KNOWLEDGE MANAGEMENT IN OPEN AND DISTANCE HIGHER EDUCATION: STUDENTS' PERSPECTIVE

Sarah Fadilla[1], Ari Juliana[2], Adisthy Shabrina Nurqamarani[3], Cherly Kemala Ulfa[4]

[1, 2, 3, 4]Universitas Terbuka (INDONESIA)

Abstract

Knowledge based economy become powerful to maximizing the value of organization. Open and distance learning higher education gives wider opportunity for the society with any kind of limitation such as economic, demographic, and geographic to pursue higher education. Indonesia Open University (UT) has utilized technology in learning process and other supporting activities. In learning process, there are learning assistance service mode: online tutorial and webinar tutorial, that can be chosen according to student needs. The purpose of this study is to analyze how the integration of technology affects knowledge management among student in UT. This is a qualitative study. Interview and forum group discussion is conducted with students from four faculty and explored the critical factors in determining technology using for learning activities. Thematic analysis is used in analysing the responses. Online tutorial and webinar tutorial has accommodated the knowledge creation process. Some factor that become the key factor determining technology use in knowledge management are the features, learning content, interaction, and infrastructure.

Keywords: Knowledge Management, Open and Distance Learning Education

1 INTRODUCTION

Knowledge is powerful. Nowadays utilization of natural resources is not enough to make the nation prosperous. The combination between knowledge based economy and natural resources-based economy can add value to our natural resources. Knowledge management is needed, so that the knowledge we need can be developed and applied to manage organizational resources so that they are able to manage Indonesia's natural resources(Tjakraatmadja & Kristinawati, 2017). Knowledge management is series of process to create, extract, transform, store, disseminate, use tacit and explicit knowledge, between individual or group, to produce the new knowledge for maximizing the value of organization in achieving its goal (Gao et al., 2017).

Since 1984, Indonesia Open University (UT) has role in accelerating number of higher education graduate by open the access of higher education to those who has limitation economically, geographically, and demographically. It is also important for higher education to implement knowledge management to contribute to increasing the quality of human resources in Indonesia. (Tjakraatmadja & Kristinawati, 2017) explained the knowledge flow cycle in higher education that come from education, research, and community services that utilized knowledge assets from the teacher and students (Pinto, 2014).

Technology affected knowledge management process in higher education (Alshehri & Cumming, 2020; Sopandi et al., 2016; Veer Ramjeawon & Rowley, 2017; Yuniarsih & Amartiwi, 2019) Technology is important to increase academic activities and performance of teachers and students (Ally & Prieto-Blázquez, 2014). UT as a cyber university has aware of it so that UT has developed technology for supporting the learning process. Technology has leverage access to reach the unreachable.

This study will analyze how the integration of technology affects knowledge management among student in UT. The focus of this study limited to the use of technology in knowledge management. Because as cyber university UT has 346,584 students as of 22 May 2022. To answer that question, we are using SECI Model of (Nonaka et al., 2000).The knowledge creation of this model is a dynamic process and continuously between tacit and explicit knowledge to produce new knowledge that can enhance the knowledge of individual and organization. Tacit knowledge is the knowledge in each individual that need to be transformed to produce innovation. While explicit knowledge is knowledge that has been written (Tjakraatmadja & Kristinawati, 2017). There are socialization, externalization, combination, and internalization that show the knowledge creation of tacit-to-tacit knowledge, tacit to explicit knowledge, explicit to explicit knowledge, and explicit to tacit knowledge (Nonaka et al., 2000).

2 METHODOLOGY

The research is conducted using qualitative study. Informants were selected by purposive sampling and snowball, whoever use online tutorial or webinar tutorial. To get the data, we use interview and forum group discussion (FGD) to 43 UT's students from 3 different Distance Learning Program unit (UPBJJ). A semi-structured interview was arranged as a guidance but can arose while interview/FGD. The result of the interview/FGD was transcript verbatim, coding, creating codes into potential sub-theme, defining theme, and write into sentences (Alshahrani, 2018).

3 FINDINGS AND DISCUSSION

3.1 Informant Demographic

The interview and forum discussion were conducted in October 2022 through offline and online meeting. The informants came from 3 Distance Learning Program Unit (UPBJJ) which is the top 10 UPBJJ with the largest number of students. There are 45 informants from 4 faculties in UT: Faculty of Teacher Training (FKIP), Faculty of Law, Social, and Political Sciences (FHISIP), Faculty of Science and Technology (FST), and Faculty of Economics (FEKON). The semester of

informants is varied, with 74% of informants have learned more than 2 semesters. While by occupation, 82% of informants have been worked as private employee, teacher, civil servants, and entrepreneur. The informant age between 20-25 years old dominated. Most of informants are female. The details can be seen on Table 2.

Table 2. Informant Demographic

Measures	Frequency	%
Gender		
Male	17	40%
Female	26	60%
Age		
Below 20	5	12%
20-25	25	58%
26-30	5	12%
31-35	4	9%
>35	4	9%
Occupation		
Civil Servants	4	9%
Entrepreneur	2	5%
Private Employee	20	47%
Teacher	9	21%
Unemployed	10	23%
Faculty		
FEKON	12	28%
FHISIP	11	26%
FKIP	9	21%
FST	11	26%
Semester		
1-2	11	26%
3-4	15	35%
5-6	6	14%
≥ 7	11	26%

3.2 The effects of technology to knowledge management

According to the interview, students choose UT because of the flexibility (77%) and affordability (30%). Students in UT can choose learning assistance mode if they need. Related to utilization of technology, there are webinar tutorial and online tutorial. From semester to semester, student might change those learning assistance mode. So based on our interview and FGD, one student can experience online tutorial and webinar tutorial. This research will analyse the utilization of technology in knowledge management using theory knowledge creation of Nonaka SECI Model.

3.2.1 Online tutorial

Online tutorial is a web-based tutorial that can be choose by students. In online tutorial there are several sessions for delivering the material, discussion, assignment, and quiz. In the beginning, students are given tutorial activity plan and introductory forum to get to know each other with tutors and students. The interview has conducted, 31 out of 43 has experienced online tutorial. Most of the students (13 out of 31), choose online tutorial because of the flexibility to be accessed anytime and anywhere while they are working too.

> KM40: *"Because it is very innovative. We can learn anytime while working. Tutor is very helpful in directing on discussion and assignment. Tutor and other students also motivated me to do the discussion and assignment"*

The features in online tutorial are easy to use. The students found no trouble in using it. The material and questions in the online tutorial also help them to learn. Moreover, if there are video provided on it.

> KM44: *"I am more interested to learn from video than reading"*

> KM27: *"I agree with KM09, learn with video is easier"*

Online tutorial is also had two weeks to access the material and discussion. It is really help them in learning the subject.

To access the online tutorial, the students access using mobile phone and laptop. But student also read the subject book to more understand the material because when using mobile phone, it is too small to read. Besides that, student also confused when there is something to ask regarding the material/discussion/assignment/quiz. They use the message feature or directly mail to the tutor, but the tutors respond long. It also sometimes happens when tutor gives the grades that takes long time. Students also have difficulty if they want to discuss with friends in online tutorial class. Because the students come from many cities that different. From the system and infrastructure, student also found that their absent has not recorded, system can not be accessed, and from the internet network.

Regardless their difficulty, it also provokes students to find out the answer on their on through the books, internet, and discuss with limited friend through group chat.

From the informants respond, the shape of knowledge creation in online tutorial can be described on Figure 16.
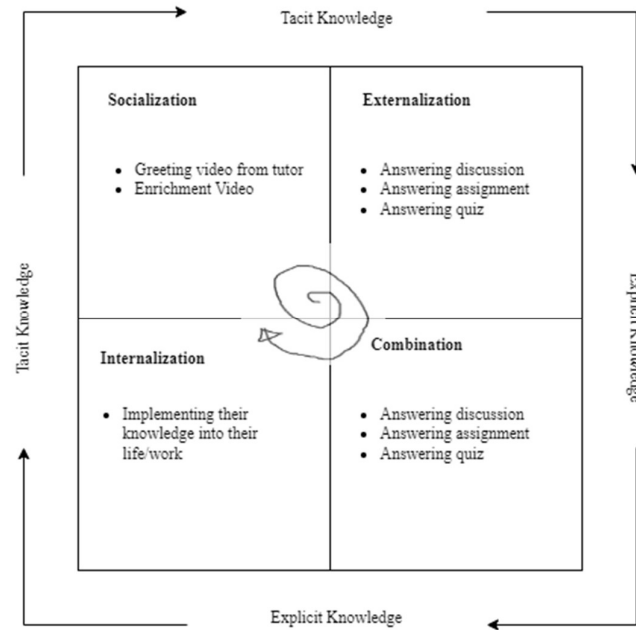
Figure 16. SECI Model - Online tutorial (Authors' Analysis)

From the model in Figure 16 online tutorial has accommodated the knowledge management process. From the analysis, we also found the key factor determining technology use especially in online tutorial: the features, learning content, interaction, and infrastructure. It is same with the previous study of (Alshehri & Cumming, 2020). The features on online tutorial help them to externalize and combine their knowledge to answer discussion, assignment and quiz. Through learning content provided, they also learn and actively seeking an alternative if they don't understand. The interaction and infrastructure also become a key factor. The asynchronous mode of online tutorial become a barrier on internalize the learning content. The weak signal of the students and system down also become the barrier in knowledge management process.

3.2.2 Webinar tutorial

Webinar tutorial is a face-to-face tutorial mode by utilizing web seminar facilities through the Internet network which is carried out synchronously (real time/at the same time). The learning method in webinar tutorial similar with face-to-face which more efficient in cost and time. Students in webinar tutorial also using Learning Management System (LMS) that providing learning plan and learning material as well as for recording their attendance, submitting the assignment and discussing.

Based on the interview and FGD, students choose webinar tutorial because there is direct interaction between tutor-students and students-students in learning delivery. When they found difficulty, they can ask in their group chat. There are also group assignment so the interaction to

share the knowledge is happened. The update of knowledge also easily delivers when the tutorial by tutor. The learning process in webinar tutorial is also effective because learning material and task are systematically store in LMS. Similar with online tutorial, it is an advantage when they can learn anywhere.

> KM04: "The learning material delivery in webinar tutorial is easier to understand than online tutorial. Because I can discuss with the tutor and other students directly"

Despite of the strengths, some students also found difficulties such as: internet connection and cost for internet quota. They also found task not updated on Learning Management System.
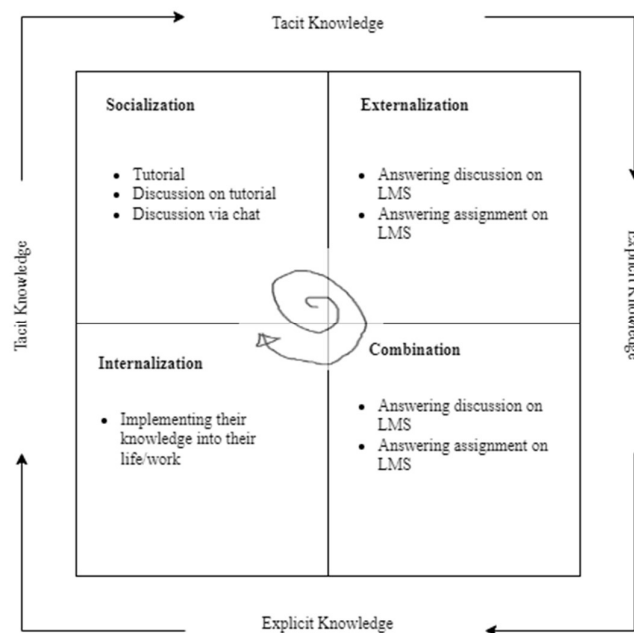

Figure 17. SECI Model - Webinar tutorial (Authors' Analysis)

From the model in Figure 17 webinar tutorial also has accommodated the knowledge management process. From the analysis, we also found the key factor determining technology use especially in webinar tutorial similar with online tutorial: the features, learning content, interaction, and infrastructure. It is same with the previous study of (Alshehri & Cumming, 2020). The highlight knowledge management process that different with online tutorial is the socialization process is really enhancing the knowledge of students.

4   CONCLUSION

The use of technology has been utilized by UT through providing learning mode assistance mode: online tutorial and webinar tutorial. Both of learning mode also has accommodated the knowledge management process. Related to SECI Model, online tutorial has more emphasis on externalization and combination. While webinar tutorial has more emphasis on socialization. But, both learning assistance mode has create the dynamic knowledge creation. Some factor that become the key factor determining technology use in knowledge management are the features, learning content, interaction, and infrastructure. To improve the knowledge management process, it is important to consider the increasing of socialization in online tutorial, such as: connecting the notification of online tutorial to WhatsApp or creating virtual community.

ACKNOWLEDGEMENTS

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