

# KNOWLEDGE MANAGEMENT IN HIGHER EDUCATION THROUGH CLOUD: A NEED IN MANAGEMENT EDUCATION

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**Abstract-** *Information Technology has influenced our daily life activities and also becoming a commonplace entity in all aspect of life. Within the education sector, IT plays a key role in modern education to gain its success. However, the effective knowledge management is an important factor to ensure that academics are able to develop the fullest educational potential in global scenario. Knowledge sharing is a new opportunity has started considered in the higher education and it has been merged within the spectrum of information technology. However, educational institutions management is facing problems in providing necessary information technology support for knowledge management activities development in the institutions in the current financial crisis and world of economy. In turn, a new technology, 'Cloud computing' have a great opportunity to fulfill the challenged on growing need of IT and infrastructure. This new computing technology has support the necessary technology for knowledge management activities development in the institutions with affordable cost. In this theoretical paper we have discussed the needs of cloud computing technology adoption for knowledge management in management education institutions.*

**Index Term -** cloud computing, knowledge management, information technology, management education,

## I. INTRODUCTION TO KM

Knowledge is an essential component in everyday work life of human being and it can be adopted and reused later in a similarity task of a new situation. It is wise to understand the two term data, information and its relations before discuss and define the Knowledge management. Data is considered completely out of context raw facts value of a measurable or calculable and observable attribute where as information is filtered or formulated set of data value in the context. As such knowledge become a subset of information and it is always specified with combination of information and experience. Knowledge is not only containing the information, but also in the relationships among information items, their classification,

and metadata, information about information, such as who created the information [1]. (Rus 2002) The relationship among data to information and knowledge is reflecting to level of value added from data to information into context, while information is knowledge shared by having communicated. And the term management is getting done things through people and technology. The general purpose of knowledge management is to make knowledge usable an organization as a whole and to share it for more than one individual [2]. Knowledge Management (KM) has increased in popularity within the past decade [3]. Perhaps as society shifts to increasingly knowledge-based jobs and the business problems and institutions face are increasingly complex, KM has become a countable asset to the organizations. Knowledge management is the systematic and organizationally specified process for acquiring, organizing and communicating knowledge employees so that other employees may make use of it to be more effective and productive in their work [4](Alavi 1999). The newly emerging approach aimed at addressing today's organizational challenges to increase efficiency by applying many strategies, techniques and tools in their existing business organization process. The knowledge process model is represented by Timo Kucca [5] as shown in figures 1.

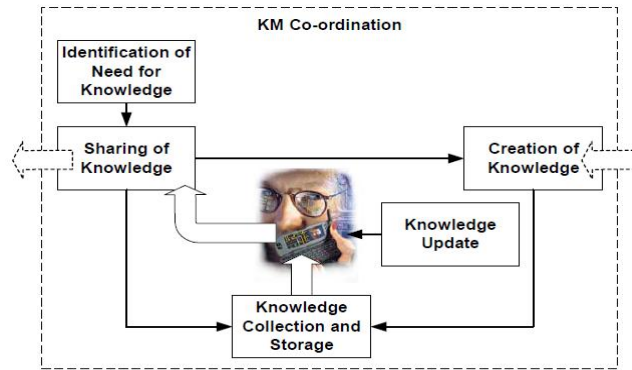


Fig.1: Knowledge management process model

Source: <http://www.inf.vtt.fi/pdf>

According to Timo the process model separated into two major parts, the co-ordination process and the operational process. The co-ordinate process represents the management tasks related to KM, these including analyzing and planning KM dealing with organizational issues, etc. and the operational processes present the process of actually carrying out KM. i.e. knowledge collection, sharing, update, etc. the general concept of the process the operational process are planned and initiated. KM is essential a process for optimizing the effective application of intellectual capital to achieved the objectives of the organization In other words, KM concentrates on the processes and people involved in any area and aims to distil the most relevant information necessary to solve a problem or inyegrate process [6] ( Learning for substanibility 2010).

Higher learning institutions are accumulated the vast amount of knowledge through its administration staff, teaching faculty, non-teaching faculty and the student. Today, 21<sup>st</sup> knowledge-base society the universities and other higher education institute which is the most significant sector to produce unique knowledge and contributed to the society. On the other hand, management institutions taking a role and responsibilities to promotes, utilization and creation of knowledge, base on the suitability of industries demands.

## II. KM IN MNAGEMENT EDUCATION

Indian higher education sector is rising tremendously in technical, and management education which has demand from various stakeholders. Management education institutions are key player of providing the corporate knowledge to the students. Higher education institutions are organizations that has staffed with experts in all sorts of fields who contribute their experts and experience to the endeavor of producing and processing knowledge [7]. Knowledge management is considered a new community practice to improve sharing of ideas and experience knowledge among the faculty and students. Management institutions have works in two dimensions of activities such as academic sector performance and corporate sector interaction. From the learning point of view it required to exercise in global benchmark and internationalize academic curriculum activities. Management educations is no longer just providing academic knowledge to the students but also manage and collaborate the existing knowledge with the corporate office through seminars and workshops. Knowledge management is a process that has formulated ways to attempt the reorganization of organizational intellectual assets derived form employees.

Knowledge management has become a well concern throughout the world in as information technology and Globalization of economy provides opportunities to increase personnel and societal intellectual resources in knowledge economy [2]. Management education institutions in India are always challenged to provide the knowledge which is modern industry have demand and relevant both in terms of education and research. In such scenario, management education has required giving important to infrastructure development. However, management education institutes are giving less importance on the part of rapid growth of emerging information technology. Such cutting edge technologies coupled with knowledge management that led to the increased adoption of new applications that has assessing the quality of lecture delivery, assessing the programs and courses, measuring the performance of students and faculty, tracking research and developments and enhancing faculty development. If Knowledge management principle is applied to management education will enhance the quality of academic learning process and will meet the demand of corporative sector. The management education environment promotes interaction with faculty and student learning knowledge (implicit/tacit) - the production of knowledge interaction between their environments, an individual acquire tacit by gathering information e.g. a given phrase is a book title tends to be implicit/tacit and publishing knowledge (explicit) that can transferred from one person to another in codified form e.g. books, reports, data files, newsreels, audio cassettes and other physical forms. The term "Knowledge Management" (KM) is used to describe everything from the application of new technologies to acquire and identify resources of knowledge that can share similar area of work in future. Organizations that succeed in knowledge management are likely to view knowledge is an asset and to develop organizational norms and values, which support the creation

and sharing of knowledge” [8]. Academician and research scholar has a view management institutions are educational organizations where only business idea and knowledge will acquire. Knowledge management in management education plays a vital role to provide business knowledge and stand to benefit work as knowledge organization in the world of modern industry.

### III. CLOUD COMPUTING AND KNOWLEDGE MANAGEMENT

A new computing technology that is provides elasticity and scalability of resource over the internet on demand basis. In other ways a users can used the computing resources as a service through internet on demand pay and used basis. This technology allows for much more efficient computing as it use the centralizing storage, memory, processing of central remote servers to maintain data and applications. As it is still relatively new technology and undergoing an evolutionary process many researcher and academic has many views of definition. In fact, no common standard or definition for cloud computing seems to exist [9, 10]. The most widely used definition is according to NIST: “Cloud computing is a model for enabling ubiquitous, convenient, on-demand network access to a shared pool of configurable computing resources ( e.g., networks, servers, storage, applications, and services) that can be rapidly provisioned and released with minimal management effort or service provider interaction”[11]. However, one should to understand what all about the cloud approach to service and the type of services offered by cloud computing. The following is a list of main three services offered by the cloud and [12] these service models can be summarized as shown in figure 2.

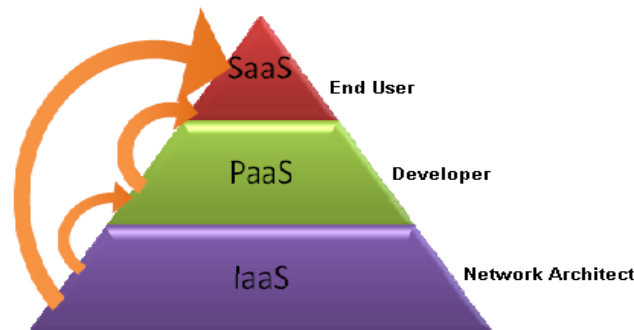


Fig. 2: Cloud computing service model

Source:

**Software-as-a-Service (SaaS)**- This service is offered all required applications of the user (customer) through internet instead of installing and maintaining on users computer. Users simply access the application on demand via internet and cloud service provider offers a complete application.

**Platform-as-a-Service (PaaS)**- The vendor provides and delivers development environment as a service which the customer has control over. The customer can build his or her own application using vendor offered tools and resources allowing the customers to create acquire applications and that can run on vendor provides infrastructure that support scalability and availability to meet their specific needs.

**Infrastructure-as-a-Service (IaaS)**- Under this service layer the vendor offered to the user (customer) the full computer infrastructure - virtual computers, network, storage devices, servers, operating systems, etc. via remote delivery i.e. the Internet. Higher education activities are always associated with knowledge creation and dissemination and learning. In turn, it is applicability in knowledge business. The processes of KM within the organization structure has consisted four steps such as knowledge discovery, knowledge capture, knowledge sharing, and knowledge application as shown in figure 3.

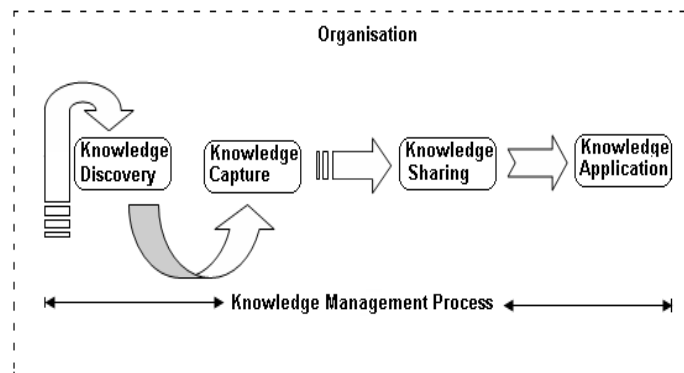


Fig.3: Knowledge management process within the organization

Knowledge discovery looks the implicit and explicit knowledge lies within the organization and once it captured then can convert between implicit to explicit vice versa, then the knowledge is stored in the repositories. The knowledge sharing may start among partners, departments, and individuals. The knowledge can apply to the similar area where one individual or partner not known before and it provide better applications to support decisions. Internet is use as best knowledge repositories as such the idea of cloud based knowledge management platform is a leveraging the benefits of interconnecting the individuals knowledge in a way of better sharing their knowledge together with other group or department. Cloud computing has evolved as an enhanced computing paradigm that promises to provide affordable opportunities for delivering of education services based on existing IT infrastructures in a way that has not been experienced before [13].

## VI. CLOUD BASE KM IN MANAGEMENT EDUCATION AND ITS BENEFIT

The present scenario of using internet of sharing knowledge the academic institutions have to develop strategies of using technologies in all aspect of academic activities and administration performance. During the past decade, management education faces many pressures and changes as globalization, mass education, academic rivalry on large-scale, reforms, and compositeness; need to adapt to new technology requirements etc. In order to develop a distinctive model of KM in management education required appropriate infrastructure and then KM practice must be exist and function normally. Knowledge management refers to the acquisition, storage, learning, sharing and innovation of the knowledge integrally managed by an organization. Effective knowledge management requires an efficiently organized and relevant communication and information technology infrastructure. It deals with creation, storage and retrieval of knowledge. This comprises of activities associated with the entry of new knowledge into the system, and includes knowledge development, discovery and capture [14]. Knowledge acquisition is the process of acquiring and capturing information about knowledge but there are some difficulties involved regarding implicit which such knowledge resides with experts head that are not easily documented into its explicit form. These experts usually have pool of knowledge that is useful to the institute as a whole. Once such knowledge stored in the system and preserve then allow it to acquire anytime, anywhere when required. These activities includes those that maintain and viability of knowledge within the system. This will improve the productivity of the knowledge worker in the organization, and enhance the strain capacity, reaction speed and core competitiveness of the organization.

Information practices and learning strategies known as KM are gaining acceptances in the field of education. At the most basic level, KM can be described as a set of practices that helps to improve the use and sharing of data and information in decision making. Several educational institutions across the country have shown recently move towards the implementation of KM practices. Most of the educational institute use client server technology for storing required data of the organization. There are lots of default (high cost, low efficiency and less content) in the existing knowledge management system based on local area network. To remove this issue, [15] propose a trusted cloud-platform oriented to knowledge management, which effectively improves the efficiency, reduces the cost and enhance the content value of the knowledge management. Use of Cloud computing technology has strengthened the competitiveness ability and improved the performance of knowledge management in the organization. Cloud-based computing is the key that information and software can be easily accessed virtually. Any network-enabled device can lead to access at any location of on choice. A client or user can connect through PC at work, or laptop at home, or on smart phone anywhere in world can access instantly to knowledge stored in the cloud. This is really beneficial for knowledge organizations in which many individuals are not tied down to a single location. Some of the advantage ascribe to the cloud computing /on demand model as describe in [16] is shown below in figure 5.

Q: Rate the **benefits** commonly ascribed to the 'cloud'/on-demand model

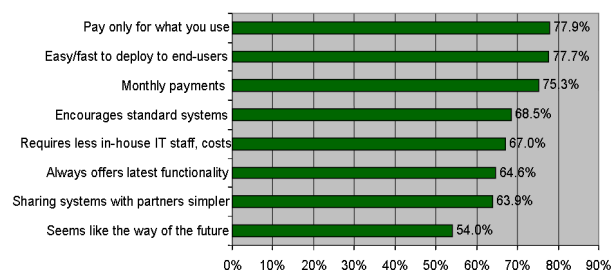


Figure 5: Benefits anticipated from adoption of Cloud Computing (NIST, 2009)

Source: IDC Enterprise Panel, 3Q09, n = 263, September 2009, <http://blogs.idc.com/ie/?p=730>

Moving to cloud actually does not necessary installation of servers and physical computing information structure. Purchasing, hardware, software, installing, and maintaining extensive hardware contributes to some of higher budgets that Institution to allocate. In such case, new advance network technologies make the move to cloud computing a logical choice [17]. Cloud model applications could obtain the advantage of working ability and communication in educational environment without taking into account time and space. The users are no longer tied to some one traditional system. Cloud Computing appears that provides a new solution to Knowledge management IT infrastructure problem to integrate in management education by establishing a unified, open and flexible network and reduce the hardware input. To successfully manage KM initiatives in higher education institute the management need to consciously and explicitly manage the processes associated with the creation of their knowledge assets, and to recognize the value of their intellectual capital to their continuing role in society [18]. The use of KM through cloud computing will help the management education institutions by reducing the expenditure with decreasing demand for new software and IT requires strong financial readiness and competent human resource. Cloud-based knowledge management in cost effective, instead of installing hardware and software on every computer by the organization they can simply store it all in the cloud and have user/clients access it through a browser or lightweight interface.

## V. CONCLUSION

KM through cloud computing in higher management education institutions have significant opportunities to support on the part of activities like coordinate with corporate sector, collaborate with expert and experience people, placement activities and research. It can lead to exponential improvements in sharing knowledge –both explicit and tacit and subsequently surge benefit. Using KM technique and technologies in management education is a precious property most promising ways of achieving success in the world of globalization completions. Cloud computing may have considerable potential in improving the IT application and infrastructure which is an essential component to get the test the fruit of success in professional educational setup. Cloud computing could provide to achieve the ambitions of those institutions with the prices they can afford. Cloud also promotes connectivity across management education institutions of higher learning and sharing of resources and access to faculty and students.

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