KNOWLEDGE MANAGEMENT TOOLS AND TECHNIQUES: ACCESS THE RIGHT KNOWLEDGE AT THE RIGHT TIME

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ABSTRACT

The concept of Knowledge Management emerged in the mid 1980s and was initially applied in the corporate sector. This article describes knowledge management (KM) concept, its tools and techniques for accessing the information.KM tools are very important to successfully achieve the goal of any organization. If the organisation is not framing the right KM framework using the available KM technologies, it will fail to make right decisions. The article aims to generate awareness about the KM tools and techniques for organisations.

Key Words : *Knowledge management, Explicit knowledge, Tacit knowledge, KM tools and techniques, KM technologies.*

INTRODUCTION

In recent years organizations have realized that knowledge is one of the most valuable asset for internal and external growth. The biggest challenge for an organization is to capture, store, retain, and share knowledge. (Cameron, 2000) noted that ''Knowledge is power, but without the adequate management of that knowledge, the consequences for [organizations] could be devastating.'' Corporates are focusing on a class of technologies referred to as knowledge-management systems (KMS). Knowledge management can be defined (Hardia, 2013). as the organizational efforts designed to

➢ Capture knowledge.

➢ Convert personal knowledge to group-available knowledge.

➢ Connect people to people, people to knowledge, knowledge to people, and knowledge to knowledge.

➢ Measure that knowledge to facilitate management of resources and help understand its evolution.

In the past two decades, ever since globalisation became a reality, the importance of knowledge management (KM) was accepted by many prominent organisations across the globe. To achieve

organisations goal swiftly and within predetermined time period, the judicious application of KM is essential. KM encompasses knowledge creation, knowledge transfer, use and sharing of knowledge. KM plays a vital role in helping the organisations to understand what tacit and explicit knowledge is available in the organisation and how to overcome a problem by applying organizations goal swiftly and within predetermined time period, the judicious application of KM is essential. KM encompasses knowledge creation, knowledge transfer, use and sharing of knowledge. KM plays a vital role in helping the organisations to understand what tacit and explicit knowledge is available in the organisation and how to overcome a problem by applying right knowledge at a right time with right tools and right personnel.

CONCEPT OF KNOWLEDGE AND KNOWLEDGE MANAGEMENT

Knowledge means associate with fact or reality. 'Knowledge' means acquaintance with fact or truth. According to the new Webster's Comprehensive Dictionary of English Language (2004), knowledge is "the aggregate facts, truths, or principles acquired or retained by the mind, including alike the *intuitions* native to the mind and all that has been learned respecting phenomena, causes, laws, principles, literature, etc." (p. 706).

Knowledge Management is a process that consists of identifying, capturing, processing and transferring information and knowledge of organisation. Organisations have intellectual assets which has wide and sometimes catalyst knowledge. KM is managing not only the organisational knowledge but knowledge that exists with its employees. KM is accepted and taught in disciplines such as management, business and administration, information system, library and information science, computer science. Having understood the importance of KM, organisations have adopted it with open arms for framing their business strategies and for effectiveness of business (Ghani, 2009).

Ron Young defined KM as 'Knowledge Management is the discipline of enabling individuals, teams and entire organizations to collectively and systematically create, share and apply knowledge, to better achieve their objectives'. (Young, 2003)

According to Knowledge Associates International 'Knowledge management will deliver outstanding collaboration and partnership working. It will ensure the region maximizes the value of its information and knowledge assets and it will help its citizens to use their creativity and skills better, leading to improved effectiveness and greater innovation', (knowledge-management-online.com, August 2018)

Wenig defines KM from organisational perspective. According to his definition, KM for the organisation consists of activities focused on the organisation gaining knowledge from its own experience and from the experience of others, and on the judicious application of that knowledge to fulfil the mission of the organisation. (Wenig 1998).

EVOLUTION OF KNOWLEDGE MANAGEMENT

The emergence of the term 'explicit knowledge' and the introduction of KM in the 1980s were new. It was a natural evolution brought about by the confluence of many factors. The developments that have led to present perspective on KM come from many areas. Some are intellectually based, while others are pragmatic and rooted in the need to innovate to secure real-life performance. KM can be described as the most recent phase of an evolution from a managerial focus on data management than information management and finally KM. The three practices that have brought the most contents and energy to KM are information management, the quality movement and the human factors/human capital movement (Balmisse, 2007). Information management developed during the seventies and eighties and is usually understood as a subset of the larger information technology and information science world. IT is a body of thought and cases that

focus on how information itself is managed independent of the technologies that house and manipulate it. It deals with information issues in terms of evaluation, operational techniques, governance, and incentive schemes. 'Information', in this context, generally means documents, data, and structured messages. In broad terms, KM shares information managements user perspective, a focus on value as a function of user satisfaction rather than the efficiency of the technology that houses and delivers the information.

TYPES OF KNOWLEDGE

Knowledge can be divided into two types, tacit and explicit.

Explicit knowledge is formalised and codified and is sometimes referred to as know-what. This type of knowledge is very easy to store, retrieve and modify documents and information. This knowledge can be accessed by third person also (Brown, 1998). In simple words, we can say that explicit knowledge is information which was in written form or codified form.

Tacit knowledge is information which is stored in the person's mind. This covers technical elements like skills, know-how and also covers experiences, practices and values.

KNOWLEDGE MANAGEMENT TOOLS AND ITS IMPORTANCE

KM tools are associated with five steps of KM process: (i) identifying knowledge, (ii) creating knowledge, (iii) storing knowledge, (iv) sharing knowledge and (v) applying knowledge. KM tools are one of the essential factors for success of the KM system. The main aim of KM is getting the right knowledge to the right person/user at the right time. The tools are designed as per organizations/institutions requirement and KM system, and they should be implemented suitably to get the desired result. Tools and Techniques KM

tools are divided into two main categories that is (1) traditional method tools and (2) information and communication technology (ICT)-based tools.

Traditional Method Tools : Traditional tools for Knowledge Management are given below:

Brainstorming : It is a technique in which group efforts are made to find solutions for a specific problem.

Learning and Idea Capture : This tool is used to find better techniques, tools and methods systematically for a specific problem. It guides how to do the things.

Peer Assist : It is learning before doing. The aim of is to learn from the project and from each other members.

Learning Reviews : It is a technique which is used by a specific project team in order to support team and individuals during the course of the project.

After-Action Review : This technique is used to evaluate learned lessons after completion of a project. It is the learning from project success and failures.

Storytelling : Storytelling is a very powerful way to share and transfer the tacit knowledge which develops human relationship and creates learning environment.

Collaborative Physical Workspace: It is the place where people actually work. The design of physical workspaces should be very comfortable to share or create knowledge with other people.

APO Knowledge Management Assessment Tool: The APO (Asian Productivity Organization) Knowledge Management assessment tool is based on the APO KM framework. The elements identified in the framework include KM leadership, process, people, technology, knowledge processes, learning and innovation and KM outcomes. There are 42 questions from 7 elements, and the maximum score of these questions is 210 points.

Knowledge Cafe: It is a technique for group discussion. The topic for discussion is decided well in advance.

Community of Practice: This concept was introduced by Social scientists Dr. Etienne Wenger and his team (Wenger, 1998). [6]. Three elements have played a very crucial role to design community of practice which are the domain, the community and the practice.

Taxonomy : Taxonomy is a classification system which classifies information, knowledge and documents.

ICT-BASED TOOLS

Capturing and collection of knowledge is important part of KM but when we are not able to disseminate this knowledge to people than its not worth. Then ICT helps an organization to spread knowledge from one person to other person. It provides several techniques for Creation, collection, capture, organize, refinement, disseminate, maintenance through which KM can easily applied in an organization. The ICT-based tools are given below:

Groupware Systems and KM 2.0: Groupware systems and KM 2.0 tools are combinations of communication tools, conferencing tools and collaborative management tools.

The Intranet and Extranet: The main function of the intranet and extranet is to share knowledge. The supporting functions of Intranet and extranet is dissemination, searching, managing, networking and recording of knowledge.

Data Warehousing, Data Mining and OLAP: Data warehouse is a storage of information. Data mining tools are used to search stored data. Online analytical processing (OLAP) system helps user to extract and view data from different points of view.

Decision Support Systems: This tool is a combination of various tools such as data warehousing, data mining, OLAP and groupware systems. This system has three criteria, namely compatibility, understandability and effectiveness.

Artificial Intelligence Tools: These tools are used for the knowledge acquisition, knowledge representation and knowledge discovery.

The other ICT-based tools are content management systems, document management systems, simulation tools, semantic networks, knowledge bases, blogs, social network services, voice and Voice-over-Internet Protocol, advanced search tools, building knowledge clusters, expert locator, collaborative virtual workspaces and Microsoft SharePoint.

IMPLEMENTATION PROCESS OF KNOWLEDGE MANAGEMENT

Apart from the traditional method tools and ICT-based tools which are used in the implementation of KM there are some other elements which are very important for KM. The KM tool selection and implementation process go through the following aspects:

Identification: This aspect covers employee's databank, seminars, workshops, interviews, literatures, colleagues, reports, reviews, case studies, brainstorm, suppliers, clients and others

Capturing: In this section, the personal web page, exit interview, knowledge discovery in database will be captured.

Storing the knowledge: This KM aspect storing the knowledge in project database, hard copy database, filling cabinet, training material, libraries, websites, intranet level, repository and others.

Mapping: This KM aspect mapping the knowledge using the different techniques such as visual thinking networking, mind mapping and brainstorming and others.

Sharing/dissemination: This KM aspect shares and disseminates the processed knowledge using various techniques such as conferences, workshops and seminars, intranet, trainings, web publishing, publishing the knowledge through activity board and

periodicals, bulletin, get together functions and so on.

KNOWLEDGE MANAGEMENT TECHNOLOGIES

Knowledge Management requires technologies to support the new strategies, processes, methods and techniques to better create, disseminate, share and apply the best knowledge, anytime and anyplace, across the organisation and across several organizations. For an effective KM system, organisation should use the key technologies such as communication and collaboration technologies which are in form of internet or intranet and the mobile technologies to communicate, capture, organise the knowledge. Organisation can decide and select a set of technologies from the above based on the KM framework and goal of the organisation. Some of the main technologies are:

CASE-BASED REASONING SYSTEMS

Case-based Reasoning Systems (CBRS) essentially consist of a case library and a software system for retrieving and analysing its associated information. The case library has cases covering a broad range of ideas across different organisation. Each case contains a description of the underlying competitive situation, the environmental conditions, management priorities, experience, values that allow a certain strategy to succeed. A software system indexes each case in such a way that a search yields modest number of 'similar cases'. If there is no case that exactly matches the given situation, then it selects the most 'similar' case. An adaptation procedure can be encoded in the form of adaptation rules. The result of the case adaptation is a completed solution but it also generates a new case that can be automatically added to the case library.

GROUP DECISION SUPPORT SYSTEM

This process of group learning involves the individual, and is therefore a useful tool for individual learning, but it does not focus solely on individual learning. A Group Decision Support System enables a group to work interactively using the networked hardware and software to complete the various aspects of the business process.

Artificial Neural Networks

Artificial Neural Networks (ANNs) are tools derived from artificial intelligence. They are also part of the new information processing paradigm that simulates the human brain. They are very strong tools in the pattern finding and structuring, without any prior information. They allow for the structuring of tacit knowledge, without making it explicit, but nevertheless making it accessible.

Semantic Search Engines and Link Machines

A semantic search engine uses a kind of an overlay of organization, based on keywords that are commonly used together. The search engines scan the text that is available and that is stored using a format that allows this kind of search. The search engine creates a semantic network of keywords, which allows translation of any given natural language query in a number of most probably related keywords. Then those keywords can be related to pieces of text where they appear dominantly. Once those keywords are identified, the text is codified with the keywords, and the semantic table is made. The system is then reading for both semantic queries and semantic linking (Ghani, 2009).

An improper selection of KM technology leads an organisation towards taking reckless decisions which ultimately produce vague, reluctant and disappointing result. That is why it is rightly said by the prominent thinkers that the suitable selection of KM technology also tests the competence of the top management of an organisation.

CONCLUSION

Knowledge is an infinite source. Natural resources are depleting with use, whereas knowledge expands with use. The Knowledge Management in the organisations in the new economy is the new concept of the knowledge economy. In a knowledge economy, the value of an organisation derives from the intellectual capital of organisation's knowledge workers. For the successful Knowledge Management, each and every knowledge workers have to participate in the knowledge-sharing activities because the Knowledge Management is about identifying, capturing, processing and transferring the knowledge within the organisation. The Knowledge Management tool and technologies selection are purely based on the defined goal of the organisation or the framework of the organisation.

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