KNOWLEDGE MANAGEMENT: CHALLENGES AND OPPORTUNITIES

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Abstract

This article deals with the knowledge management (KM) and its perspectives. The KM generation is discussed and in an industrial environment the vital importance of KM and its use by different models, methods and tools are discussed. The varieties of factors which are contributing to the growth of KM are given. Also discussed the KM in Library and information science environment with the changing profiles of the LIS professionals. The challenges faced by the librarians for providing quality library services, codifying the best practices and establishing KM systems (KMS) for providing support services are also discussed. The KM opportunities are emphasized with the need for next generation of KMS and the challenge for extracting tacit knowledge in an expanding environment. The key challenges for the managers and the opportunities of KM are discussed in detail.

Keywords: Knowledge Management, Total Quality Management, BPR, Knowledge Management System, Library and information science.

1. Introduction

Many knowledge management practitioners and researchers identify information and knowledge as synonymous constructs. In this perspective, both these constructs can be expressed in the computational rule based logic as well as in the form of data inputs and data outputs that trigger pre-defined and pre-determined actions in pre-programmed modes. The construct of knowledge may be better represented as intelligence in action as it is a composite construct resulting from interaction of data, information, rules, procedures, best practices and traits such as attention, motivation, commitment, creativity and innovation. From a pragmatic perspective, the dynamic representation of knowledge provides a more realistic construct where human and social interactions are present while situating this construct more proximal to performance outcomes. (a) What is done with data, information, and best practices depends upon subjective interpretation ("construction") of individuals and groups that transform these inputs into actions and performance; and (b) performance outcomes need to be continuously re-assessed to ensure that they indeed represent best business performance for the enterprise with respect to changing market conditions, consumer preferences, competitive offerings, and, changing business models, and, industry structures.

Throughout history, knowledge has always been viewed from multiple perspectives-abstract, philosophical, religious and practical. To deliver more innovative services to demanding public, governments must be involved in the deployment of new services such as e-government and e-commerce. Active management of their knowledge assets is mandatory for success. A suggested implementation approach highlights leadership, culture, technology, and measurement as critical success factors. The focus of Knowledge Management (KM) is on 'doing the right thing' instead of 'doing things right'. It provides a framework within which the organization views all its processes as knowledge processes and all business processes involve creation, dissemination and application of knowledge towards organizational sustenance and survival." This article deals with the KM perspectives in industry, Library and information science environment and the challenges.

2. Definitions

Knowledge is the full utilization of information and data, coupled with the potential of people's skills, competencies, ideas, intuitions, commitments and motivations.

"Knowledge Management is the collection of processes that govern the creation, dissemination, and utilization of knowledge. In one form or another, KM has been around for a very long time. Practitioners have included philosophers, priests, teachers, politicians, scribes, Liberians, etc." [1]

"KM is the management of the organization towards the continuous renewal of the organizational knowledge base - this means e.g. creation of supportive organizational structures, facilitation of organizational members, putting IT-instruments with emphasis on teamwork and diffusion of knowledge (as e.g. groupware) into place."[5].

KM 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.

Therefore KM is a set of processes developed in an organization to create, gather, store, disseminate and apply knowledge.

3. Knowledge Management (KM) Perspectives

Knowledge must be managed effectively to ensure that the basic objectives for existence are attained to the greatest extent possible. KM in organizations must be considered from three perspectives with different horizons and purposes:

1. Business Perspective — focusing on why, where, and to what extent the organization must invest in or exploit knowledge. Strategies, products and services, alliances, acquisitions, or divestments should be considered from knowledge-related points of view.

2. Management Perspective — focusing on determining, organizing, directing, facilitating, and monitoring knowledge-related practices and activities required to achieve the desired business strategies and objectives.

3. Hands-On Operational Perspective — focusing on applying the expertise to conduct explicit knowledge-related work and tasks.[5]

4. KM Generation

Organizations from library to industry have been increasing their information technology expenditure by investing and developing intranets, data warehousing and Internet facility, etc. The KM generation stages are given in the following Figure 1.[3]
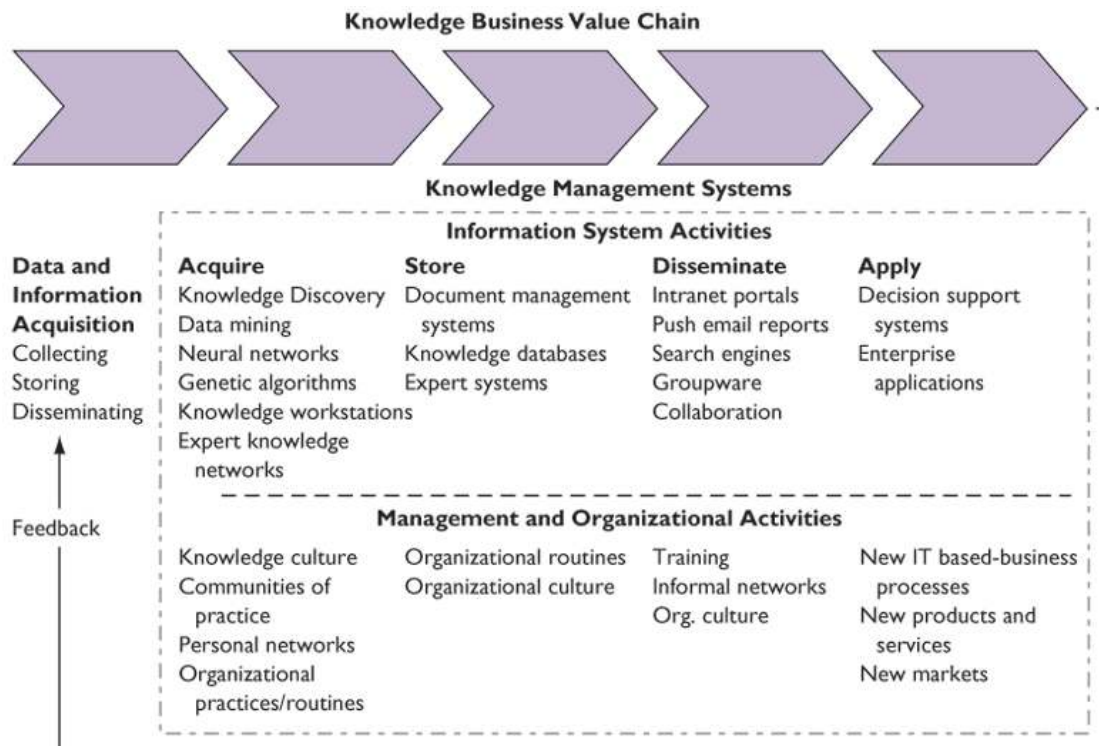
The knowledge management value chain

Figure - 1

5. Knowledge Management (KM) in Industrial Environment

KM is an emerging concept in business environment in the late 90's due to global competition among different groups of business sector. The implication of KM is the understanding of organizational information flows and implementing organizational learning practices that make explicit key aspects of its knowledge base. KM is a new discipline that promotes an integrated approach to identifying, capturing retrieving, sharing and evaluating organizations knowledge assets. The knowledge assets may include database, documents, policies and procedures as well as up captured, tacit expertise and experience resides in individual work. It is about augmenting the use of institutional knowledge through sound practice of information management and organizational learning. It includes two basic elements such as

- knowledge utilization and exploring

- use of people's competencies, skills, talents, thoughts, innovative ideas and positive imaginations.

The vital importance of knowledge in business has always been recognised but, up until now, organisations haven't felt able to manage it because they understood neither the problems and the opportunities nor the strategies and solutions. This is gradually changing as models, methods, tools and techniques for effective knowledge management. The organisations realise the importance of knowledge and thinking to their capacity to adapt to the changing world. KM is the management of organizational knowledge for creating business value and generating a competitive advantage. KM enables the creation, communication and application of knowledge of all kinds to achieve business goals. The key to KM is capturing the knowledge of process – how organizations get their work done and how various elements of information connect this. The different types of information necessary to accomplish this: explicit and tacit. Explicit information is packaged, easily codified, transferable and communicable. Tacit knowledge on the other hand is personal, context specific, difficult to formalize and difficult to communicate and transfer.[2].

A variety of factors have contributed to the growth of and interest in KM. Few of them are:-

1. To avoid costly mistakes

2. Better decision making

3. Better fund management

4. Change in traditional knowledge transfer

5. Better management control

6. Knowledge Manageent (KM) in Library and Information Science (LIS)

KM occupies very outstanding position in the creation of the knowledge innovation systems of a country. As a traditional custodian of information, librarians need to be aware of the implication of the changes in a knowledge society and develop technological and managerial skills that will enable them to make effective use of information to meet their organization and changing needs. Professional's profiles are changing so rapidly and very radically these days impacting the librarian's portfolio, since libraries are becoming KM organizations with librarians as their active agents. Therefore now-a-days libraries are acting as a bridge between knowledge generator and knowledge user. Digital libraries are providing the base for a set of distributed activities. The knowledge in digital library resides in databases, knowledge bases, text bases, gopher spaces or the www. The digital assets of libraries in the present electronic era affect the prosperity of their present organization for achieving their goals. The KM can be incorporated into much library operation to improve its effectiveness. Many factors contribute to the interest in KM in libraries, which are as follows:

- A global economy in which information travels at lightening fast speeds is an important factor.

- Technology makes a strong contribution. The ability for technology to capture data, information and knowledge has far outpaced knowledge manager's ability to absorb and analyze it.

- Timely information delivery-KM provides a mechanism for push delivery of information that might otherwise never reach person at right time. With methods such profiling on information...which are relevant for researchers and decision makers can reach the right people ahead of time.

- Quality maximization.

- Cost minimization.

7. Challenges in LIS

The challenge in KM is probably not in the creation of knowledge since those activities occur each day, the challenge is how to acquire and share the relevant and important knowledge that can advance practice, policy and thought.[6]. The competencies and challenges in LIS are:

- Quality library services are imperative in knowledge society.

- Searching for and providing access to explicit knowledge in the form of documents, their skills in understanding users needs; their knowledge of information sources and their skills in organizing information and developing databases.

- Establish a culture of knowledge dissemination and sharing

- Establish a KMS

- Assist in codifying best practices

■   Facilitate access to international best practices

■   Providing support services

■   Advancing KM within the organization.

8.   Knowledge Management (KM) Systems (KMS)

Design of KMS should ensure that adaptation and innovation of business performance outcomes occurs in alignment with changing dynamics of the business environment. Envisioning business models not only in terms of knowledge harvesting processes for seeking optimization and efficiencies, but in combination with ongoing knowledge creation processes would ensure that organizations not only succeed in doing the thing right in the short term but also in doing the right thing in the long term. Embedding both these aspects in enterprise business models as simultaneous and parallel sets of knowledge processes instead of treating them in isolation would facilitate ongoing innovation of business value propositions and customer value propositions. The ideal scenario is to achieve perfect congruence between extrinsic motivation and intrinsic motivation, and between organizational goals and individual goals, but this is a formidable challenge for designers of most organizational KMS. Most organizations need some combination of both depending upon their emphasis on knowledge harvesting and knowledge creation. Also, organizations and inter-enterprise value networks contain some business processes that primarily depend upon knowledge harvesting and others that primarily depend upon knowledge creation. This point can be appreciated by considering the two world's of business that often co-exist in many organizations - the world of bulk-processing industrial economy and the knowledge economy.[3].

9.   Failure of KMS

There are two reasons for the failure of KMS. First, KMS are often defined in terms of inputs such as data, information technology, best practices, etc., that by themselves may be inadequate for effective business performance. For these inputs to result in business performance, the influence of intervening and moderating variables such as attention, motivation, commitment, creativity, and innovation, has to be better understood and accounted for in design of business models.

Second, the efficacy of inputs and how they are strategically deployed are important issues often left unquestioned as 'expected' performance outcomes are achieved, but the value of such performance outcomes may be eroded by the dynamic shifts in the business and competitive environments. [4].

10. Knowledge Management (KM) Opportunities

Next generation of KMS will need to accommodate the need for ongoing questioning of the programmed logic and very high level of adaptability to incorporate dynamic changes in business models and information architectures. Greater technological integration will help in achieving more efficient optimization of for knowledge harvesting. The

new paradigm of flexible, adaptive and scalable systems will accommodate real time changes in information and data across the business ecosystems network. Even despite organizational control that demands absolute conformance, knowledge workers' attention, motivation, and, commitment may moderate or intervene in its influence. Control is often based on rules and hence difficult to maintain in a world where competitive survival often depends upon questioning existing assumptions.

Design of next generation KMS should ensure that they are not constrained by overemphasis on consistency. Organizations will need to be comfortable with the dialectic of harvesting their existing knowledge while being able to rethink and redefine their current models of success before they are marginalized by environmental change. Often, individuals may not willingly share information with their departmental peers, supervisors or with other departments, because they believe that what they know provides them with an inherent advantage in bargaining and negotiation. Despite the availability of most sophisticated 'knowledge sharing' technologies, such human concerns may often result in sharing of partial, inaccurate, or ambiguous information. Even more critical than the absence of information is the propensity of sharing inaccurate or ambiguous information because of competing interests that may not yield true integration of information flows despite very sophisticated integration of enabling information technologies. Integrated information flows depend upon motivation of people to share accurate information on a timely basis across intra-enterprise and inter-enterprise information value chains. [8].

Static and pre-defined representation of knowledge is particularly suited for knowledge re-use and offers an interesting contrast against the dynamic, affective, and active representation of knowledge needed for knowledge creation. The premise of the digitized memory of the past as a reliable predictor of the future success is valid for a business environment characterized by routine and structured change. While the digitized logic and databases can facilitate real-time execution of the inter-enterprise information value chains, their efficacy depends upon real-time adaptation of underlying assumptions to continuously account for complex changes in the business environment. The challenge of 'scanning the human mind and its sense making capabilities' lies in the problem that most individuals may know more than they think they know. This is particularly true about their information processing and decision-making capabilities related to non-routine and unstructured phenomena and to knowledge that spans multiple domains. Success of the KMS will depend upon integration of not only data and processes across inter-enterprise supply chains and value chains, but also integration of decision-making and actions across inter-enterprise boundaries. Effectiveness of integrated information flows will depend upon the accuracy of information that is shared by diverse stakeholders across inter-enterprise boundaries.

Expanded role of the customers, suppliers and partners includes their involvement in the creation of 'content', in generating product and service reviews, and in helping each other out on shared concerns. It is important to note that such roles assumed by external communities of customers, suppliers, and partners in the new world have been traditionally delegated to internal customer service representatives and technical

support personnel. Hence, in the emerging business models, virtual communities could be rightfully treated as external extensions of the company's service and support infrastructure. New information architectures need to be designed along the principles of flexible and adaptive information systems that facilitate exploitation of previous experiences while ensuring that memory of the past doesn't hinder ongoing experimentation and adaptation for the discontinuous future.

A key challenge for managers in the forthcoming turbulent environment will be cultivating commitment of knowledge workers to the organizational vision. As it becomes increasingly difficult to specify long-term goals and objectives, such commitment would facilitate real-time strategizing in accord with the organizational vision and its real time implementation on the frontlines. Knowledge workers would need to take autonomous roles of self-leadership and self-regulation as they would be best positioned to sense the dynamic changes in their immediate business environment. Investment in every additional unit of information or knowledge created and utilized could result in progressively higher returns. it is important to observe, however, actual realization of such returns requires fundamental rethinking of not only the nature of the product or service, but also its distribution channels as well as the processes underlying its creation, distribution, and utilization. Increasing digitization and virtualization of business processes without rethinking fundamental premises of the traditional models of products and service definitions has been responsible for the demise of many over-hyped venture-capital funded enterprises.

While 'plug-and-play' technologies could enable rapid adaptability of integrated technology infrastructures, success of the business performance outcomes will be still dependent upon sustained business relationships with collaborators as well as potential competitors. Designers of the next generation KMS would need to understand how enterprise information architectures for intra- and inter-enterprise integration of business processes could enable relationship-building capabilities. Design of incentives for knowledge sharing must consider that institutional controls as well as monetary rewards and incentives are not necessary and do not guarantee the desired knowledge sharing behavior. [7].

11. Conclusion

The role of technology in KM is to put workers in touch with the knowledge they need to do their work effectively, where technology plays a vital role. The intranet, internet, groupware, information mapping technology, data mining and data warehousing are meeting the needs for generating the KM. The utility aspects of KM in the form of Knowledge based management systems, IR, E-publishing, Document management systems, DBMS, etc facilitates for storage and searching of the knowledge/ information. Librarians are the most appropriate professionals to lead the team of people in finding the answers to the challenges faced by / for KM in the digital environment. The KM has greatest potential for generating the knowledge and providing them at the right place to the right personnel at the reduced cost.