THE ROLE OF INFORMATION TECHNOLOGY IN KNOWLEDGE MANAGEMENT

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Abstract

Knowledge Management (KM) is a process that deals with the development, storage,retrieval, and dissemination of facts and expertise within an organization to helpand improve its business performance. Businesses are knowing that expertise is an essential useful resource for organizations and it must be harnessed judiciously. Effective use of information can enable organizations not only to stay aggressive but also to be progressive. There's no universally general know-how control (KM) procedure, but it is recognized that organizing the perfect knowledge flows within the company is the main purpose of organizational KM. IT plays as a facilitator in Knowledge Management (facilitates documents operation, data storehouse, access of information, dispersion, exchange, and sharing of ideas), IT provides solutions to Knowledge Management, and incipiently, IT is a tool used to increase the efficiency and capability of Knowledge Management.

Key Words: Knowledge; Knowledge Management; Organizational Learning; Intelligent Organization; Knowledge Mapping.

Introduction:

Nobody can have knowledge of everything as it is very fragile. Knowledge, what humans come to know, begins in the remotely created, scattered, isolated human mind which has its own perception, understanding, and level of consciousness.. It is also socially and culturally created because it is "human'' knowledge.

Knowledge is a familiarity, awareness, or understanding offacts,information, descriptions, which is acquired through experience or education by perceiving,discovering, or learning. Knowledge can refer to a theoretical, practical understanding of a subject.The survival and success of any organization rely on the organization's adaptability to the changing business environment. The aggressive environment is no longer predictable and it is changing unexpectedly in terms of complexity and uncertainty. In consequence Knowledge Management (KM) has been recognized as a source for enhancing an organization's capabilities resulting in the success of the organization.

Knowledge can be convicted as experience organized through language into patterns of thought, thus creating meaning, which in turn helps us to understand the world we live in. It can also be conceived of as patterns of activity, or physical dexterity with thought, contributing to acting in the world, and the creating and making of things. Human beings over time have evolved many bodies of knowledge, which include a repertoire of ways of thinking, of feeling and of doing things, and constructing more knowledge.
e National Curriculum Framework-2005)
Knowledge is a key resource, more important than land, capital and labor, in the post-capitalist society.
(Drucker,1993)
Although inquiry about knowledge has been a topic of debate and discussion since the time of ancient Greek philosophers, recently there is a strong surge of interest among both academicians and practitioners in issues related to the management of knowledge within organizations (Garvin, 1993; Pan and Scarbrough, 1998; Martiny, 1998).Variousinfluences have been vital to this rising popularity of knowledge management. Cut-throat global competition is a great
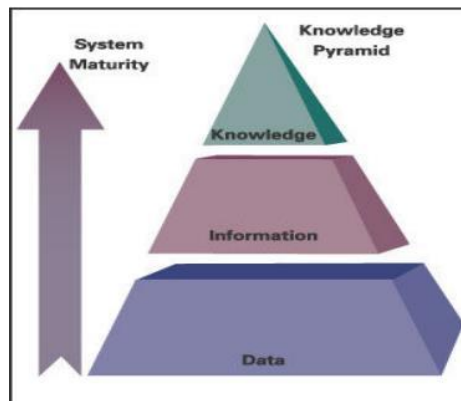
challenge to organizations that pressurizes it to continuously improve technologically, cut costs, and also increase productivity.

With the change in scenario and increase of knowledge work, especially in the developed economies, the ratio of knowledge workers in the workforce is increasing, thus making them a critical factor in the growth and sustainability of organizations. (Drucker, 1993)

The distinction between Information and Knowledge

For understanding knowledge Management, it is important to differentiate between knowledge from information.

Information, is considered as the mere acquisition of facts or role memory and knowledge as a mental process that takes shape in the mind or an intellectual process, it must bear some relationship to "some questions with which the learner is concerned" and it must fit into his more direct acquaintance so as to increase its efficacy and deepen its meaning.

(John Dewey, 1916)
- Information consists of facts and data thatdescribe a problem and knowledge covers truths and beliefs, concepts, and Know-how.
- Information is related to description or definition while knowledge encompasses strategy, practice, method, or approach. We cannot consider data and information as knowledge until we grill the facts and values from it. In the hierarchy, knowledge is at the highest level, information is at the middle level, and data is at the lowest level.
- Information denotes the organized data about someone or something obtained from various sources such as newspapers, the internet, television, discussions, etc. Knowledge refers to the awareness or understanding of the subject acquired from the education or experience of a person.
- Information brings on comprehension of the facts and figures. Unlike, knowledge which leads to the understanding of the subject.

Concept of Knowledge Management

In Knowledge Management focus is on "Doing the right thing" rather than "doing things right" so that core competencies do not become core rigidities in future

(Malhotra 2000).

''Knowledge management is nothing more than managing information flow; getting the right information to the people who need it so they can act on it quickly''

(Gates, 1999).

KM comprises a range of practices used by organizations to identify, create, represent, and distribute knowledge for reuse, awareness, and learning. It has been an established discipline since 1995 with a body of university courses and both professional and academic journals

dedicated to it. Knowledge management (KM) is the process of creating, sharing, using and managing the knowledge and information of an organization. It refers to a multidisciplinary approach to achieving organizational objectives by making the best use of knowledge. Knowledge management is recognized as the fundamental activity for obtaining, growing, and sustaining intellectual capital in organizations.

Knowledge management process

At the strategic level, the art of knowledge management essentially lies in managing the business so, that it has a competitive advantage. The business has to manage knowledge, from its creation through to its

organization processes, to how it then continues to make sure it's shared out.

1. **Knowledge creation**. Knowledge creation starts with knowledge acquisition. There can be various sources of this knowledge, including employees within an organization or outside individuals that are brought in for knowledge or expertise on a specific subject. Careful and appropriate usage of acquired knowledge is the next valid step.

2. **Knowledge organization**. The knowledge needs to be organized in a knowledge management system for future use. This knowledge must not only be sequenced, but it also needs to include security features so that knowledge can be accessed by authorized personnel when needed. Unstructured and unorganized knowledge may not be of any use in the future.

3. **Knowledge sharing**. The whole process of knowledge organization is completed by knowledge sharing. Right from knowledge training to knowledge exchange, where knowledge can be acquired or enhanced through knowledge discussions with other employees in an organization.

Benefits of knowledge management

Although organizations in terms of their technical know-how, customer trust, and satisfaction, use of ICT have a vast reservoir of knowledge butthis knowledge is diffused, and mostly unrecognized, organizations are unable to make the best use of this. Often to hold onto an individual powerbase and authority people don't share and disseminate their know-how. Assessment of the knowledge level of each employee could be a tedious task and would require too much time.This calls out for the need for a Knowledge Management system for organizations so, that the knowledge, skills and expertise can be assessed.

Effective and efficient sharing of information can give an organisation the competitive edge. The benefits of knowledge management include:

1. Faster decision-making
2. Efficient access to knowledge and information
3. Increased collaboration and idea generation
4. Enhanced communication throughout your organization
5. Improved quality of information and data
6. More security for intellectual property
7. Optimized training

Information Technology and Knowledge Management

Due to the rapid development of knowledge and information technology (IT), business environments have become much more complicated. In order to cope with ensuing complications, enterprises ought to continuously innovate; otherwise, it will be very difficult for them to survive in the competitive environment. Hence, many enterprises have applied IT in order to reduce manufacturing costs, introduce innovations in products and services, accelerate growth, develop alliances, lock in customers and suppliers, create switching costs and raise barriers to entry. In other words, IT can help a firm aiming to gain a competitive advantage. In addition, many studies have argued that business value comes mainly from intangible assets, such as knowledge. Thus, knowledge workers will be able to replace clerical workers as the new mainstream of manpower resources.

Needless to say Information Technology is of vital importance in each field and is continuously proving that in order to survive in the competitive worls and to have comparative advantage organisations need to adopt it as a critical success factor in the development of an effective KM program.

"Information technology is no longer a business resource; it is the business environment". Browning (1990)

Since the 1960s, IT has become an all-pervasive force in the business world, superseding more conventional tools for data storage and communication.

"IT can redefine the management and control of innovation on a global basis through the removal of barriers such as time and distance"

(Egbu, 2000, p.109).

With the use of IT, information can be easily acquired, stored, or disseminated and the overall functioning of the organization is improved. Many organizations are now in fact, employing IT to facilitate sharing and integration of knowledge. But considering the

complexity of KM activities and the variety of IT solutions available in the market, the challenge is to deploy the right IT solutions for the variety of KM initiatives.

ICT plays a big role as it has acted as a catalyst for knowledge management. The computer technologies are capable of assisting knowledge seekers and experts engaged in different types of knowledge acquisition process such as socialization (through formal and informal joint activities), externalization (conversion of tacit to explicit knowledge) and internalization (conversion of explicit to tacit knowledge. For example, for tacit knowledge to be transformed into tacit knowledge (socialization process), computer technologies such as e-mails, discussion lists, bulletin board multimedia conferences, and brainstorming applications are used. These computer technologies enable user interactions by assisting them to communicate with one another by making organizational knowledge to be spread throughout the entire organization.

The following technologies can greatly contribute in organization's knowledge management environment:

a) Intranets- Intranets have widespread across organizations for sharing dynamic information. Intranet can be divided into two components namely the technology infrastructure and web server. Technology infrastructure includes universal web server, thin client, HTML format, IP networks and web server is the repository for content. The web server and web browser have enabled greater access to information for groups of knowledge workers and application developers.

b) Document management systems- Document management system are repositories for organization's document or explicit knowledge in an organization. These systems are mainly used for creating, processing and reviewing documents. Some of the organizations are approaching organization wide KM based on document management. Document management systems are vital knowledge repositories that must be integrated into knowledge infrastructure of an organization. However they are not used as the complete basis for the knowledge management system as knowledge workers resist to use highly structured document management process for creating and processing complex documents.

c) Information retrieval engines- Information retrieval from corporate text repositories or searching through intranet exist in many organizations as a knowledge silo. Vendors are continuously adding new features as relevancy ranking, natural language querying, summarization, preferential searching and others for satisfying the needs of information seekers and precision of finding the information.

d) Groupware and Workflow systems- Groupwares are used in the organization for communicating and collaborating among workgroups and departments in formal oradhoc conversations when users cannot communicate in real time. So it can be rightly said that groupwares are important technology for exchanging and enhancing tacit knowledge. On the other hand the workflow systems are used for codification of knowledge transfer processes. As an example proposal generation system can be consideredwhere workflow systemfacilitates preparation of structured and ordered information and its review.

e)Brain storming applications- are used to convert tacit knowledge to explicit knowledge. These applications are useful knowledge creation tools that help in categorizing, organizing and identifying knowledge resources.

f) Data warehousing and mining tools- Organizations create data warehouse and provide the managers with data mining tools to take decisions based on increasingly complex set of data. KMS provide access to data ware houses by open database connectivity and structured query language. Data mining tools also provide access to reports to the users based on subject area which they are investigating

In a knowledge-driven economy the generation and exploitation of knowledge play the predominant part in the creation of wealth, but in this knowledge economy with high-technology industries such as telecommunications and financial services. To a significant extent, the linkages of the operations n the service sector lie in the hardware part. Thus, chips, integrated circuitry, and technology used in biosciences are important aspects of knowledge economy.

The space occupied by the Information Technology (IT) industry within the content of the term knowledge economy is significantly large, probably due to its being an early starter. However, a certain extent of grayness is associated with the term knowledge economy, primarily because, so far, it has not been adequately defined; nor have its boundaries been drawn with clarity.

In the knowledge economy the distance will be meaningless and the world will be considered as a global village where using appropriate technology virtual organizations, virtual teams, and marketplaces are doable in which operations will be quicker than in the traditional economy.

• In the knowledge economy, it is tricky to pertain controls in terms of laws, taxes, and obstacle in the national level as the trade become global in nature.

• In the knowledge economy, the knowledge and information drip may be unavoidable where the demand is maximum and the obstacles are lowest.

• In the knowledge economy the goods which are developed on the basis of knowledge will magnetize premium price in comparison to the products with small entrenched knowledge or knowledge concentration.

Conclusion

Organizations have recognized the value of utilization of knowledge that resides and is being created within the organization long back.They have been practicing Knowledge management by the use of IT. We can also conclude that IT is an important facilitator for improving the dynamic capabilities of an organization.

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