The Implementation of Icloud System Based on Knowledge Sharing at The University of Maarif Hasyim Latih Sidoarjo

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Abstract. This article presents the results of the analysis on the development of knowledge sharing processes and absorbs knowledge sharing activity, it is to increase the ability of the head of Departement at the University of Maarif Hasyim Latif and in innovating and in managing the Departement. The role of Information Technology in accommodating the knowledge sharing process is the development of the activities of managing and absorbing science courses to improve performance and provide added value and a competitive advantage in improving the quality performance of the head of Departement. Design research is to find out how the problems that arise in the process of knowledge sharing and absorbing. Data collected by the identification of issues related to knowledge management based on Information Technology at the University of Maarif Hasyim Latif through observation, interviews, and documentation. Results of this study were to prove that iCloud system model developed at the University of Maarif has been contributing to 1) the implementation of the knowledge sharing process of the development activity of sharing and absorbing knowledge at the University Maarif Hasyim Latif to improve the innovation of ability. 2) Information technology has a major role in supporting the process of knowledge sharing on the development and absorbs knowledge sharing activities.

Keywords**:** Implementation iCloud System; Knowledge Sharing; Management of University

I. INTRODUCTION

University's problem in Indonesia is the low level of strategic suitability. This problem comes from the gap between the demands of the environment and global competition with internal resources. Competitiveness of university tends to decline, threatening the position of excellence and sustainability Universities concerned. Thus, recognizing the increasingly severe competition in the era of globalization, it is necessary to change the paradigm of Higher Education which is based on the analysis of specific areas of science such as a tree industry, packaging knowledge, metadatabase, data mining, and the development of human resources.

The existence of human resource management's college became a challenge and the needs of the college and its stakeholders. Human resource management's college is absolutely more focused job in terms of managing the entire potential of lecturers and minimized various its deficiency, so in the end, human resource management's university is able to present professional of lecture profile in accordance with the mandate of assuming and Tri Dharma College. The performance of human resource management's college is successfulness in developing the potential of lecturers, it means that the human resource management is able to empower the human resources component of higher education through optimal action of the factors forming the personal productivity of professors, lecturers, and functional groups. This is consistent with the opinion of Castetter states that development of management should be viewed as activities to enhance the ability of individuals and groups to make them more accountable in a shape system.

Parameter development of lecturers in carrying out their duties and functions were not only viewed from the productivity of the implementation of tri dharma college, education and teaching, research and community service. In the way that three factors can also be seen from; a) education, b) functional position. To look it as objectively, the needs of human resource management of higher education becomes something that cannot be denied. Human Resource Management colleges must understand, how a lecturer runs academic activities and develops themselves in accordance with the nature of their duties and functions in implementing Tridharma college.

University as an organization, but they have different characteristics with other organization. Gaspersz showed that there are at least four the concept of the nature of the college is the organization as producing qualified manpower (qualified manpower). In this sense, the higher education is a process and students are regarded as the output (output) that has a value or price (value) in the labor market, and successfulness is measured by the level of absorption of graduates in the community (employment rate) and is sometimes measured also by the level of the income they earn in his career [1]. College is one of the educational institutions that are formally given the task and

responsibility for preparing students to be formed in accordance with the objectives of the national education community will be available to fill the needs of experts and skilled personnel with the level and types of capabilities are very diverse.

Implementation of knowledge management in higher education becomes very urgent because college is a producer and dissemination science. As stated by Ramirez that the University is essential as a producer of knowledge. The most important output of a university is the knowledge that obtained through research, publications and students' competent and productive in the application of what was gained to its stakeholders.

A university is an organization in which knowledge is created and is used continuously and sustainably. Managing knowledge is actually how it is managing the staff, so that knowledge management is how people from different places started to talk to each other, which is now popular with the label learning organization. It is expected with the implementation of knowledge management system will be able to improve the performance of Higher Education so that it has a competitive advantage in the face of global competition.

The development of knowledge within an organization is achieved through an understanding of the relationship process to change existing tacit knowledge into knowledge that is easily communicated and easily documented, as well as through the design of social processes by transferring tacit knowledge into explicit knowledge is to create a new knowledge. One of the knowledge that needs to be owned by the college is how (how to) properly manage existing academic information system, so as to support other activities related. As their routine activities in each semester is making of report as the annual report to Coordinator of College (*Kopertis)* by any private college that is in the form submission Based Studies Program Evaluation Self Evaluation (EPSBED).

Based on that idea, how is to apply the knowledge management in the management of higher education, especially in transferring tacit knowledge into explicit knowledge. This article will discuss the implementation of information systems (cloud system) to divert tacit knowledge into explicit knowledge for academic management at universities.

A. Knowledge Management

Knowledge management is a business process to acquire, manage, and communicate tacit knowledge or explicit knowledge so as other people are allowed to use them more effectively and productively. According to Gilbert Probst in his book Managing Knowledge Building Blocks for Success argued that knowledge is the whole part of the existing knowledge and skills of individuals who are used to solve the problem. Knowledge is divided into theory and practices are generally in the form of rules and instructions for taking a decision. Knowledge relies on data and information held by a personal reflecting on an opinion. Writing of knowledge management is a discipline that treats intellectual capital as assets under management.

Management knowledge changes the experience and information into results [2]. Knowledge management is not a centralized database that contains all the information that is known by all the employees, but it is an idea to obtain a business inspiration from various sources. These sources include databases, websites, employees, business partners, and explore information wherever they may be. Meanwhile, according to Garner Group, knowledge management is a discipline that promotes an integrated approach to the identification, management, and distribution of all information assets of an organization. It was also stated that the information in question includes databases, documents, policies, and procedures as well as the expertise and experience previously articulated contained on individual workers.

Intense competition in the global era, organizations need to be more effective and flexible in carrying out its functions. The Role of Knowledge Management is necessary to remember, Knowledge Management can help organizations to identify, to select, to organize, to distribute, and to transfer important information and expertise that is part of the organizational memory that normally lives in the organization in an unstructured [3]. In addition, Knowledge Management is able to carry out the process of identifying, obtaining, organizing, and disseminating of intellectual assets that are important for long-term performance of an organization [4], all were done with integration of knowledge that separates the organization into an application. This is in accordance with the opinion [5] which states that knowledge management extensively in the sense of managing knowledge as "... management of organizational knowledge for creating business value and generating a competitive advantage." KM provides the ability to create, communicate and apply knowledge necessary and useful for the achievement of all kinds of business objectives. [5] "Knowledge management is the ability to create and retain greater value from core business competencies." Knowledge management resolve business problems particular includes the creation and dissemination of goods or services, innovative, manage and improve relationships with customers, partners, and suppliers; also administer as well as improving work practices and processes.

Managing organizational with knowledge management can improve an organization's ability to learn from their environment and incorporate knowledge into business processes Because, knowledge management is a set of processes that are developed in an organization to create, collect, preserve and disseminate knowledge of the organization.

Knowledge management is as the basic for the setting of the company's knowledge and intellectual assets to improve the performance characteristics of the organization and adds value to act intelligently [3]. A knowledge management requires linkage of information with information, information with activities and information with humans to realize the sharing of knowledge [6].

Fig. 1 The Keys of Knowledge Management

The basic of thought that pushes the development of the concept of Knowledge Management (KM) is the Data and Information are the fifth of important resource after Money, Material, Methods / Machine and Men that must be managed properly at the moment. The principle is born out of the theory which shows that the data and information is a basic source or raw material of Knowledge or the knowledge that is one of the key advantages of a college competition in globalization era.

Therefore, its application is the utilization of Information and Communication Technology to locate, establish and deploy a variety of ideas, ideas, knowledge, and experience of one or a group of people or group of people more unity within the institution. The technology in question must allow two or multidirectional interaction between different human beings who are interested in exchanging knowledge and experience that he has, so that day by day the process of collection or enhancement of knowledge for each individual involved. Examples the application of information technology related to the concept is the Internet, Email / Mailing List, Corporate Portal, Web Collaboration, Teleconference, Chats, and others.

In Knowledge Management are two kinds of knowledge, namely Tacit and Explicit (Explicit). Explicit Knowledge is knowledge that is stored in a data storage medium or information such as Document, Records, Report, Proof of Payment, photographs, and drawings.

Tacit Knowledge is knowledge that is not clear because of its presence spread and embedded in various forms, such as a person's experience, dialogue, formal discussion, the process of taking decisions and thought.
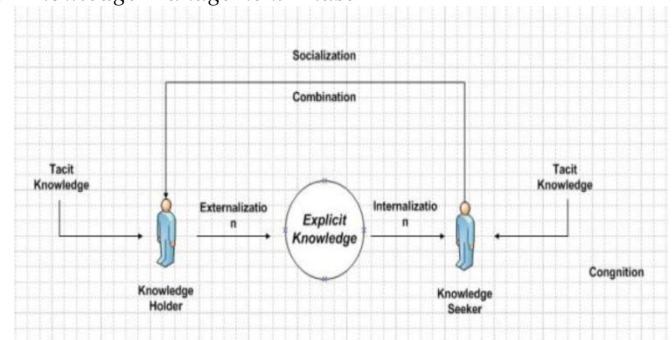
B. Knowledge Management Phase

Fig. 2 Management Phase

Information society technologies (2002) defines knowledge management is a systematic and organized effort to use the knowledge in an organization. Knowledge management aims to transform the organization's ability to generate, store, and use knowledge in order to improve organizational performance through innovation ability and value creation. In short, organizational knowledge management aims to improve access and use again of knowledge to improve the competitive ability of an organization. From the various definitions of the above can be taken the red line in knowledge management as follows:

a. intellectual capital is an asset
b. how the information could be something useful
c. how to realize the sharing of knowledge
d. how to improve the cooperation of learning resources to accelerate the flow of knowledge.

Based on the study above, an organization that refers to universities is in applying knowledge management in this study emphasized on how to realize the sharing of information.

C. Knowledge Sharing

Knowledge management process is a process in which contains the process gain (discovering), the process of capturing knowledge (capturing), the process of knowledge sharing (sharing), and the process of applying knowledge (applying). There is four knowledge management process is supported by a Knowledge Management System.
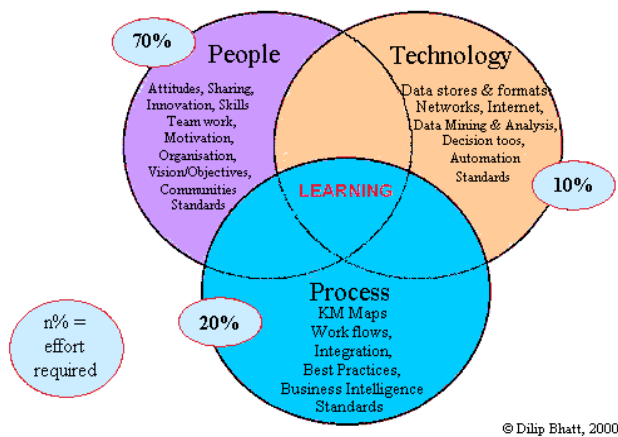
Fig. 3 Knowledge Management Components and Sub-elements

On the Knowledge Management component, the human factor is an important factor because there is to move management, especially in university management. The learning process is a management process that uses Knowledge Management.
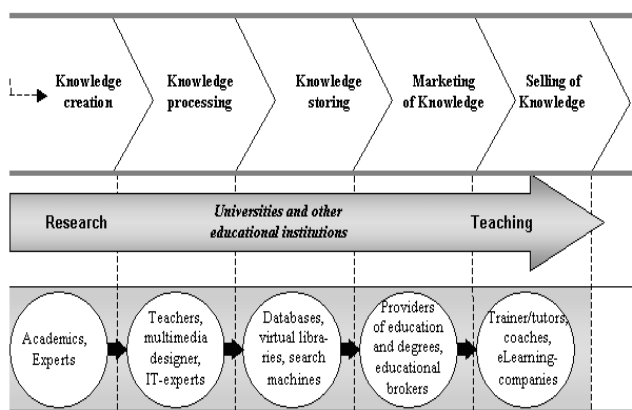

Fig. 4 Value Chain of Knowledge Management [7]

Knowledge Sharing is a process in which the explicit or tacit knowledge is communicated and shared with others. There are three important things to note in knowledge sharing. First, the sharing of knowledge means effectively transfer knowledge so that the recipient can understand it pretty well.

The second, what is shared that is knowledge and not recommendations based on knowledge; it had involved the receiver gain mutual knowledge and have the ability to take action based on such knowledge, while the latter only involves the utilization of knowledge without receiver internalization of knowledge together.

The third, knowledge sharing can occur across individuals and groups, departments, or organizations. Knowledge sharing has two aspects contained in it, namely the aspect of exchange and socialization aspect. Aspects exchange is more focused on the explicit knowledge, whereas the socialization aspect is more likely to tacit knowledge.

Knowledge sharing according to Raskov as cited in [8], knowledge sharing between individuals within a community, where individuals interact and share the knowledge with other individuals via cyberspace or face to face.

According [9] "knowledge sharing (knowledge transfer) requires that an individual or a group cooperate with others to share knowledge and Achieve mutual benefit".

Knowledge Sharing is essentially an act of providing the knowledge needed by an individual or an organization [10]. Knowledge Sharing between individuals is the process whereby knowledge possessed by a person processed into a form that can be understood, absorbed and used by other individuals. In addition, knowledge sharing is an activity where knowledge (information, skills, and expertise) is exchanged for other people, friends, or even family members, and the community in an organization [11].

Knowledge sharing is not just giving something to someone else or gets something from them as a result of reciprocity. However, knowledge sharing happens when people are naturally drawn to help each other to build new competence and capacity to act. Thus, knowledge sharing is not something imposed or set up formally, but flow naturally and there is an element of willingness to help others for the sake of progress or achieve certain goals. Knowledge sharing is also mentioned the creation process of learning (lessons learned) [12]. It was intended for knowledge sharing, then the person will gain understanding, new insight to something, and the increase is one form of their learning.

II. RESEARCH METHOD

This research is an analysis on the development of knowledge sharing processes and absorbs knowledge sharing activity, Design research is to find out how the problems that arise in the process of knowledge sharing and absorbing. Data collected by the identification of issues related to knowledge management based on Information Technology at the University of Maarif Hasyim Latif through observation, interviews, and documentation.

III. RESULT AND DISCUSSION

The LANGITAN System Knowledge Sharing

University of Maarif Hasyim Latif Sidoarjo has developed a system knowledge sharing that called Langitan. Langitan used cloud technology system with e-learning model. University of Maarif Hasyim Latif (Umaha) implements the idea of e-learning is able to be something more simple and accessible for people without seeing that if users need to know a lot of creating web pages, even by someone who does not have programming knowledge though. The concept of e-learning that developed is cheap and easy without programming background knowledge as it was not implemented by creating a CMS (Content Management System) but it designs like as gmail or yahoo

Journal of Education, Teaching and Learning
Volume 2 Number 1March 2017. Page 112-117
p-ISSN: 2477-5924 e-ISSN: 2477-4878

mail service. Namely of creating an e-learning which behaves as a SaaS (Software as a Service) which is an application that is placed in the cloud, in terms of cloud computing. That is the scenario laid on infrastructure SaaS IaaS (Infrastructure as a Service).

In the concept of e-learning based on these clouds, millions of people can create a classroom that is personal, inviting anyone to join in it, and implement learning activities, discussions, and so forth therein. SaaS e-learning can be established the mechanism by utilizing frameworks available in the Cloud so that it further enriches the freedom to connect with a variety of other SaaS applications in the Cloud world.
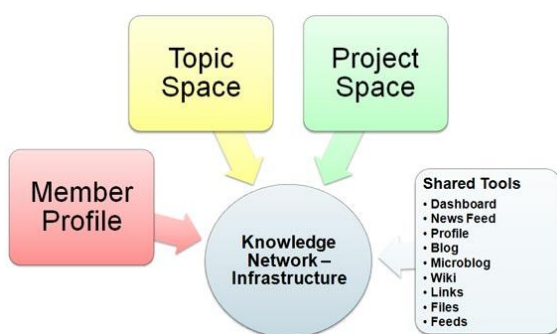

Fig. 5 Knowledge Network Infrastructure

E-Learning is a type of teaching learning process that allows transferring teaching materials for students using media Internet, Intranet or other computer network media. Elearning developed in Langitan system can access through various existing social media. Elearning modules are developed not only to learn but learning resources that can be utilized by students, faculty, and leadership.
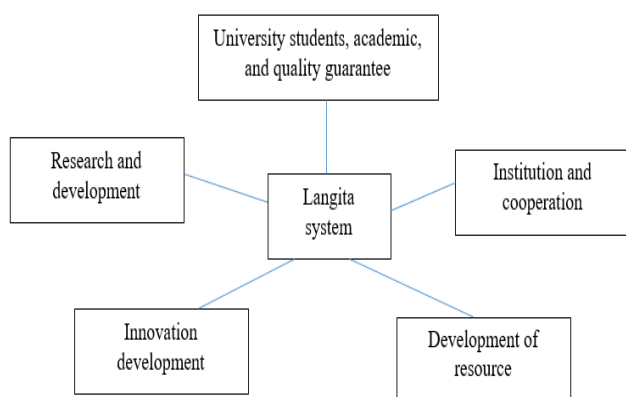

Fig. 6 Area Mapping

Networks are built using various ways, there is linked between data sources, data management and lecturers and students. Models of knowledge sharing networks that exist on the system langitan as shown below.
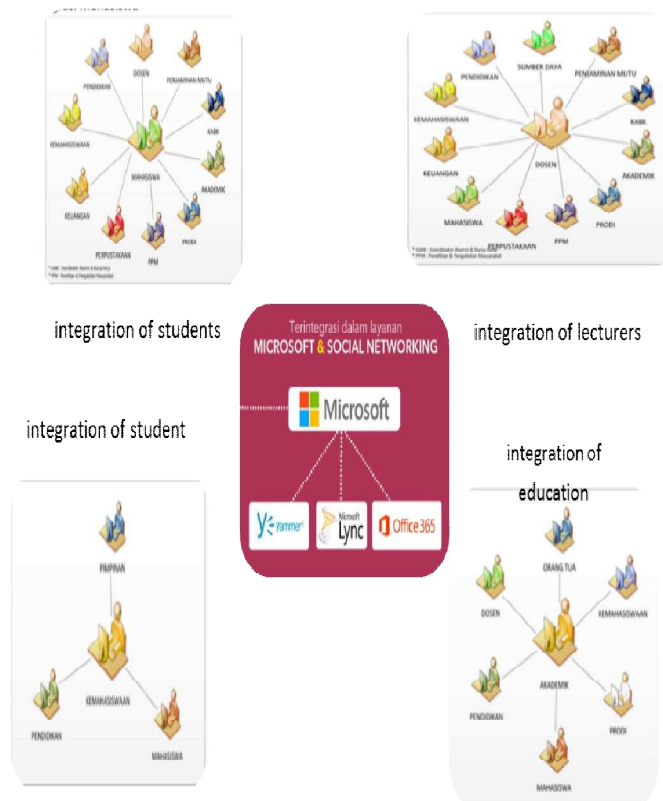

Fig. 7 Langitan System

Langitan system developed by UMAHA using Cloud system. Cloud Computing used essentially Internet-based services to support the business process. The word "cloud" itself refers to a cloud symbol in the IT world is used to describe the Internet (Internet cloud). Cloud computing is the combined using of computer technology ("computing") and the development of Internet-based ('cloud'). Cloud Computing is simply the "information technology services that can be used or accessed by customers through the Internet". Cloud computing is a general concept that includes SaaS, Web 2.0 and other recent technology trends is known with the common theme is reliance on the Internet on providing computing needs of users. For example, Google Apps provides common business applications are sharing that is accessed through a web browser with the software and data stored on the server. The approach of software is as services or SaaS, enabling integration and interoperability between the software, which is in the implementation will be in a grid or clustering concept, where the actual utilization of the grid running on virtualized infrastructure will take a lot of resources.
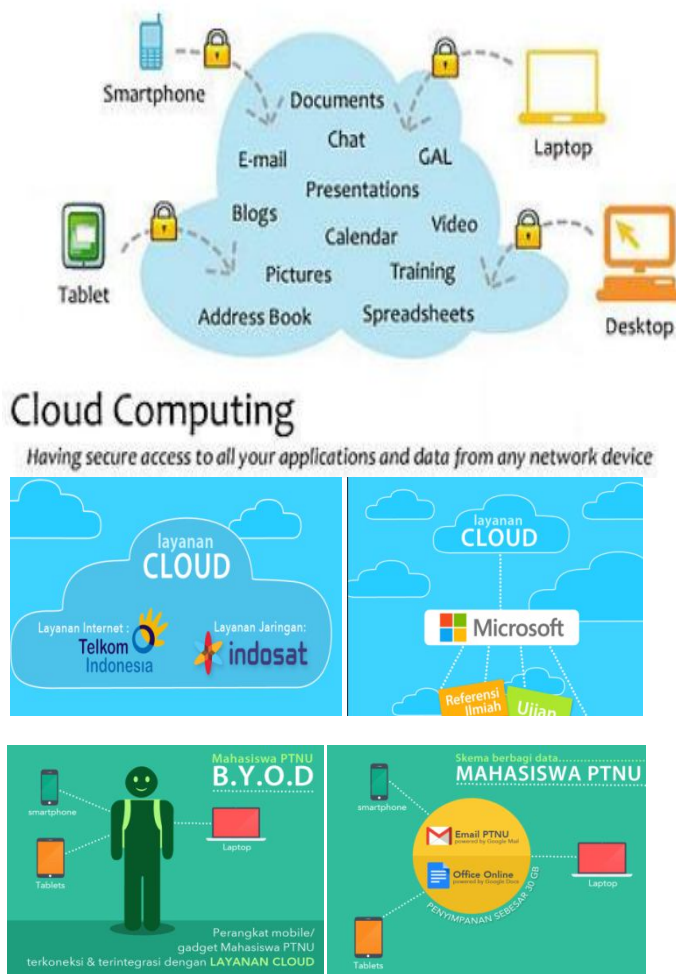
Fig. 8 Cloud Computing Visual Diagram [13]

Knowledge sharing happens in education as a smaller scope that is on learning. This is according to [14] states that knowledge sharing consists of two processes, namely:

a. Knowledge Donating: communicating to others about the knowledge possessed by an individual.

b. Knowledge collecting: consulting with colleagues is to gain knowledge from them.

Application of information technology in education can be used in various forms, among others:

1. Application of information technology is used as an Information Systems course. Field work that can be integrated with information systems is a syllabus of lectures, course materials, management of lectures, assignments, rubrics, and scoring and so forth. This function is often termed as a form of Library Automation.

2. Application of information technology is as media to save, obtain and disseminate scientific information in a digital format. The application of IT in the form of lectures is often known as e-learning.

Knowledge sharing is developed in this study is an open and integrated Data Base (PDITT).

IV. CONCLUSIONS

Based on the above discussion, it can be concluded that: (1) E-learning has been widely applied in famous universities and campuses in Indonesia. The adoption of cloud computing is expected to assist the learning more efficient and flexible and it is able to be ICT-based campus in the future. (2) The result of this research is expected that there are many campuses again to utilize the cloud in the learning process. Besides that, it is able to improve the learning process and the quality assurance campus. (3) The e-learning applications that are designed to be multi-user can be used as a SaaS application so that everyone can create their own class and invite anyone to become a lecturer or student.

ACKNOWLEDGMENT

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