INTEGRATION OF KNOWLEDGE MANAGEMENT TOOLS AND IT TECHNOLOGIES IS A COMPLETE ASSET FOR AN ORGANIZATION

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ABSTRACT

In today's era, growth of organizations, growth of institutions, banking, e-commerce are unpredictable without effective knowledge management. Knowledge management is the key concept in today's business world, since knowledge is not merely simple information; it is the potential of organization, so management of information is necessary. Knowledge has becomes an important or relevant asset for organizations. Due to globalization organization has to deal with co-operative and competitive way. Knowledge is that invisible force that pushes the companies towards the success; it is the environment of invisible or visible assets which is balanced by explicit knowledge and tacit knowledge. Aim of this paper is to answer the research questions whether organizations use latest technology to enhance the professional growth, yes or no? . How link is established between knowledge management, information and technologies. This paper begins with the comparison of knowledge management and information management.

KEYWORDS

Knowledge management, Information Management.

1. INTRODUCTION

In any organization performance is not merely a collection of data and information. Data collection and information regarding particular data is appropriate to give meaning to the work but when some action is taken toward that work (means knowledge applied to arrange the data) then it is performance, since knowledge resides in the user and not in the collection of information

To design a new system, first stage is to analyze a problem and for that analyst first collect all the prior information related to old system and require data for the proposed new system, this phase is completely a knowledge collection phase.

After collecting all the data related to the requirement of users and data related to construction of system analyst moves to designing phase, base of this phase is to manage all the data/information in to proper manner, so that goal achievement will be easier and this phase is completely known as knowledge management phase.

2. PURPOSE OF STUDY

Information technology is helpful asset for knowledge management. By using latest technologies ability to learn and understand things improves.Todays, after year of steady progress, artificial intelligence has evolved new techniques, such as neural networks and intelligent agent and is being widely applied in growing number of applications, still most of the organizations are not aware of such type of technologies. Due to lack of technical information status of organization is affected and for that knowledge of two major factors related to that is necessary, that are:

1. Awareness of the limits of information technology.
2. Availability of information technology designed with knowledge management

All above is possible when Organization manages technology and management together and for that below mentioned contents should be helpful

a. Promote knowledge sharing environment such as activity rooms to facilitate sharing of ideas and work among internal teams and external Partners
b. Establishment of different groups in organization like workshop, one to one guidance, trouble shooting etc.
c. Evaluate the knowledge sharing program, including external benchmarking and evaluation programs/opportunities.
d. Communication must be established among all level of management.
e. Understand clients need and concern.
f. Works effectively with individuals of different culture and gender; willing to seek help as needed. Influencing and resolving differences across organizational boundaries
g. Open to new ideas; shares own knowledge; applies knowledge in daily work; builds partnerships for learning and knowledge sharing
h. Analyzing issues and problems systematically, gathering broad and balanced input, drawing sound conclusions and translating conclusions into timely decisions and actions.

The purpose of the study is to prove that, Journey from re- engineering to re-everything is incomplete without knowledge management.

3. PRESENT STATE OF KNOWLEDGE

One of the pioneering works is done by Prusak (1999) describes knowledge as a human trait or attribute distinguishing it from information in that only a human can obtain knowledge. Prusak (1999) estimates that approximately 80% of the Global 1000 businesses are conducting knowledge projects, and that "approximately 68% of the Fortune 1000 have defined knowledge projects underway. Knowledge teams and knowledge leaders are emerging, but very few organizations are applying knowledge management throughout their organizations (Skyrme, 1999, p. 109). McCampbell, Clare, and Glitters (1999) maintain that in an economy of uncertainty, the only sure source of lasting competitive advantage is knowledge. "Successful companies are those that consistently create new knowledge, disseminate it widely throughout the organization, and quickly embody it in new technologies and products". Some in the field define knowledge management simply as information that has value for action, but others, like Snowden (1999), maintain that knowledge management is not that simple. He writes that it is the "identification, optimization, and active management of intellectual assets, either in the form of explicit knowledge held in artifacts or as trait knowledge possessed by individuals or communities" Swan et al. (1999) explain that knowledge management is about harnessing the "intellectual and social capital of individuals in order to improve organizational learning capabilities, recognizing that knowledge, and not simply information, is the primary source of an organization's innovative potential" Snowden (1999) claims that it is not necessary to define knowledge, but points out that it is important to distinguish it from information. Davenport, De Long, and Beers (1999) claim that knowledge "is information combined with experience, context, interpretation, and reflection". Ikujiro, Nonaka and Hirotaka Takeuchi (Nonaka and Takeuchi 1995) define the knowledge-organization through its ability to adapt to the changing environment by creating new knowledge, disseminating it effectively and embodying this knowledge into practice.

Nonaka and Konno (1999) categorize knowledge as either explicit or tacit. Explicit knowledge can be thought of as knowledge that can be expressed in terms of words and numbers. It can be shared in the form of data. Tacit knowledge, on the other hand, is highly personal, hard to formalize, and difficult to communicate. Tuomi (Tuomi 1999) provides an alternative view, arguing that the often assumed hierarchy from data to knowledge is actually inverse; "knowledge must exist before information can be formulated and data can be measured to form information"

Nonaka (1994) expands on Polyani's notion of tacit knowledge by asserting that tacit information has both cognitive and technical elements. Cognitive elements can be thought of as mental models in which people form models of the world. They can manipulate these models to help define their world. The

technical element is know-how or skills that apply to a specific context. Snowden (1999) helps further clarify the concepts of tacit and explicit knowledge by relating how each particular type of knowledge is evoked. He writes that "the optimization of explicit knowledge is achieved by the consolidation and making available of artifacts. The optimization of tacit knowledge is achieved through the creation of communities to hold, share, and grow the tacit knowledge". Alvesson and Karreman (2001) assert this is because most researchers believe that the idea of management is something that makes common sense. There seems to be a general consensus among scholars that management involves planning, organizing, coordinating, and controlling work. Morey, Maybury & Thuraisingham (2002) deal with the importance of knowledge management dimensions of strategy, process, and measurement. Tanriverdi's (2005) analyzed the objective of the study is to advance the understanding of the relationship of IT and Knowledge. According to Scarbrough et al., (OCED,2003), KM can be described as "covering any intendedand methodological process or put into practice the knowledge of acquiring, capturing, sharing and usingknowledge, wherever it resides in, to improve the learning capability and performance of firms" .Molina et al. (2004) furthermore emphasizedthat a theoretical base is helpful to clarify the relationships in TQM in the literature, which is vital for achieving competitive edge for firms.Tanriverdi (2005) defined the problem statement as "despite widespread belief that IT enables KM and KM improves firm performance" Crotty (2006) analyzed that the three general sociological theories are positivistic, interpretive and critical theory. As discussed earlier, the positivism is based on the epistemology where objective reality exists versus interpretive which is based on the subjective lens of the researcher's perspective and experience. Qualitative Research is collecting, analyzing, and interpreting data by observing what people do and say. Whereas, quantitative research refers to counts and measures of things, qualitative research refers to the meanings, concepts, definitions, characteristics, metaphors, symbols, and descriptions of things. Creswell (2007) says, the design of any research study begins with the selection of a topic and a research methodology. There are three orientations to research: post-positivist research (quantitative), interpretive research (qualitative) and critical research (critical theory). Every research tradition makes four key assumptions: ontology (nature of reality), epistemology (knowledge), axiology (role of values), and methodology (research strategies). Positivist and constructivist ontology's underlie quantitative and qualitative methods, respectively. Afiouni (2007) states that, "knowledge management (KM) has become a must to ensure organizational effectiveness". Afiouni emphasis that the importance of human and social factors in knowledge management creation and sustenance has been increasingly recognized. Choi, Poon, and Davis (2008) communicate the relationship between knowledge management strategy and organizational performance as one of "non-complementarily" "non-critical symmetric complementarily" and "asymmetric complementarily".

4. RESEARCH METHODS

This Research will be conducted in to two fold viz. Literature Review and Questionnaire Survey.

1. Literature Review:
2. Questionnaire Survey

2.1 The primary data would be obtained from organizations head and analyst by way of questionnaires and interaction via survey within medium sized organization and enterprises in metro city. Questionnaires would be designed to check the knowledge of technology and implementation of technology with knowledge management in organization.

2.2 The secondary data would consist of analyzing the data, information, tools techniques and survey report made by various organizations related to technology used by them, how they relate information technology with knowledge management.

5. LITERATURE REVIEW

5.1 Relation between data, information and knowledge

Knowledge means to acquire something from environment and to give back to the environment in modified way. We acquire data from environment in the form of collection of discrete objects and facts, than we process the data by prior information and perception and drive meaningful conclusion. Knowledge is the result of learning. Knowledge is basically a summation of information, data, and experience.

5.2 Relationship between knowledge and knowledge Management

The field of Knowledge Management (KM) was established as a discipline in 1991. An important KM paper addressing what was earlier referred to as organizational knowledge was written by Ikujiro Nonaka who made the early connection between tacit knowledge (experiential) and explicit knowledge (articulated, codified, and stored) with knowledge conversion - the interaction of these forms of knowledge – particularly to enhance an organization's efficiency, productivity and profitability. KM places a strong emphasis on corporate knowledge culture. Nonaka used the following model to demonstrate:

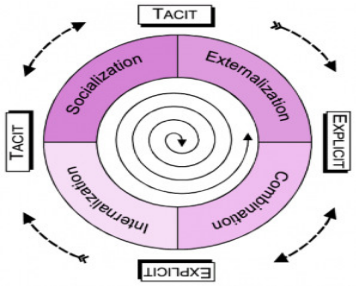

Figure 1: Model for Knowledge management

Since organization is divided in to different unit, each unit works independently with cooperation of other unit to achieve common goal, so to understand clearly the role of Knowledge Management in organization we have to understand the pyramid structure of organization**.**

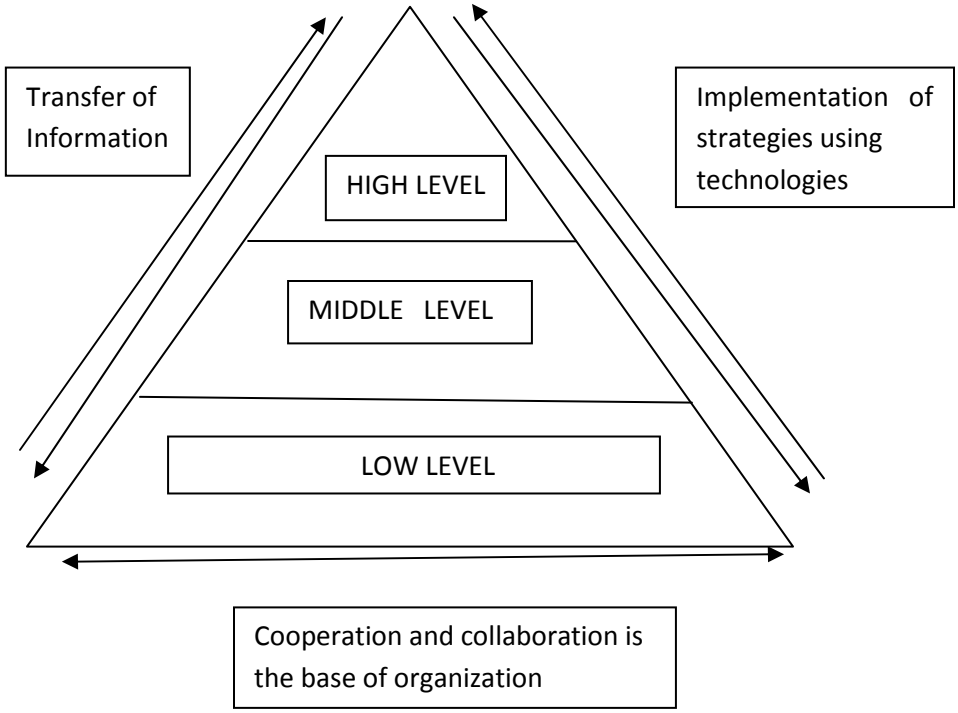

Figure 2: Pyramid structure of organization

It is clear from this pyramid that all system has three levels. High level means the higher authority which act as a leader who leads the whole system. Middle level authorities are the group of person leading a separate or independent department but with cooperation, collaboration and interaction of other department and Low level is the level of employee work under different department in different post.
To achieve the common objective it is necessary for an organization that vision and mission must be clear to all the employees. Cooperation ,collaboration and transformation of knowledge is in regular practice and by applying different strategies using latest technologies and by proper management of knowledge System works in a healthy environment and this is possible with knowledge management.

5.3 Role of Information Technology in knowledge management

Nonaka and Konno (1999) categorize knowledge as either explicit or tacit. Explicit knowledge can be thought of as knowledge that can be expressed in terms of words and numbers. It can be shared in the form of data. Tacit knowledge, on the other hand, is highly personal, hard to formalize, and difficult to communicate. According to the Bose (2001), Knowledge Management Practices has three major components: 'People': who create, share and use knowledge, 'Process' the methods to acquire, create, organize and transfer knowledge and 'Technology' the mechanisms that store and provide access to data, information and knowledge created by people, Edvinsson (2000) contends that IT tools such as the Internet are merely 'enablers' and that the true asset of an organization is the brainpower of its workforce. Dougherty (1999) argues that IT should be seen as a tool to assist the process of Knowledge Management in organizations. Some organisations have developed software to encourage social interaction in organizations in the hope that a unique forum for tacit knowledge exchange will be established. For example, Teltech is a consultancy service offering KMservices to businesses, including an Expert Network which brings together a network of thousands of technical experts to share and develop knowledge in technical areas (McCampbell et al).One of KM's leading practitioners Karl-Eric Sveiby describes the current practice of Knowledge Managements being divided into two tracks: IT-Track KM enables Management of Information. They are involved in construction of information management systems, AI [artificial intelligence], reengineering, groupware etc. To them Knowledge is Objects that can be identified and handled in information systems. This track is new and is growing very fast at the moment, assisted by new developments in IT. People-Track KM enables Management of People. They are primarily involved in assessing, changing and improving human individual skills and/or behavior. To them Knowledge is Processes, a complex set of dynamic skills, know-how etc, that is constantly changing. They are traditionally involved in learning and in managing these competencies. This track is very old, and is not growing so fast. The two tracks differ in their techniques and tools. In the IT track, the emphasis is on using software and the Internet capturing information in databases and improving communication.

5.4 Summation of knowledge management process with technology

There are large numbers of IT tools available to support knowledge management. Most of these tools provide support for only one or more of the four areas of the knowledge management systems. These four areas are: Knowledge Creation, Knowledge Processing, Knowledge Sharing and Knowledge capture and codification. With the implementation of technologies each area efficiency get effected positively .like creation can be accomplished shortly by using CAD system , by using spread sheets , word processor and data base, processing of data become easy. Knowledge, data, information and views can be easily shared worldwide by using internet.
Coding part accomplished by using any programming language or with the help of advance technology.
Information Technology tools provides more effective ways of accessing information from multiple sources, including use of external information on databases and the Internet. Not only decision making ability improved by introducing technology in system, but also nature of professional work is drastically changes

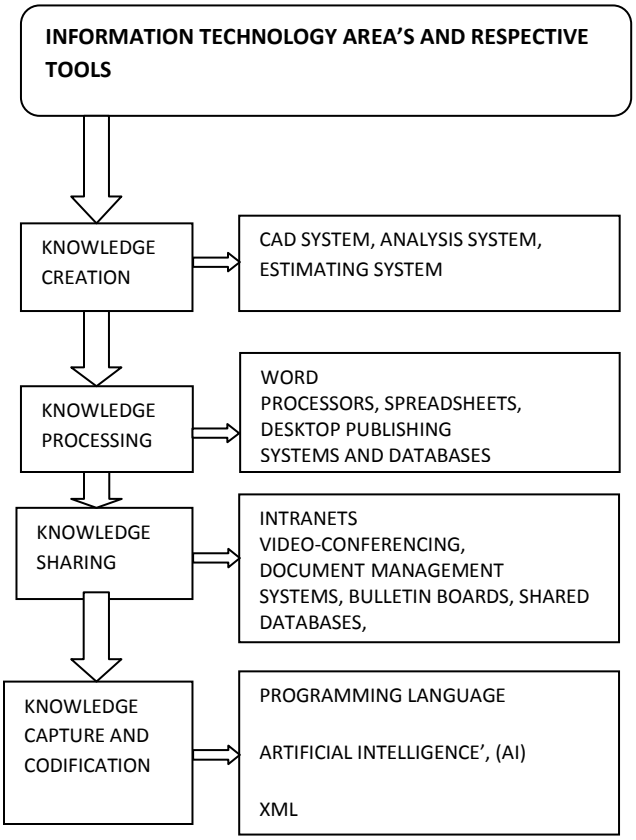

Figure 3: Knowledge management process with technology

CONCLUSION

This paper provides an overview that the impact of Knowledge management in organization is effectively improved by integrating Information technology tools with the Knowledge management tools. Since knowledge has valuable role in organization, so when technology effect is embedded in the system then growth rate and efficiency of the system is affected positively. But still most of the latest technologies are still unaware by the top level and middle level of system, so for that it is necessary that some sort of awareness workshops/ seminars must be conducted in organizations.

REFERENCES

[1] Ahmed PK (1998). Culture and climate for innovation. Eur. J. Innov.Manage. 1(1): 30-43
[2] Alavi, M., & Leidner, D. E. (2001). Review: Knowledge management and knowledge management systems.
[3] Al-hawari, M. (2004). *Knowledge management styles and performance: A knowledge space model forms both theoreticaland empirical perspectives.* Unpublished doctoral dissertation. University of Wollongong, NSW, Australia.
[4] .Al-Mabrouk K (2007). Critical Success Factors Affecting KnowledgeManagement Adoption: A Review of the Literature. Innovations inInformation Technology, IEEE Xplore pp.1-6
[5] Anderson TJ (2000). Strategic planning autonomous actions and corporate performance, Long Range Plan. 33(2): 184-200

[6] Aral, S., Brynjolfsson, E., & Van Alstyne, M.W. (2007). Information, technology and information worker productivity.
[7] Beijerse RP (2000). Knowledge Management in small and mediumsized companies: Knowledge management for Entrepreneurs. J.Knowledge Manage. 4(2): 162-179.
[8] Bozbura F T (2008). Knowledge management practices in Turkish SMEs. J. Ent. Info. Manage. 20(2): 209-221
[9] Calantone R, Garcia R, Droge C (2003). The Effects of EnvironmentalTurbulence on New Product Development Strategic Planning. J.Prod. Innov. Manage. 20(2): 90-103
[10] Creswell, J. W. (2007). *Research design: Qualitative, quantitative, and mixed methods approach (2nd ed.).* ThousandOaks, CA: Sage Publications.
[11]Crotty, M. (2006). *The foundations of social research: Meaning and perspective in the research process.*
[12] Davenport, T. H., & Prusak, L. (1998). *Working knowledge: How organizations manage what they know*. Boston, MA:Harvard Business School Press.
[13] Kankanhalli, A. (2003). The role of IT in successful knowledge management initiatives. *Communications of the ACM archive*, 46(9): 69-73.
[14] Korin, K., & Laura, J. T. (2004). Project success: a cultural framework. *Project Management Journal,* 35(1), 30.
[15] Ponzi L.J. (2002). *The evolution and intellectual development of knowledge management*, Ph.D - Library and InformationScience. Long Island University.
[16] Serenko, A., & Bontis, N. (2004). Meta-review of knowledge management and intellectual capital literature: citation impact and research productivity rankings. *Knowledge & Process Management,* 11(3), 185-198.

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