

The Knowledge Management Model to Support Academic Activities at SD Al-Imam Islamic School Cileungsi Using the Seci Approach

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Abstract – *The absence of a processing model, knowledge storage due Knowledge in the form of notes, files, pictures and so on disappears because 17 teachers dump themselves and bring knowledge, files, notes that ever made. Allegedly with the creation of a processing model, knowledge-based storage a website with a SECI approach can provide a managed solution with good knowledge at SD Al-Imam Islamic school." In this study, the authors develop model knowledge management system that is in accordance with the conditions that exist in SD Al-Imam Islamic School, knowledge formation using the SECI model. From the results of testing the experimental system knowledge management system using the Technology Acceptance Model (TAM) method the average result is above 58%, which means that the respondent is in doubt about the application of the system tried the knowledge management system at SD Al-Imam Islamic School.*

Keywords – *Knowledge Management, SECI, TAM.*

I. INTRODUCTION

The development of science and technology in this era of globalization is happening very fast. The scientific ability of an educational institution is one of the most important factors for present and future progress. When an educational institution or school tries to develop its knowledge scale, a very broad level of knowledge is needed to be able to share knowledge. This knowledge management concept includes the management of human resources (HR) and information technology (IT) to achieve better educational institutions. To facilitate the development of human resources in an educational institution, it is necessary to have the ability to manage and develop the knowledge they have. Management of Knowledge (Knowledge Management) can ultimately be a reliable support for an educational institution to increase its knowledge [1],[2]. SD Al-Imam Islamic School activities include academic, non-academic, and student affairs. In academic implementation, it requires Standard Operational Procedures, Rules, Forms and Monitoring of its implementation. This needs to be socialized to all old and new teachers. The existence of 17 old teachers who resigned in the 2022/2023 academic year, namely July 2022 – July 2023 (teacher data is available on the attachment page) caused a lot of knowledge information such as Implementation of Learning and Student Problems in Class [3],[4] and so on not to be found because it had been brought in by teachers who have withdrawn and cannot be known by new teachers, this causes a lot of information and knowledge in the form of files, notes and paper prints to be unable to be found and this raises repeated questions from time to time.

From these problems the Foundation has provided a School Web Profile (<https://alimamischool.com/>) to

introduced by Nonaka and Takeuchi who are composed on Tacit Knowledge and Explicit Knowledge has a process of socialization, externalization, combination and internalization. SECI Model implemented within the scope of Face-to-Face, Peer-to-Peer, Group-to-Group, and On the Site [5],[6],[7]. (2) Intellectuals Capital, is a model introduced by

Edvinsson which consists of Human Capital (Human resources, intellectual assets, intellectual property), Business Assets (Complementary Assets), Structural Capital (organizational assets, intangible assets). For process and scope of implementation are implicit. (3) OK Net, this model was introduced by Carayannis which consists of State of Knowledge and state of Knowing (knowledge and meta-knowledge).

The process of this model includes Knowledge creation, Knowledge securing, knowledge distribution, Knowledge retrieval. (4) Ecology of KM, a model that introduced by Snowden it consists of Explicit/Tacit Knowledge, Knowledge Assets, Trusts, decision. The processes in this model are: Knowledge mapping, competency creation, tacit knowledge management, intellectual capital system.

The scope of implementation of this model is implicit. (5) Taxonomy of KM, this model is introduced by Despres & Chauval which consists of Tacit Knowledge and Explicit Knowledge. Process inside This model is Scan-map, capture-create, package store, share-apply, transform innovate [8]. Scope the implementation of this model is Implicit: on site and virtual. For this reason, an integrated solution is needed to manage all information and knowledge related to academics so that all parties who need it can understand and access it easily. The application of knowledge management can properly manage existing information and knowledge so that all forms of information and knowledge can be conveyed to old teachers and new teachers through appropriate media. Therefore this writing will build a knowledge



management to answer the problems above.

From the background explanation regarding some of the problems discussed above, the problems that can be formulated are as follows:

"There is no processing model, knowledge storage because knowledge in the form of notes, files, images and so on disappears because 17 teachers resign and bring knowledge, files, notes that were previously made."

From the description of the research problems that have been discussed above, the research objectives that can be formulated are as follows:

"Provide solutions in the form of processing models, knowledge storage at SD Al-Imam Islamic School."

In a study, it is necessary to support the results of previous studies related to this research. The following is a study review that supports this research, which can be seen in table 1 below.

Table 1. Journal References

No	Peneliti	Judul	Penjelasan dan Hasil	Metode
1.	RISALINA, (2022) [12]	KNOWLEDGE MANAGEMENT MODELS IN IMPROVING PERFORMANCE PT. KL JAKARTA	The results that have been obtained indicate that the answers from the respondents have met the suitability requirements and the model made has been proven to be good in terms of sensitivity or stability. The Knowledge Management Model in this study shows the importance of Passive Public Knowledge to improve performance at PT KL.	(1) Passive Public Knowledge (2) Active Public Knowledge. 3. (3) Passive Share Knowledge. 4. Knowledge. (4) Active Share Knowledge, (5) Passive Personal Knowledge, dan 7. (6) Active Personal Knowledge.
2.	Inadudin Abdan Syakuro (Skripsi. FST, Sistem Informasi, UIN Sya rif Hidayatullah Jakarta, 2021) [10]	Design and Build a Website Repository-Based Knowledge Management System (Study Case : LAMPUNG PROVINCE BAPPEDA)	BAPPEDA Lampung Province which is engaged in regional planning and development is managed and disseminated between each employee so that it requires a place to easily manage and share data to minimize errors that may occur. From the research results, a website-based system is able to help employees to be able to store and manage knowledge.	- The system has - Download feature to make it easier for each employee to have separate data
3.	Novi Sofia Fitriasari, Dhea Rahma Azhari, Muhammad Ghifari Shafa, Amien Rais, Taufiq Ejaz Ahmad, (2020) [11]	KNOWLEDGE MANAGEMENT SYSTEM MODELS IN MARINE INFORMATION SYSTEMS STUDY PROGRAM	The KM Technology Element produces a knowledge management system application (ASMAPE) and the Knowledge Artifact Element produces explicit knowledge from a knowledge worker, this knowledge consists of the domains of Information Systems, Fisheries, Geographic Information Systems, Ocean Remote Sensing and Ocean Sciences.	- The research method is carried out by applying the KMS Model which consists of 5 pillars namely Organization, KM Team, KM Process, KM Technology and Knowledge Artifacts.
4.	Eko Retno Wulandari dan Risa Nurisani, (2020) [9]	Knowledge Management Model at Padjadjaran University Library	The results of the study obtained a proposed model of the Knowledge Management process at the Padjadjaran University Library, namely knowledge creation, knowledge acquisition, knowledge storage, knowledge sharing (knowledge sharing)	- qualitative method as a research procedure that produces descriptive data in the form of observable written or spoken words. According to them, this approach

II. RESEARCH METHODOLOGY

A. Types of Research

This type of research used is to use a qualitative approach. The data collection method used in the initial research was limited to the results of interviews, observations, literature studies and analysis of documents related to research or what is commonly called the descriptive method at SD Al-Imam Islamic School Cileungsi, Bogor Regency.

This research is development research or referred to as Research & Development which was carried out to find out and develop and provide results on the Knowledge

Management System to increase effectiveness at SD Al-Imam Islamic School Cileungsi, Bogor Regency, especially for teachers to improve HR competence by having old knowledge makes newer knowledge, superior and competitive..

B. Data Collection Methods

The method that the author uses in data collection is carried out to obtain the information needed in the research as follows:

a. Interview

The interview was conducted at SD Al-Imam Islamic School Cileungsi, Bogor Regency with the Principal Muhamad Fadli, M.Pd. and one of the teachereducators on December 2, 2022. Interview activities were carried out by researchers with discussions and questions and answers regarding the needs of this research. The interviews were conducted with the aim of obtaining data and information, especially regarding the constraints that often occur. The records of the interview results can be seen in the attachment. Based on the results of interviews with 13 teachers who agreed to be interviewed, from the questions that have been asked it can be concluded that "individuals socialize with each other and share experiences through weekly meetings" then teachers must write ideas, make models and analogies and document them in the form files.

b. Observation

Researchers made observations with the aim of knowing the Knowledge Management work process and knowing the condition of the school, organizational structure, school history, vision and mission of the school.

1. Research Location

In carrying out this research, the authors conducted research at SD Al-Imam Islamic School Housing Limus Pratama Regency, Cileungsi, Bogor Regency.

2. Visited section

At the time of the observation, the researcher visited the principal who has full authority at the school and one of the teaching teachers to find out the knowledge management system contained in SD Al-Imam Islamic School Cileungsi, Bogor Regency. The results obtained during the observation are:

"First, the researcher knows tacit data management in the form of experiences carried out during interviews which is attached in Appendix I regarding interviews and the researcher knows that explicit data in the form of data on the completeness of Learning Implementation and Child Problems in Class will be included in the Application."

3. Sampling

Questionnaire sampling was carried out for all old and new teachers and school principals. In the 2022/2023 academic year the total number of individuals is 13 people, for the need to fill in the questionnaire no sample selection was carried out because the number was small. The following are the



names of the teachers according to table 1.

Table 2. Sampling

Nama	Jabatan
Umi Salamah, S.Pd.	Guru
Heni Mariyah Umroh S.Pd	Guru
Wiwini Wulandari S.Pd.	Guru
Dewi Fitria Nugraheni S.Pd	Guru
Tri Yuli Aryani S. Pd	Guru
Tri Nuryani S.S	Guru
Adam Abdurrohan Saleh, S.Pd. Jas	Guru
Aning Nurhavati ST	Guru
Sumiati S.Pd	Guru
Affifah Ridzki Mulianti S. Pd	Guru
Windy Maylanasari, S.Pd	Guru
Enjang khoeruman abdul madjid	Guru
Aisyah Fauziah S.Ag	Guru

C. Research Steps

The steps of the research methodology can be described as in Figure 2 below.

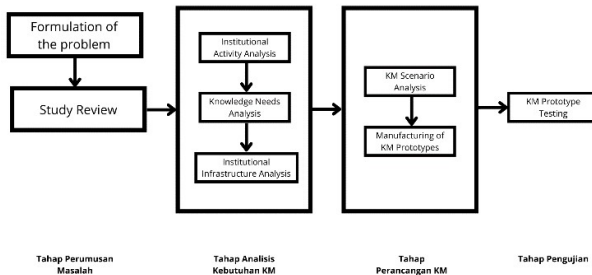


Image 2. Research Steps

III. RESULTS AND DISCUSSION

A. Knowledge Management System Scenario Analysis

Every activity in SD Al-mam Islamic

In order to create and formulate knowledge, schools need

No	Activities	Implementation	Process Knowledge Management
1	Setting Standard implementation of Learning	- Sharing document - Meeting - Discussion	- Socialisation - Externalisation - Kombinasi - Internalisation
2	Carry out the planschool activities and budgetat Almam Islamic School	- Meeting - Sharing knowledge	- Externalisation - Internalisation
3	Coord natewith the teacher about notes during learningin the classroom	- Meeting - Sharing knowledge	- Externalisation - Internalisation
4	Record events andsubstanc problems in classroomful as materialvaluation for all teachersboth old and new	- Meeting - Sharing knowledge	- Externalisation - Internalisation
5	Carry out the planschool activities and budgetat Almam Islamic School	- Sharing document - Meeting - Discussion	- Socialisation - Externalisation - Kombinasi - Internalisation
6	Coord natewith the teacher about notes during learningin the classroom	- Meeting - Sharing knowledge	- Externalisation - Internalisation

to cycle the knowledge management process which consists of four stages according to the SECI model as shown in table 3.

From the relationship above, a knowledge management system scenario can be formed to support activities and improve the services of SD Al-Imam Islamic School teachers, which is a form of the SECI model, as shown in Figure 3.

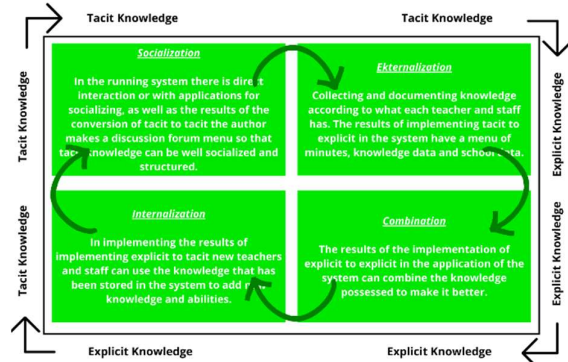


Table 3. Process of Knowledge Management SD Al-Imam Islamic School

The process of socialization is the process of being able to change tacit knowledge into tacit again. Features that support this process are e-mail, chat, and discussion. This process becomes easier and faster because teachers wait for each other to meet in person to discuss solving a problem.

1. Externalization

The externalization process is a process that can change tacit knowledge to explicit. This feature can support this process is an electronic discussion, because by using this feature all ideas, experiences and knowledge can be written in the discussion forum, which in turn can be read by other assistants. Electronic discussions can also be divided into several discussions, such as Friday meetings, event committee meetings, regulations, socialization of activities and soon so that users can immediately access the required themes.

2. Combination

The combination process is a process carried out to change explicit knowledge into tacit. Features that support this process are document management carried out by school principals and teachers, this aims to make it easier to make certain changes and can also provide new explicit knowledge to storage locations that can be easily accessed by other assistants.

3. Internalization

The process of internalization is the process of converting explicit knowledge into tacit. Features that can support this process are electronic discussions and document management. The internalization process can be facilitated by electronic discussion or chat because each teacher can express their ideas or suggestions which other teachers can read directly. Document management can also help the internalization process because teachers can easily find or get lesson learned that has been documented in storage, knowledge management processes and technology.

B. Knowledge Management System Model Design Based on the results of the knowledge process analysis

Management and technology to be obtained, the next step is to plan a knowledge management system model at SD Al-Imam Islamic School. Figure 4 is a Knowledge

Management System model at SD Al-Imam Islamic School.

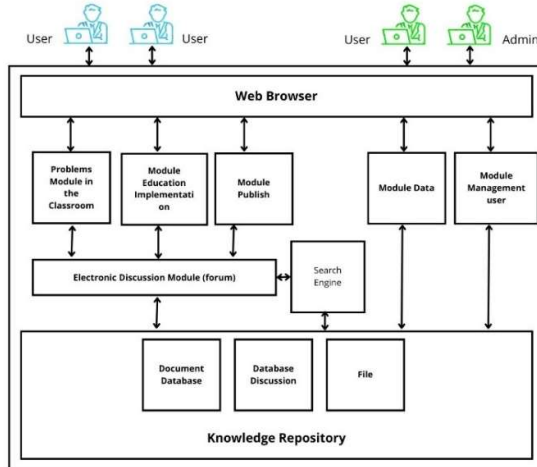


Fig 4. Knowledge Management System Model Design

C. Validity Test

The item validity test is a data instrument test to find out how carefully an item measures what it wants to measure. The validity test was carried out using SPSS version 26, determining whether an item was valid or not was carried out by comparing the calculated r value in the corrected Item-Total Correlation column with the Pearson Product moment r table value. If the calculated r value is greater than the r table value, then the item is said to be valid. Conversely, if the calculated r value is less than the r table value, then the item is declared invalid, so it must be corrected or discarded. The r table value is searched with $df = N - 2 = 13 - 2 = 11$, then the r-table value is 0.4762. The results can be seen as in table 4.

Table 4. Validity Test Result

	Item-Total Statistics				Cronbach's Alpha if Item Deleted
	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	
ITEM_1	44.3846	279.256	.988	.	.978
ITEM_2	44.3846	279.256	.988	.	.978
ITEM_3	44.3846	279.256	.988	.	.978
ITEM_4	44.3846	279.256	.988	.	.978
ITEM_5	44.1538	284.641	.848	.	.980
ITEM_6	44.3077	277.397	.977	.	.978
ITEM_7	43.9231	291.410	.709	.	.982
ITEM_8	44.3846	279.256	.988	.	.978
ITEM_9	44.0000	287.500	.756	.	.982
ITEM_10	44.1538	284.641	.848	.	.980
ITEM_11	44.0000	294.167	.676	.	.983
ITEM_12	44.3077	277.397	.977	.	.978
ITEM_13	44.0769	296.077	.664	.	.983
ITEM_14	44.1538	278.808	.902	.	.979

From the test results it is known that the r-table value is greater than the Corrected Item – Total Correction value, so it can be concluded that the questions asked are valid.

D. Reliability Test

Reliability is a measuring tool that is said to be reliable if the tool in measuring a phenomenon at different times always shows the same results. The reliability test is a continuation of the validity test, where the indicators that

enter the test are only valid indicators. A variable is said to be

reliable if it gives a Cronbach's Alpha value > 0.60 .

Table 5. Reliability Test Result
Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.981	.981	14

In Figure 5 it can be seen that Cronbach's Alpha is 0.981, the value is > 0.60 . So it can be said that the statement items submitted have the reliability that is received.

E. Knowledge Management System Prototype Testing

System testing is carried out to test the level of software quality using the TAM (Technology Acceptance Model) method with several variables, namely: Perceived Usefulness, Perceived Ease of Use, Attitude Toward Using, Behavioral Intensity Use (Behavioral Intention to Use), Actual System Use (Actual System Use). This test is carried out on the client side of the use of the system. The criteria for selecting respondent characteristics as a research sample for testing the quality of this software are based on the level of users who will access this application. The respondents were school principals, old and new teachers at SD Al-Imam Islamic School. Through Focus Group Discussion (FGD) which was attended by

Aspect	Prestation Value	Average	Information
Setting Standards Implementation of Learning	251%	63%	Agree
Carry out the planschool activities and budget Al-Imam Islamic School	159%	53%	Hesitated
Coordinate with the teacher about notes during learning in the classroom	171%	57%	Hesitated
Record events and student problems in class as useful as material evaluation for all teachers both old and new.	108%	54%	Hesitated
Carry out the planschool activities and budget Al-Imam Islamic School	65%	65%	Agree

old and new teachers, which was preceded by a presentation by the researcher.

Table 6. Test Result Recapitulation Table

Based on table 6, the recapitulation of the results of software testing on the knowledge management system is obtained as follows: in the Perceived Usefulness aspect, an average value of 63% is obtained and is included in the criteria of strongly agreeing, meaning that respondents think that the perception of the usefulness of this knowledge management system is considered very good.



In the Perceived Ease of Use aspect, an average value of 53% is obtained and is included in the doubtful criteria, meaning that respondents think that the perceived ease of use of this knowledge management system is still doubtful.

In the Attitude Toward Using aspect, an average value of 57% is obtained and is included in the doubtful criteria, meaning that respondents think that the perception of the attitude towards using the knowledge management system is not yet acceptable to respondents.

For the Behavioral Intention to Use aspect, an average value of 54% is obtained and is included in the doubtful criteria, meaning that respondents are hesitant to use the knowledge management system that will be implemented. For the Actual System Use aspect, an average value of 65% is obtained and is included in the Agree criteria, meaning that respondents in fact use the knowledge management system intensity to use the proposed knowledge management system continuously.

From the test results of the proposed knowledge management system, the average result is above 58%, which means that respondents are doubtful about the implementation of the proposed knowledge management system.

IV. CONCLUSION

In this study, the authors developed a knowledge management system model that is in accordance with the existing conditions at SD Al-Imam Islamic School, forming knowledge using the SECI model only. From the results of testing the proposed knowledge management system using the TAM (Technology Acceptance Model) method, the average result is above 58%, which means that respondents are doubtful about implementing the proposed knowledge management system at SD Al-Imam Islamic School.

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