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Knowledge Management (KM) Model of Scientific Work by the Faculty of Information and Communication Technology (Case Study: *East Timor Institute of Business (IOB)*)

Antonio Napoleao Guterres
Faculty, Department of Information, Satya Wacana Christian University, Jl. Diponegoro, Salatiga, Indonesia
Eko Sediyono
Faculty, Department of Information, Satya Wacana Christian University, Jl. Diponegoro, Salatiga, Indonesia
Ade Iriani
Faculty, Department of Information, Satya Wacana Christian University, Jl. Diponegoro, Salatiga, Indonesia

Abstract:
East Timor Institute of Business (IOB) is one of the Private Institute in Timor Leste. In order to support the teaching and learning activities and support and assist in the implementation of learning in Higher Education in the Faculty of Information Technology needs to make a system that can support knowledge sharing. This study aims to design Model Knowledge Management (KM) Student Scientific Work on the Faculty of Information Technology and Communications and Communications. The Framework for KM in Higher Education Institution is used as a method of designing Model Knowledge Management (KM) in the Faculty of Information and Communication Technology as a form of learning for students to share knowledge and strive to develop their skills and knowledge. Knowledge Management Model (KM) is designed to help students searching information about the existing Scientific Work in the Faculty of Information and Communication Technology. The results of the research can be represented in the Knowledge Management model (KM) model stage of knowledge resources in the Faculty of Information and Communication Technology.

Keywords: Knowledge management model, scientific work and research, knowledge sharing, knowledge system

1. Introduction

Knowledge Management (KM) is a platform that enables individual, team and organizational knowledge to collectively and systematically create and apply knowledge to achieve organizational goals. KM provides outstanding collaboration to maximize the value of organizational information and knowledge assets leading to greater effectiveness and innovation improvement (Bhusry and Jayanti, 2011) [1]. Knowledge Management (KM) is used to provide an opportunity for members of an organization, agency or company to share their knowledge, techniques, experiences and ideas with other members. Sharing of knowledge can only be done whenever each member has a wide opportunity to convey the sciences that have been researched as reference material to other members.

A scientific work or research is a written result obtained in accordance with the nature of science and is based on the results of observation, review, research in a particular field, arranged according to certain methods with the systematic of written language and its contents can be justified truth or scholarly (Eko 1995: 11) [2]. Knowledge sharing is a process whereby individuals reciprocally exchange knowledge or information through social interaction based on their experience and skills to share and receive knowledge throughout the organization to create new knowledge.

The East Timor Institute of Business (IOB) is one of the Private Institutes in East Timor, where the East Timor Institute of Business (IOB) as the main pillar in preserving and providing information for all academic community in the management of science for human life is essential. In the East Timor Institute of Business (IOB) there is no system that can document the work of students and lecturers in the Faculty of Information and Communication Technology so as not to have a library or a good storage warehouse the files are difficult to find and accessed by other students. Framework for KM in Higher Education Institutions by Pinto (2014) as a model in designing Model Knowledge Management (KM) at the Faculty of Information and Communication Technology to develop students' ability to share scientific works.

This research designs Model Knowledge Management (KM) to help students searching information about Scientific Work of Faculty of Information and Communication Technology at East Timor Institute of Business (IOB). The model is designed to support a fast and efficient information system so that the information system provides an excellent impact to improve the speed of delivery of science,

information systems to be accessed by the Student as a reference for further research. Based on the above problem, the researcher wants to develop a knowledge management model in Faculty of Information and Communication Technology.

East Timor Institute of Business (IOB) as the main pillar in preserving and providing information for all academic community in managing science for human life is very important. Scientific work of the students of the Faculty of Information and Communication Technology has no information system to document the results of scientific work of students and lecturers so as not to have a good storage warehouse library then the files are difficult to find and accessed by other students. Framework for KM in Higher Education Institution by Pinto (2014) as a model in designing Model Knowledge Management (KM) at the Faculty of Information and Communication Technology to develop students' ability to share as a scientific work.

This research designs Model Knowledge Management (KM) to help students searching information about Scientific Work of Faculty of Information and Communication Technology at East Timor Institute of Business (IOB). The model is designed to support a fast and efficient information system so that the information system provides an excellent impact to improve the speed of delivery of science, information systems to be accessed by the Student as a reference for further research. Based on the above problem, the researcher wants to develop a knowledge management model in Faculty of Information and Communication Technology.

2. Literature Review

2.1. Knowldege Management (KM)

Meier, 2011, foresees that the only source of competitive advantage in the future is knowledge [3]. Alavi and Leidner (2001), defines knowledge as the implication of linking information in a work environment [4].

This type of knowledge is often divided into two types: knowledge of tacit (tacit knowledge) and explicit knowledge (explicit knowledge). Explicit knowledge is knowledge that can be formally expressed using some systemic symbol or systematic formal language (Choo, 2000; Nonaka, 2002) [14]. Explicit knowledge exists independently of human beings who know it (De Long & Fahey, 2000) [16]. On the other hand, tacit knowledge is personal (Nonaka, 2002), which makes the condition (formality) and its distribution very difficult (Nonaka, 2002) [15]. Knowledge is a collection of all the things we know how to do but may not know how to explain it (at least symbolically).

Knowledge management is planning, organizing, motivating, and controlling people, processes and systems within the organization, oriented to ensuring that knowledge-related assets are enhanced and employed effectively [11]. Benefits in adopting knowledge management in higher education, such as improving services to students and faculty, minimizing the time required for research, encouraging institutions to intensify interdisciplinary research activities, improving competitiveness and responsiveness of the University, concentrating on research quality at institutional level [12]. Knowledge management encompasses all systemic activities associated with knowledge generation and knowledge sharing within the organization related to customers, partners and knowledge owners [13].

According to Widayanti (2014), Knowledge Management becomes an important field in the learning process of an organization. Knowledge possessed by the organization must be able to provide progress for the organization itself. In order for the organization to survive, it is required that everyone in the organization to do sharing Management. For that it takes a strong management so that knowledge is rooted in every individual in the organization and does not just disappear with the support of infrastructure for dissemination of information in the environment of the organization. Today's development refers to the rapidity of change in all spheres of life, resulting from the effects of globalization and the development of highly accelerated information technology [5]

Sharing the knowledge is very important, because it can contribute to the application of knowledge, innovation, and ultimately the competitive advantage of an organization (Jackson, Chuang, Harden, Jiang, & Joseph, 2006) [6]. Objectives to define knowledge as information processed by individuals, including ideas, facts, expertise, and assessment relevant to the performance of individuals, teams, and organizations (Alavi & Leidner, 2001; Bartol & Srivastava, 2002) [4].

Knowledge Management has components that are interconnected with each other, such as:

a. People

Knowledge is in people and will be transferred to people as well, so people are the main factor in the successful implementation of knowledge management

b. Process

The process of helping to externalize (tacit to explicit) associated with changes in work processes, organizations and so forth.

c. Technology

The technology here serves as an enabler in knowledge management, where technology has functions in capture, store, update, search and re-use knowledge or often known as Knowledge Management System (KMS).
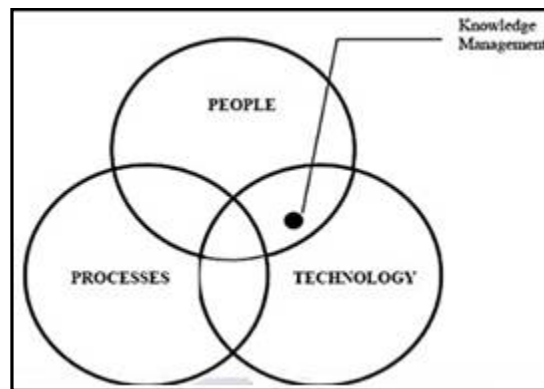
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Figure 1 : Knowledge Component

The concept of the knowledge cycle as illustrated in the SECI Model**:**
The model as knowledge that is often the reference of researchers is the SECI model. This model was introduced by Nonaka (1991), and was updated to a wider audience by Nonaka and Tekeuchi (1995) [7].
a.   Socialization (tacit to tacit) is the process of transferring information among people by way of conversation / conversation
b.   Externalization, is the process of transferring of tacit knowledge to explicit knowledge. For example, the writing of books, journals, magazines and others
c.   Combination is the transfer of explicit knowledge to explicit knowledge. For example, summarize a book.
d.   Internalization is the transfer of explicit knowledge to tacit knowledge. For example, teachers teach in the classroom
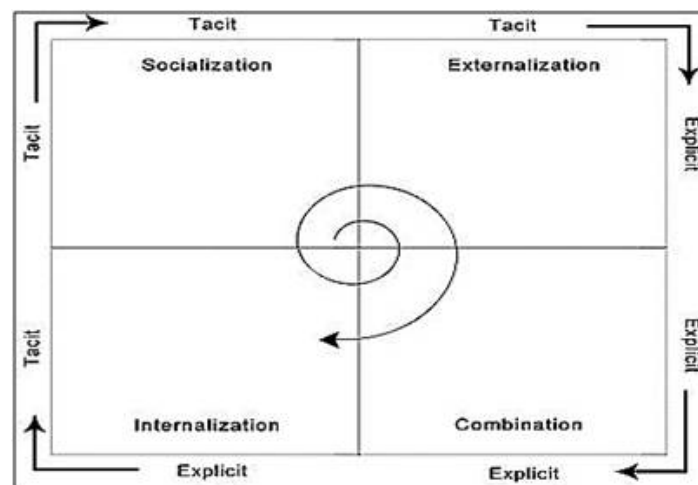

Figure 2 : Model CECI

3. Relevant Research
Environmental and cultural collaborations of discoveries that must characterize in higher educational institutions are important. This study addresses the concepts of knowledge management in higher education institutions, presenting the systematization of knowledge practices and tools for connecting people (students, teachers, researchers, secretarial staff, external entities) and promoting knowledge sharing across key processes and services within higher education institutions , Such as: research process, learning process, student and service alumni, administration service, strategic planning and management process [8].
Jasimuddin et al (2011) developed a Framework knowledge transfer based on empirical analysis of Fortune 100 companies, the proposed Framework integrates knowledge storage and knowledge administration in an effective knowledge transfer model. Empirical studies identify five integral components of the conceptual framework of knowledge transfer: (1) Actors involved in the transfer of organizational knowledge; (2) Knowledge exchanged among actors; (3) The mechanism by which knowledge transfer is conducted; (4) Repositories where knowledge is stored; (5) The equivalent knowledge administrator is responsible for managing and maintaining knowledge [9].
Bhusry et al (2011) in a study entitled Implementing Knowledge Management in Higher Educational Institutions in India: A Conceptual Framework emphasizes the need for knowledge management in researching the impact of information technology (IT) on KM-based interventions in higher education institutions. The authors have evaluated based on KM interventions and identified perceived benefits, the authors have proposed the framework for efficient, encapsulation, structuring, dissemination, and employment of the organization's knowledge of organizational goals. Framework led to the transformation of increased organizational knowledge into decision-making and the action of exploring the various functionalities in higher education institutions and indicators that determine the domain [1].

Sinha et al (2012) presents a Framework that can be adopted to build a Knowledge Management platform at Higher Education Institutions. Implementing effective knowledge management is considered an increasingly important tool to facilitate organizations to gain competitive advantage. Relevant factors leading to the success of an organization to a higher education by adopting KM practices are 1) Integrated technical infrastructure (including networks, databases, repositories, computers and software); 2) Organizational culture that supports learning and sharing knowledge use; 3) User motivation and commitment include incentives and training, and 4) Senior management support related to resource allocation and organizational leadership training [10].

Some research conducted by Pinto describe a framework as an organizational support tool to facilitate knowledge sharing, creation, collaboration and communication between organizations, the framework is described in three main layers: 1) technological infrastructure; 2) knowledge system; 3) knowledge management practices.

In this research will evaluate the framework (Pinto framework) focus for the sharing of scientific work of students in the faculty of information and communication technology so that researchers propose new models in accordance with the problems studied so that students can easily searching scientific works according to the model depicted in Figure 5.

4. Research and Methodology

This research as a literature study based on previously researched frameworks to solve the problem, the researcher chose one of the Framework for KM in Higher Education Institution by Pinto (2014) entitled Knowledge Management in Higher Education Institutions: A framework to improve collaboration, to design Model Knowledge Management and improve the service of Students of Faculty of Information and Communication Technology. This research is limited to the idea of Knowledge Management model design to solve the problem of sharing Student's Scientific Work. This framework is used to design the Knowledge Management (KM) model of Scientific Work of the Faculty of Information and Communication Technology at East Timor Institute of Business (IOB) of Timor Leste.
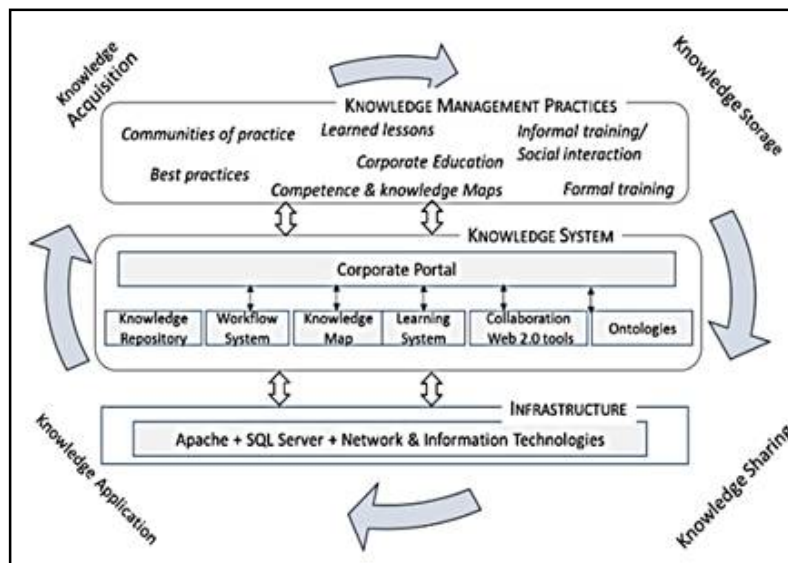

Figure 3: Framework for KM in HEI, Pinto (2014)

This study uses a qualitative descriptive approach in order to reveal and explain the situation that occurred in the field. A qualitative design provides a naturalistic or constructive perspective for a methodology, in which space can share personal thoughts, feelings, and experiences with regard to the phenomenon in question. The methodology used in covering several stages of research
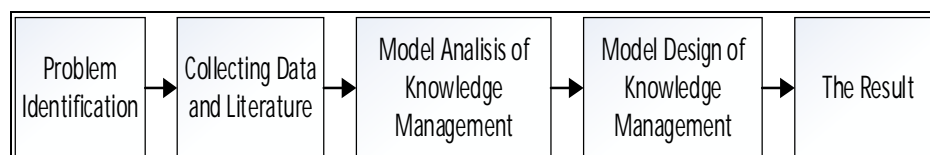

Figure 4 : The Stages of the Research

5. Results and Discussion

5.1. Knowledge Management (KM) Model

The results of the research can be represented in the Knowledge Management model (KM) model stage of knowledge resources in the Faculty of Information and Communication Technology. Scientific work previously researched to facilitate accessed properly and properly, then this model usually helps the administration to documenting scientific work in order to facilitate Students for searching.
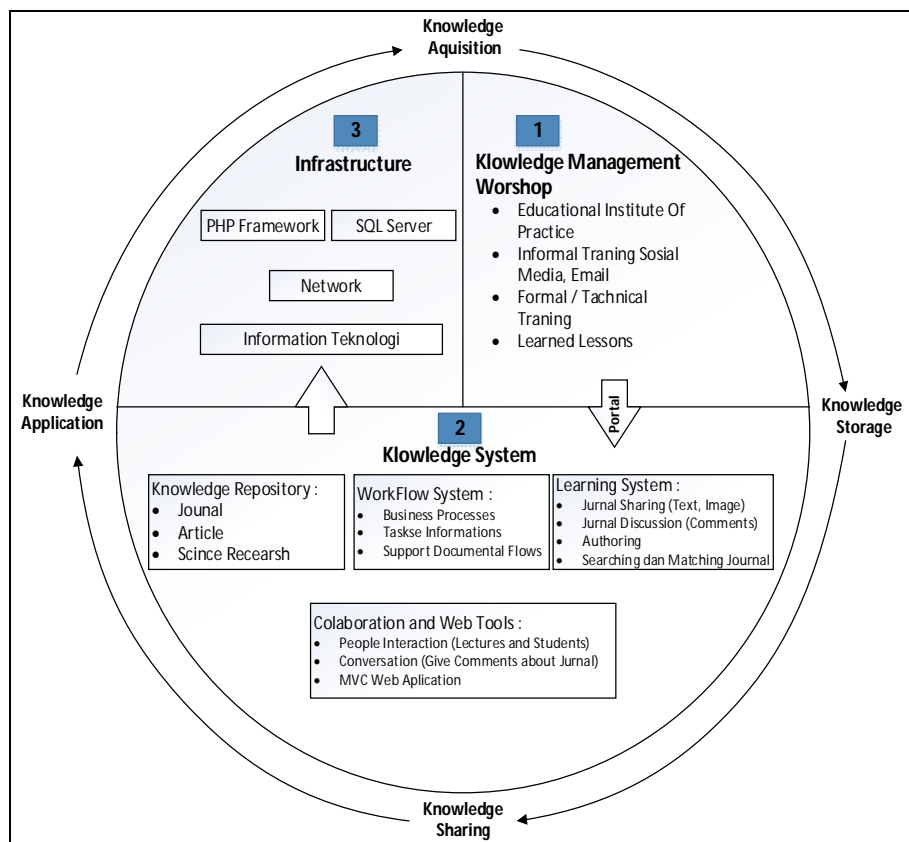
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Figure 5 : Model (KM) for Scientific Journal in IOB

Knowledge Management Model describes the process that defines management strategies to build and improve the knowledge sharing of students' work of the Faculty of Information and Communication Technology properly and correctly. This model focuses on the strategy, essentially putting the action of knowledge management in the context of students' scientific work sharing. Knowledge-sharing strategy of this scientific work as a learning that invites students and lecturers to actively sharing knowledge and become something that is very decisive, therefore acquisition and utilization needs to be managed well in the context of improving organizational performance, a way that can integrate that knowledge in the model of human resource development In the Faculty of Information and Communication Technology.

1. Knowledge Management Workshop says that the knowledge that people have for successful implementation and sustainability can build knowledge through: i) Educational Institute of Practice; Ii) Informal Social Media Training, Email; Iii) Formal / Technical Training; And iv) Learned Lessons
    Knowledge Management Workshop essential for successful implementation and sustainability can build knowledge of scientific papers to communicate in the learning process for sharing knowledge with each other in the Faculty of Information and Communication Technology. Knowledge exists as learning for students where a structured learning process is delivered to a person through materials, seminars and conferences

2. Knowledge System refers to the type of IT systems that exist in the Faculty of Information and Communication Technology to store and retrieve knowledge, expand knowledge and put the source of knowledge of scientific work of students is still very manual so that the concept of Knowledge System model is to support the storage of the scientific work of students in a supportive conditions, the model gives various functions such as: i) Knowledge Repository; Ii) WorkFlow System; Iii) Learning System, and iv) Collaboration and Web Tools. Important functions in the Knowledge System as a tool for representation and indexing Information and documents, knowledge-based support to Information seekers, Disciplines, conceptual communication tools Frameworks, and conceptual foundations for knowledge of the System [17].
    Knowledge repository as a place to store and manage simple explicit knowledge and collect document management to support all content and improve the process Knowledge Management. This model explains the relationship between Knowledge describes the source of the sharing of scientific works of students of the Faculty of Information Technology and Communication.

3. Infrastructure at the Faculty of Information and Communication Technology there is no platform for effective information system applications so that the results of scientific papers for data regulating services, storing and managing data have not been efficient, then this model describes the digital Infrastructure to facilitate network, database technology, and multiple platforms Information technology as a storage service of scientific work of students of the Faculty of Information Technology and Communication with good and correct, so that the learning relationship becomes an increase of knowledge capacity given to be more easily accessed by other students

6. Conclusion

This research designs a knowledge management model for Scientific Journal in IOB for sharing scientific work of students of the Faculty of Information and Communication Technology. The scientific work of sharing of knowledge can be done when every member has a broad opportunity in conveying science that has been researched as reference material to other members.

This model focuses on a strategy that puts the action of knowledge management in the context of students' scientific work sharing. Knowledge management model for Scientific Journal in IOB as a structured scientific sharing strategy so as to invite students and lecturers to facilitate the sharing of scientific papers properly and correctly, therefore the acquisition and utilization needs to be managed well in the context of improving the performance of the organization, by integrating knowledge It is in the HR development model within the Faculty of Information and Communication Technology.

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