to increase its use?
- Knowledge about users including teaching staff, researcher and, who is using these sources and how to increase its uses.
- Knowledge about where these sources are stored and what is its use.
- Knowledge about library's information sources for assets, products and services.
- To organize the value of knowledge and improve effective research.

Role of Library Professionals in Knowledge Management

Library professionals play major roles in knowledge management programmes in terms of identifying acquiring, developing resolving, storing and sharing of knowledge. Library and information professionals have to manage relationships with external providers of information and knowledge and should negotiate with them. The library professionals should have the following types of knowledge:

- To create knowledge repositories and manage knowledge as an asset,
- To protect the intellectual property right, in information technology era,
- To promote scientific research and relationship between library and users,
- To promote collection, processing, storage and distribution of knowledge,
- Lack of centralized policy for library.

Ongwen (2012) gave examples of what libraries can do to improve their knowledge management in all of the key area of libray services. These include the following:

1. Knowledge source management – libraries need to develop their resources access sharing strategies from printed to electronic and digital resources in concert with their mission and charges.
2. Resource sharing and networking – there are benefits in cooperation and resources sharing among libraries whether big or small.
3. Information technology development – to facilitate the implementation of KM, a well designed and operational KM system should be in place.

4. User services – libraries and information services should be tailored to the interest and needs of each user. Approaches should be user-focused and not library focus.
5. Human resources management – knowledge must to renewed and expanded to prevent it from becoming stagnant.

Conclusion

Knowledge has been viewed as: simplistic, subjective and objective perspectives. Two main types of knowledge: explicit – recorded and available knowledge; held in databases, in corporate intranets and intellectual property portfolios. Tacit knowledge, on the other hand, exists in people's minds. It is difficult to articulate in writing and is acquired through personal experience. Tacit knowledge is know-how and learning embedded within the minds of the people in an organization. It involves perceptions, insights, experiences, and craftsmanship. These two concepts of knowledge have been illustrated in diagrams.

A distinction has been made between data, information and knowledge. Also, various knowledge concepts:- from data to wisdom have been reviewed and diagrammatically illustrated. The relationship between data, information and knowledge was equally examined and tabulated. Libraries and librarians should apply knowledge management strategies for maximal output in their information services. When the concepts and theories of knowledge management are properly understood by librarians, educators and information managers, services delivery in education will be greatly enhanced and yield return in enhanced and yield return in investment at the long run.

References

Abell, A. and Oxbrow, N. (2001). *Competing with knowledge: the information professional in knowledge management age.* London: Library Association.

Aina, L.O., Mutula, S.M. and Tiamiyu, M.A.A (2008). (Eds.), *Information and Knowledge Management in the Digital Age: Concepts, Technologies and African Perspectives.* Ibadan, Third World Information Services Limited. 36-42.

Allee, V. (1997). *The Knowledge evolution: expanding organizational intelligence.* Boston: Butterworth-Heinemann.

Davenport, T.H. and Prusak, L. (1998). *Information Ecology: Mastering the Information and Knowledge Environment.* New York: Oxford University Press.

Gupta, B., Lyer; and Aroson, J.E. (2000). Knowledge Management: Practices and *Challenges, Industrial Management and Data Systems*, 100(1), 17-21.

Hackett, B. (2000). *Beyond Knowledge Management:* New Ways to Work. New York: The Conference Board, March 2000.

Koulopoulos, T.M. and Frappaolo, C. (1999). Smart things to know about knowledge management. Capstone US; Dover; NH.
Mallik, B. (2013). Impact of knowledge Management in Modern Era for Academic Libraries.

Document Script presented to Raajdhani Engineering College Mancheswar. Accessed from htt:/www/sideshare.net/bhagabenmalik?utmcampaign.

Martensson, M. (2000). "A critical review of knowledge management as a management tool."*Journal of Knowledge Management,* 4(3), 204-216.

Nonaka, I and Takeuchi, H. (1995). *The knowledge-creating company: how Japanese companies create the dynamics of innovation.* New York: Oxford University Press.

Ongwen P.A.W. (2012). Knowledge Management and the role of libraries. Accessed from: http://www.slideshare.net/patrickalfredwaluchio/knowledge-management-and-the-role-of-libraries.

Skyrme, D. (2002). Knowledge management: approaches and policies. Available at: http://www./skryme.com/pubs/deedskm.doc.

Suurla, R., Markkula, M. and Mustajarvi, O. (2002). *Developing and implementing knowledge management in the Parliament of Finland.*

Skyreme, D. (1997). *Knowledge Management: Making sense of an Oxymoron*. Accessed from: http://www.skyrme.com/insights/22km.htm.

Yu, C.M. (2002). "Socializing knowledge management: the influence of the option leader. *Journal of Knowledge Management Practice. (accessed from): http://www.tlain.cm/article42.htm.*

Uit Beijerse, R.P. (1999). "Questions in knowledge management: defining and conceptualizing a phenomenon." *Journal of Knowledge Management,* 3(2), 94-110.