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KNOWLEDGE MANAGEMENT: STRATEGY, CULTURE, INTELLECTUAL CAPITAL, AND COMMUNITIES OF INQUIRY

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ABSTRACT

Knowledge management (KM) is the emerging topic in many business organizations. Each individual has different opinion regarding the titled topic of Knowledge management (KM). As the business development is changing rapidly, the task of effective and competitive management of organizations becomes essential and KM, if we understand and implement properly then it definitely provides a competitive edge to the organization. This research-paper presents an overview of KM including knowledge, knowledge management systems (KMS), KM cycle, KM models, KM tools and strategies and value of knowledge management and how KM is utilized in organizational operations.

Keywords: *Knowledge, Knowledge Economy, Knowledge Management, KM tools and Practices, KM strategies, Competitive Advantage, Explicit Knowledge.*

1. INTRODUCTION

Knowledge is an important asset to any company, and what a company does with this knowledge can be a critical component in their success. "Knowledge Management ('KM') is a practices and tool to identify, create, represent, and distribute knowledge, used by organizations. It has been an established discipline since 1995. Many large companies have been focused to Knowledge Management, as an important and crucial part of 'Information Technology' or 'Human Resource Management' departments. Knowledge Management is increasing day by day.

Knowledge Management programs are directly related to organizational objectives such as improved performance, competitive advantage, innovation, and development of overall organization. Knowledge Management is quite similar to Learning Organization. Knowledge Management can be different from Learning Organization only-when it creates greater focus on specific knowledge assets and the development of the channels through which knowledge flows and organizational learning results when an individual uses knowledge..

"Knowledge Management is that practice and field which helps individuals, teams and entire organizations to collectively and systematically create, share and apply knowledge, to better achieve their objectives"- According to Ron Young.

Polanyi (1967) and Nonaka and Takeuchi (1995) explains two types of knowledge i.e. Tacit, and Explicit Knowledge

Tacit knowledge is commonly known as Unstructured knowledge which is exists within the mind of an individual and which cannot be directly expressed by data. **Explicit knowledge** on the other hand is that knowledge which can be directly expressed by data collected or published and is commonly known as structured knowledge.

Knowledge transfer in an organization occurs when members of an organization passes both Tacit and Explicit knowledge to each other.

The creation and diffusion of knowledge have become ever more important factors in competitiveness.

Knowledge is increasingly being viewed as a commodity or an intellectual asset. Knowledge management ensures the full utilization knowledge, potential and individual skills, competencies, innovations, and ideas with in the organization to create a more efficient and effective organization, KM determines as a determined and planned approach to the effectiveness of organization,. Knowledge management (KM) was defined as program and procedure used to create and apply a systematic approach to the capture knowledge, structuring and management of knowledge, in order to work faster, reuse best practices, and reduce cost it is important to disseminate knowledge throughout an organization. As the business environment is changing rapidly, the task of effective and competitive management of organizations becomes very essential. It is required to understand and implement KM properly which provides a competitive edge to the organization.

1.1 RESEARCH OBJECTIVES

- To understand the concept of Knowledge and Knowledge Management
- To identify the various practices involved in Knowledge Management
- To understand the role of Knowledge Management as an asset in the organization with suitable examples.
- To study the various Knowledge Management Strategies

1.2 RESEARCH METHODOLOGY:-

The entire research is based on **Secondary Data**. For this purpose relevant database, websites, journal, articles and other available resources are collected. It helps in identifying the research problem and provides a baseline for the research. A systematic and thorough study was done.

2. LITERATURE REVIEW

Various Management Theorists have been contributed towards the evolution of Knowledge Management such as Prof. Peter Drucker, Paul Strassmann and Peter Senge. Knowledge Management surrounded by various perspectives at organizational level i.e. informational system perspective, management perspective, organizational learning perspective and strategic perspective. The Literature Review has been done under these perspectives of Knowledge Management.

From Informational System Perspectives:-

Alavi and Leidner propose that knowledge is any kind of information exists in the minds of individuals, (which may or may not be new, unique, useful, or accurate) related to facts, procedures, concepts, interpretations, ideas, observations, and judgments" (p. 109). It includes knowledge as -representing a state of mind, object, process, access to information, or a capability.
Information systems play roles in supporting the "management" of knowledge. Alavi and Leidner develop a framework for analysis of the supporting role of aninformation system with KM, specifically four sets of socially enacted, interdependent knowledge processes:
(1) Knowledge creation
(2) Knowledge sharing (to include storage and retrieval)
(3) Knowledge transfer
(4) Knowledge application
Markus et al. (2002) supporting Emerging knowledge processes (EKP's). The EKPs of organizational activities exhibits:

(1) An emergent process of deliberations with no best structure or sequence Complex knowledge
(2) requirements distributed across people and evolving dynamically
(3) An unpredictable actor set in terms of job roles or prior knowledge

Markus et al. believe that new product development, strategic business planning, and organizational design include EKPs and represent unique requirements not supported by familiar classes of information systems such as expert systems, organizational memory systems,

or repositories. The lasting contribution of , Tanriverdi (2005) finds that IT relatedness of business units enhances the cross-unit KM capability of the firm, which then has a direct impact on corporate performance.

From Management Perspectives:-

Argote and Ingram (2000) suggested that knowledge transfer serves as a competitive advantage forfirms. , interactions involving people allow greater knowledge
transfer within firms and between firms. Knowledge created by the interactions of people and tasks provides competitive advantage in firms.
Drucker (1992) coins the term "knowledge society *in "Organizational Behavior and Human Decision Processes"*, knowledge will represent the primary resource for individuals and for the overall organization. Knowledge or specialized knowledge is the primary resource of an organization while land, labor, and capital become secondary resources to the organizations and can easily obtain these resources.
Hansen et al. (1999) considers the balance between automating KM vs. relying on
people to share knowledge through more traditional (i.e. non-Informational system) means. Codification, through information systems, opens up the possibility of large-scale reuse for businesses, whereas a personalization approach invests more moderately in information systems, with the primary goal of facilitating conversations and the exchange of tacit knowledge. KM depends on the volume of explicit vs. tacit knowledge available within a firm and the value of such knowledge. Third, Davenport and Glaser (2002) find out that knowledge-sharing programs mainly fail by introducing unknown obstacles making it harder for people to do their jobs. The authors suggest that success depends on integration of knowledge or we can say he specialized knowledge into the day-to-day routines work of highly skilled workers, which are making the knowledge reuse extremely accessible and unavoidable. Cummings (2004) considers the influence of work place diversity affects the working of organization. Like Levin and Cross (2004), Cummings also finds that when members of structurally diverse work groups share knowledge external to the group, their performance improves. This improvement starts from active exchange of knowledge through unique sources. Sixth, Singh (2005) states the collaborative networks as determinants of knowledge diffusion patterns. Individuals within an organization (from either the same region or same firm) possess closer collaborative links; thereby influencing a greater probability of knowledge flows. The intra-regional and intra-firm knowledge flows represent stronger ties which influencing knowledge diffusion among individuals when compared to those across regional or firm boundaries.

From Organizational Learning Perspectives:-

Nonaka (1994) defines knowledge as "justified true belief" that increases an entity's capacity for effective action. Nonaka suggested tacit and explicit as two dimensions of knowledge in organizations. Tacit knowledge comprises intellectual and brain storming elements, such as mental models of paradigms, and technical elements, such as concrete "know-how" or contextual skills.
Explicit knowledge involves articulated and codified knowledge in symbolic form.
Tacit knowledge provides the background necessary for the development and interpretation of explicit knowledge.
Nonaka(2001) suggests four modes of knowledge creation, these four modes are-internalization, externalization, combination, or socialization. The movement of knowledge from individual, to group, to organizational, to inter-organizational levels or through continuous conversations among individuals in an organization is known as "knowledge spiral".
Cramton (2001) consider the problems associated among geographically dispersed individuals are to maintain mutual knowledge. The five types of mutual knowledge failures:
(1) Failure to communicate and retain contextual information
(2) Unevenly distributed information
(3) Difficulty communicating and understanding the salience of information

Cramton says a knowledge that communicating parties share in common and know they share is known as Mutual Knowledge.
Galbraith (1982) suggests organizations should combine their structure, information and decision processes, rewards, and people in a unique way to help create an
innovating organization. Organizational design tries to match the complexity of an organization's structure with the complexity of its environment and technology.

From Strategic Perspectives:-

For the last and final perspective , Grant (1996) takes strong steps toward a knowledge-based view of the firm, and suggested the following points:-
(1) Firms apply knowledge to the production of good and services
(2) Knowledge represents the most strategically valuable resource of a firm
(3) Individuals create and hold knowledge, not organizations
(4) Firms exist because of the high costs involved with markets attempting to coordinate the knowledge of individual specialists
Dyer and Nobeoka (2000) defined the high-performance knowledge-sharing network which includes:-
(1) Motivates members to participate
(2) Prevents free riders
(3) Reduces the costs associated with finding and accessing different types of valuable knowledge.

3. INTRODUCTION TO TOPIC

3.1 Knowledge

Knowledge is defined as a combination and collaboration of experience, shared values, information, and expert ideas and beliefs that provides a framework for evaluating and developing new insight, experiences and information. Knowledge can be categorized as:-

(a) Tactic Knowledge
(b) Explicit Knowledge

Tactic Knowledge **knowledge** is that which is exists within one's mind and which cannot be directly expressed by data and is commonly known as Unstructured knowledge. **Explicit knowledge** on the other hand is that knowledge which can be directly expressed by data collected or published and is commonly known as structured knowledge.

Knowledge transfer in an organization occurs when members of an organization pass or share tacit and explicit knowledge to each other. Four modes of knowledge creation and transfer are:-

- **Socialization** is the process of sharing knowledge and experiences and of creating tacit knowledge such as mental models and technical skills. Tacit knowledge can be obtained without using language through observation, imitation, and practice.
- **Externalization** is the process of developing tacit knowledge in the form of explicit concepts, taking the shapes of metaphors, analogies, concepts, hypotheses, or models.
- **Combination** is the process of systemizing concepts into a knowledge system by combining different bodies of explicit knowledge. Explicit knowledge is transferred through electronic medium such as documents, meetings, e-mail, and/or phone conversations. Categorization of this knowledge can lead to the generation of new knowledge.
- **Internalization** is the process of converting explicit knowledge to tacit knowledge and is closely related to learning by doing.

3.2.Knowledge Economy

The Knowledge Economy includes all knowledge and capabilities of people, rather than the capabilities of machines and technologies, which determines and provides competitive advantage to the organization. It is based on the production, distribution, and use of knowledge as the main driver of growth, wealth creation and employment across all industries. The knowledge is becoming the primary components of all activities. The knowledge economy is a system of consumption and production that is based on intellectual capital.

The knowledge economy addresses how education and knowledge — generally called "human capital — can serve as a productive asset or a business product since innovative and intellectual services and products can be sold and exported and can yield profits for the individual, the business and the economy. This component of the economy relies greatly on intellectual capabilities instead of natural resources or physical contributions. In the knowledge economy, knowledge-based products and services provides rapid growth and development in the technical and scientific fields, making way for more innovation in the economy as a whole.

Knowledge Economy is an economy in which all the activities of a firm are based upon knowledge-intensive activities. A **knowledge-intensive activity** involves the collection, analysis, and synthesis of information.

Knowledge Economy is helpful in many ways:-

(a) Can help business be more efficient, dynamic and innovative

(b) Enables product innovation and customization.

(c) Focuses on greater role for human capital.

(d) To enhance knowledge distribution and benefit from new working practices collaborative networks can help.

(e) Emphasize the potential for human capital and increasing knowledge to provide new sources of economic growth and high levels of productivity.

3.3 Knowledge Management

Knowledge management is important to get the right knowledge to the right person at the right time. This in itself may not seem so complex, but it implies a strong tie to corporate strategy, understanding of where and in what forms knowledge exists, creating processes which ensuring that initiatives are accepted and supported by organizational members. Knowledge management may also include new knowledge creation, or it may solely focus on knowledge sharing, storage, and refinement.

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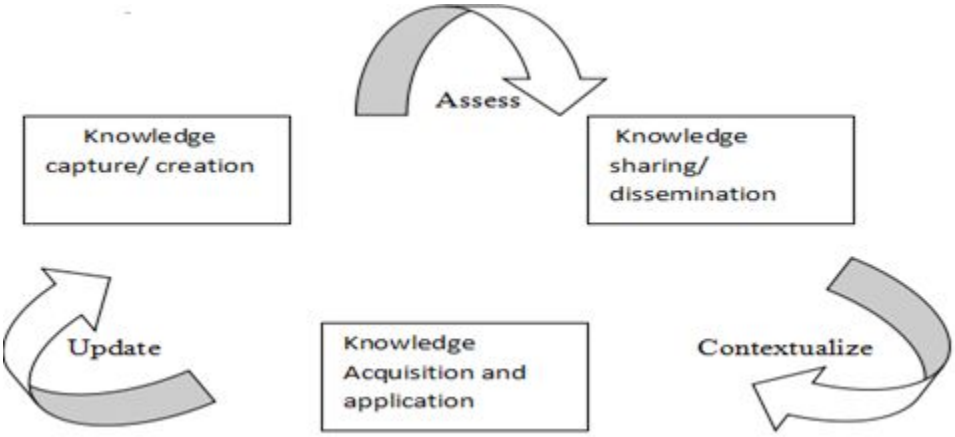
Knowledge management is the capability to manage knowledge which includes gathering internal or external knowledge of organizations and converting them to new idea or strategy and applying them and protecting them. It is the management of knowledge that will help the organization to maximize the organizations' knowledge-related effectiveness and returns from the knowledge assets. It also creates new capabilities, encourage innovation and performance as well as increase customer value. Primarily it is a process of capturing, storing, sharing and using knowledge for the achievement of organizational goal. KM is the systematic coordination between workforce, technology, processes and organizational culture which adds value to the company by creating, sharing and applying knowledge. Some of important objectives of KM are:-

i) It helps in reducing the loss of corporate memory e.g attrition, retirement.
ii) It helps in understanding critical resources and critical areas of knowledge.
iii) It provides tools and method for better utilization of knowledge for improving work culture.

A systematic approach to manage the use of information in order to provide a continuous flow of Knowledge to the right people at the right time enabling efficient and effective decision making in their everyday business.

INTEGRATED KM CYCLE



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There are four main elements in knowledge management:-

1.Knowledge Creation or Knowledge Acquisition:-
This process involves new knowledge implementation or replacing the current content within the organization's explicit and tacit knowledge. It requires the organizations to search for fresh knowledge and information, both inside and outside of the organizations

2. **Knowledge Management:-**
In the changing business environment Knowledge Management is one of the most important and highly valued asset and commodity. Therefore it is important to manage the Knowledge in a proper and efficient way.

3**. Knowledge Storage**:-
Both explicit and tacit knowledge obtained by individuals within organizations should be stored properly. The organizations should arrange and manage the knowledge so that it can access easily. When the knowledge is integrated, it enhance efficiency of the organization.

4**. Knowledge Dissemination or Knowledge Transfer**:-
This process involves sharing and exchanging of knowledge among individuals or network of individuals, a group of people to the organizations. During the process, the organizations must ensure that the knowledge is transformed from tacit knowledge to explicit knowledge so that it can be beneficial for organizational purpose.

5. Knowledge Application:-
This process involves the usage of knowledge in various activities related business operations, it includes adjusting the strategic direction, solving the problems, making decision, improving the efficiency and reducing costs.

6. Knowledge Management in Organizations:-
As knowledge has been defined and considered as one of the most valuable sources in the processes, it is important to manage this source. Knowledge management helps to create and propagate information and knowledge. It also provides a sufficient, effective and efficient use of knowledge in order to provide a strategic competitive advantages for organizations.

You don't know	Knowledge Discovery	Explore, Research, Create
You know	Knowledge Repository (Knowledge Base)	Knowledge Sharing and Transfer
	Knowledge you have	Knowledge you don't have

Enterprises or organization using various methods and tools to gather information comprehensively in the process of development of Knowledge. Then, collected information or knowledge is organized, stored, shared, and analyzed properly and systematically by using distinct techniques.

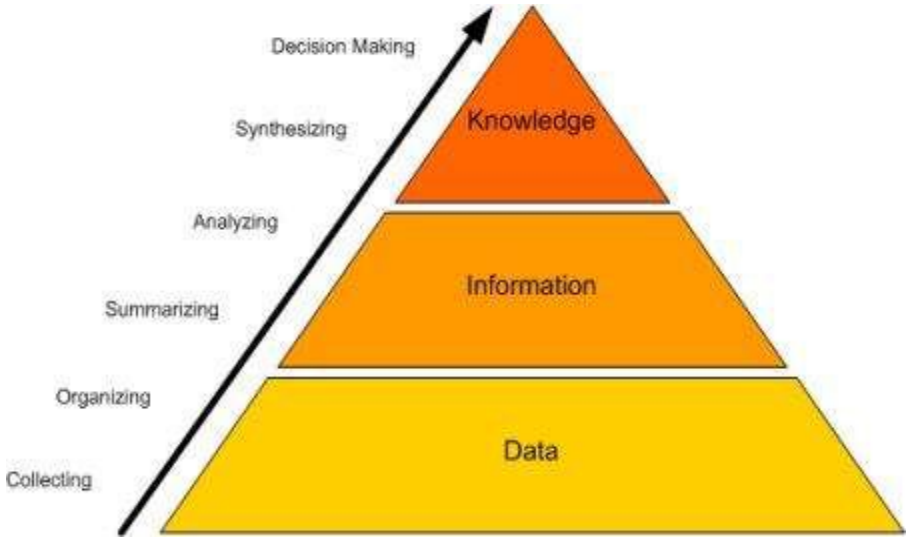
The analysis of such information will be based on resources, documents, people and their skills. Only that information is stored as "Knowledge" within the organization which is properly analyzed and developed. This knowledge is further used for organizational operations and processes such as organizational decision making and training new staff members.

Therefore, information storing, retrieval and sharing have become convenient. Most commonly every enterprise has their own knowledge management framework and system in place.

KM defines the knowledge collecting points or locations where different techniques and tools are used for gathering, storing and analyzing knowledge.

3.4 Knowledge Management Process

The process of knowledge management is universal in nature it is defined as the process of collecting, organizing, analyzing and summarizing the relevant knowledge which is used for enhancing the efficiency of an organization. The Knowledge Management process has six basic steps which are followed in proper sequence and appropriate manner so that the data transforms into knowledge.



Step 1: Collecting

This is the most important and crucial step of the knowledge management process. If we collect the incorrect or irrelevant data, the collected knowledge is also inaccurate. Therefore, the decision making process is also manipulated. There are many methods and techniques used for data collection.

Step 2: Organizing

The data collected need to be organized in an appropriate way, this is based on certain rules which are prescribed and defined by the organization.

Step 3: Summarizing

In this step, the information is summarized in a particular format thus information can be presented in tabular or graphical format and stored appropriately.

For summarizing, there are many software packages, charts (Pareto, cause-and-effect) and different techniques which are beneficial for increasing organizational effectiveness.

Step 4: Analyzing

At this stage, the information is analyzed in order to find the relationships, redundancies and patterns a reports is prepared after analysis of information. Expert's advice is taken to take correct decision to analyze the data and information.

Step 5: Synthesizing

At this point, information converts into knowledge. The organization will have a collection of knowledge which can be used by the organization.

This knowledge will be stored in the organizational database for further use.

Step 6: Decision Making

At this stage, the knowledge is used for decision making process in the organization. This will helps in increasing accuracy. That's why the organizational knowledge management adds value to the company and saves money.

3.5. Knowledge Management Model

As per organization view point KM is the combination of concepts of organizational memory (OM) and organizational learning (OL). Jennex and Olfman (2002) found that the three areas are related and creates huge impact on organizational effectiveness. Organizational effectiveness is how well the organization perform in critical situations and helps in making the organization competitive. OL is the process the organization uses to learn how well do our daily activities. OL creates and forms when users utilize their knowledge. That OL may not always have a positive effect is by the monitoring the organizational effectiveness. Effectiveness can be change time to time. KM and OM are the processes used to identify and confine critical knowledge. OM is the organizations which helps in storing, searching, and retrieving knowledge artifacts. Figure shows the relation between all three of them i.e. KM, OM and OL.

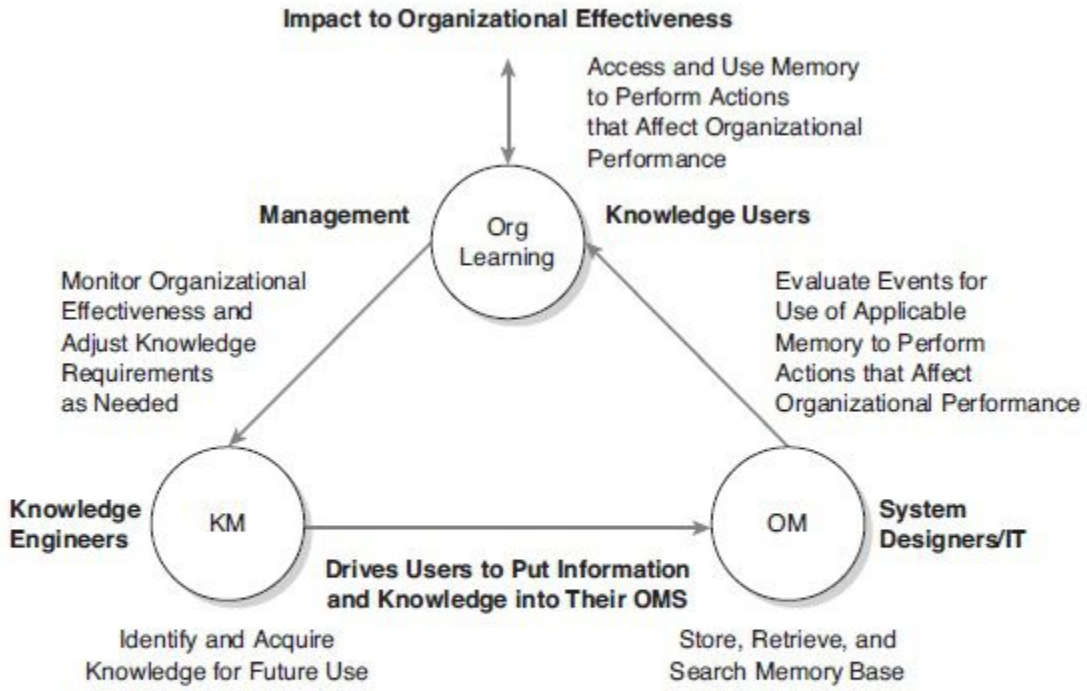


Figure 83.1 The KM/OM/OL Model
SOURCE: Jennex, Croasdell, Olfman, and Morrison, 2005; Copyrighted by IGIGlobal. Reprinted by permission of the publisher.

Figure 83.1 The KM/OM/OL Model

According to Jennex (2005b, page iv) defined KM is the practice and technique of selecting and applying knowledge towards current and future decision-making activities for improving the organization's effectiveness. Also, Jennex defined KMS is a system which creates and facilitates organization to capture, storage, retrieval, transfer, and reuse of knowledge. The insight of KM and KMS is the combination of organizational and technical solutions to achieve the goals of knowledge retention and reuse to ultimately improve organizational and individual decision making.

Organizational Learning

OL is defined as a scientific improvement in activities, which increased available knowledge for decision making, or sustainable competitive advantage known as an OL system. Learning in this viewpoint is based on Kolb's (1984) model of experiential learning where individuals learn by doing. Huber (1991) measured four elements as integrally linked to OL. These are- knowledge acquisition, information distribution, information interpretation, and organizational memory. In this case, OM is the storage area of knowledge and information acquired by the organization. OL uses OM as its knowledge base.

During work, people gain experience, observe, and reflect in making sense of what they are doing. As these individuals influence their coworkers, the "organization" learns and the process is gradually changed. Learning in this perspective is also based on Kolb's (1984) model of experiential learning.

Organizational Memory

Stein and Zwass (1995) defined OM as the knowledge gathered from the previous work experiences and brought it in various daily routine activities resulting in higher or lower levels of organizational effectiveness. It is collection of unstructured concepts, data and information that exist in the organization's culture . It is also includes structured concepts and information that can be exactly represented by computerized records and files. Sandoe and Olfman (1992) and Morrison (1997) described these two forms of OM which are having two main functions i.e.- **representation and interpretation. Representation** presents just the facts (or knowledge or expertise) for a situation. **Interpretation** deals with the adaptation, acceptance and learning by providing reference, procedures, guidelines, or a means to synthesize past information for application to new situations. According to the definition, knowledge and OM are related through experience and learning. This is shown that knowledge to be a subset of OM and the processes of KM is a subset of OM processes.

3.6 KM Tools

There are various tools and systems that can help knowledge management (KM) in the fulfillment its goals. These tools are playing important role in Knowledge Management Process. This is the most important step for choosing the best option for future point of view. KM tools focuses on tactical management initiatives, which helps in knowledge discovery, knowledge organization, knowledge sharing, etc knowledge management strategy, helps in knowledge management systems implementation, KM strategy provides long term practices and policies to procure and manage the Knowledge within the organization. IT based tools, are the most important part of KM tools (adapted from Gupta and Sharma 2005, in Bali et al 2009). Few of these tools are:-

- Groupware systems & KM 2.0
- The intranet and extranet
- Data warehousing,data mining, & OLAP
- Decision Support Systems
- Content management systems
- Document management systems
- Artificial intelligence tools
- Simulation tools
- Semantic networks

3.7 Knowledge Management Strategy

Knowledge Management Strategy deals with the long term planning and program to manage the knowledge in different ways within the organization. Strategic investments are made to managed the knowledge which represent the company's choices/options to enable and enhance the processes for knowledge sharing) and to offer help to define which knowledge is relevant and which is not as per company view point. Strategic part of the integrated knowledge management model, which includes:

Knowledge management strategic initiatives:

- ✓ Invest: helps in implementing existing structures, competencies, knowledge retention mechanisms, culture, external network, and knowledge management systems
- ✓ Divest: Remove obsolete knowledge

The articles that follow are based solely on the points under "invest". Based on that we arrive at the following headings:

- KM and Organizational Structures
- KM and Organizational Culture
- KM and Knowledge Retention
- KM and Core Competencies
- KM and External Knowledge Network
- KM and Knowledge Management Systems
- Knowledge Management Best Practices

As many of the strategic initiatives deal with aspects that extend into different branches of management and it will help the organization by providing competitive advantage in this changing environment. It also helps the organization in making the employees more skillful and competitive so that they can work effectively for the better of organization.

KM Success Model

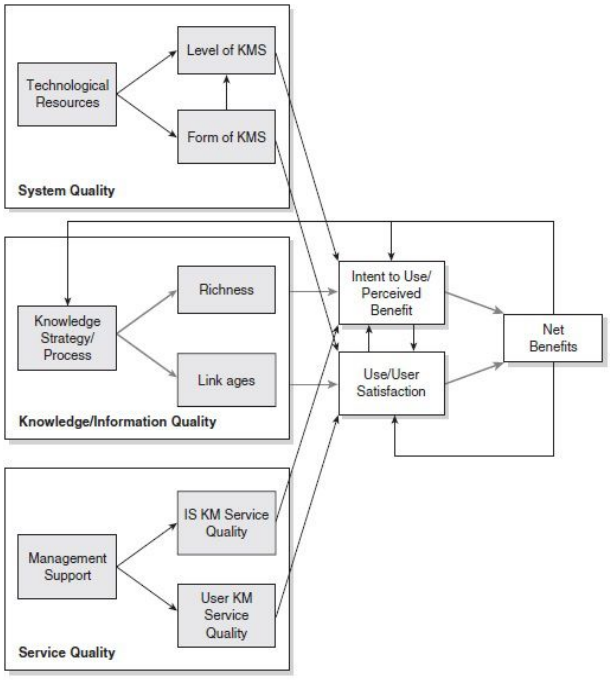


Figure 83.2 Jennex and Olfman's (2006) KM Success Model
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3.8 Conclusion

Knowledge management is a crucial practice for enterprise organizations. knowledge management has been considered as one of the main factor for competitiveness of organizations in today's rapidly changing business environment. The knowledge creation is being important for organizations to stay competitive. Knowledge itself has been encouraging the organizations to implement knowledge management in developing their business strategies. Knowledge has been a strategic resource that enables the organizations to increase sustainable competitive advantages and enhance the performance. Organizational knowledge creates and enhance long-term benefits to the organization in terms of finances, culture and people. That's all organizations should take essential steps for developing and maintaining knowledge management to enhance organization's competitiveness and overall performance.

The application of KM in today's competitive business environment can be defined as:-

1. *Globalization of business*. Organizations today are more global—it is multisite, multilingual, and multicultural in nature. So the role of KM is complex.
2. *Leaner organizations*. Instead of doing more and faster , we have need to work smarter as knowledge workers, adopting an increased pace and workload.
3. "*Corporate forgetfulness.*" We are more movable as a workforce, which creates problems of knowledge continuity for the organization and forces knowledge worker for continuous learning.

4. *Technological advances*. We are more connected to information technology, not only have made connectivity everywhere but have radically changed expectations. We are expected to be "on" at all times, and the turnaround time in responding is now measured in minutes, not weeks.

Today's working environment is more difficult because we have to attend number of subjective knowledge items. Filtering over 200 e-mails, faxes, and voicemail messages on a daily basis should be done. Today's expectation is that everyone is "on" all the time—for responding each and every mail or message. Knowledge management helps in managing this complex, information-overloaded work environment. As such, KM works as science n this competitive business environment.

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