

Level of Effectiveness of Using Zoom Meeting Application as a Learning Media on Students of IAI Muhammadiyah Sinjai

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Abstract—This study aims to (1) Knowing the level of effectiveness of the use of the zoom meeting application for students of the Faculty of IAI Muhammadiyah Sinjai and (2) Knowing what factors affect the effectiveness of using the zoom meeting application in the online learning process for IAI Muhammadiyah Sinjai students. The results of the study show that (1) The level of effectiveness of using the Zoom Meeting application as a learning medium for students of the Faculty of Economics and Islamic Law IAI Muhammadiyah Sinjai is on an effective scale with a percentage of 60.7%, which means that students agree to use the zoom application in the teaching and learning process and further information delivery, students are quite satisfied in using the Zoom meeting application because the application can be accessed for free besides it is easy to use by students. students (2) factors that affect the effectiveness of using the zoom meeting application as a learning medium for students of the Islamic law and economics faculty of IAI muhammadiyah sinjai, namely the use of the zoom meeting application can support distance learning because the presentation of learning remains visual, verbal, and saves time, and information contained in it can be accessed again.

Keywords—effectiveness, learning media, zoom meeting application

I. INTRODUCTION

Education is one way to grow one's abilities, will and potential. With education, humans can become more understanding and responsive to changes and developments in Science and Technology (IPTEK). In Law no. 2 of 2003, national education functions to develop capabilities and shape the character and civilization of a dignified nation in the context of educating the nation's life, aiming at developing the potential of students to become human beings who believe and fear God Almighty, have noble character, are healthy, knowledgeable, capable, creative, independent, and become a democratic and responsible citizen.

Advances in education, technology, information, and communication is increasing rapidly, especially in the field of technology. Online media is one of the most rapid

developments in information and communication technology at this time. Online media is media that we can find on the internet that can be accessed anywhere and anytime as long as there is an internet network. Media development

Learning activities have several components of actors in it, namely lecturers and students. In addition to these two components, there is also one component whose existence has a fairly important role, namely online media. The online media referred to here is a tool used to send messages or content from lecturers to students and vice versa. The interaction between lecturers and students is not only done through face-to-face relationships but also through distance learning using online media. Lecturers can provide learning materials without having to deal directly with students. Talking about distance learning, or now known as online, has often been discussed in the world of education since the Covid-19 virus entered Indonesia on March 2, 2020, so the government immediately followed up on the case.

Various efforts have been made by the government, one of the government's actions is to carry out Social Distancing for 2 weeks, with the aim of breaking the chain of spreading the Corona virus. Central Disease (CDC) or United States department of public health said that Social Distancing is a term to avoid mass gatherings, including staying away from gatherings, and keeping a distance from one human to another, both those who have symptoms and those who do not have symptoms. In order to be better understood by the public, the Indonesian government has changed the term Social Distancing to social restrictions or maintaining distance, with the aim of preventing the spread of the corona virus.

Based on data from the Ministry of Health (figure 1), the spread of the corona virus is the cause of the highest death toll, currently 7,616 deaths and placing Indonesia in the second rank with the highest number of cases in Southeast Asia after the Philippines, and 23rd in the world according to data from Johns Hopkins University.

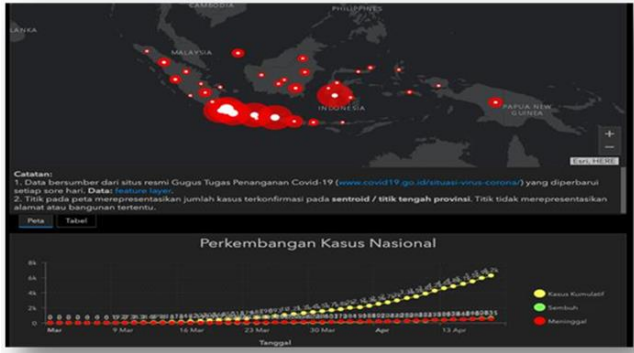


Fig. 1. The spread of the corona virus in Indonesia.

Various countries have implemented social distancing designed to reduce interactions between people in the wider community, where individuals may be infected but have not been identified and thus have not been isolated. This has had a major impact on all sectors of life, resulting in many closures of educational facilities, shopping centres and so on. Almost all sectors are affected, especially in the world of education which forces every higher education institution to be obliged to conduct online learning during the Covid-19 pandemic using online media. One of the campuses that participates in utilizing online media for the learning process is the IAI Muhammadiyah Sinjai campus, especially the faculty of economics and Islamic law, which has now begun to implement an online learning system. The teaching and learning system using online media is a system that is applied online (online) through a smart phone or computer device. This system is carried out as a way to anticipate the spread of Covid-19 at IAI Muhammadiyah, Sinjai district, but the learning system is expected to continue to run well and smoothly even though it is online (online).

The online learning process turned out to cause several obstacles faced by students during the learning process, including the difficulty of signalling because the majority of students are in remote areas so that the learning process is disrupted, secondly, it is difficult for students to always buy internet quotas because the economy is now disrupted due to being affected by COVID-19 even though the ministry of education provides quota assistance to all students affected by covid-19 but students who live in the Sinjai district have not received the assistance, the three conditions of the smart tree device or PC are inadequate so they are unable to accommodate applications that are used as learning media and fourthly the difficulty of students understanding lectures which requires detailed explanation and hands-on practice. This student statement is reinforced by the learning outcomes obtained during online lectures, which can be seen from the majority of students getting a decrease in grades in the odd semester this year.

There are many online applications that can support and facilitate long-distance communication, such as WhatsApp, Line, Classroom, etc. But usually, the application can only be used to communicate via chat only, while for meetings and

discussions with more than one person it will be difficult. But now there is one application that can carry out meeting or discussion activities together such as face to face without having to meet physically, the name of the application is zoom meeting. Zoom is a communication application using video that has complete features such as sharing screen, chat, group meeting conference, video call recording feature.

Zoom meeting provides free or free convenience for users who download this application via a laptop or cell phone. However, for users who want to do more management, they must register first, especially if you want to conduct online conferences with more than 1000 people at the same time. Zoom application is headquartered in San Jose, California, United States and was founded in 2011.

This is reinforced by the statement of Rahmatullah as the Dean of the Faculty of Economics and Islamic Law saying that through this Zoom application, lecturers can directly communicate virtually, by providing lecture materials directly to their students, besides this Zoom meeting application has supporting features, such as share scree so that lecturers can display their presentation slides through the feature, then the video feature can be used so that lecturers can see their students and interact through the audio feature.

Therefore, seeing the advantages of this zoom meeting application, researchers want to know the effectiveness of using the zoom meeting application in the online learning process. Based on the description above, therefore the researchers raised the title: Effectiveness of Using the Zoom Meeting Application as a Learning Media for Students of the Faculty of Economics and Islamic Law IAI Muhammadiyah Sinjai.

A. Study of E-Learning

E-Learning is basically a web-based system that makes information or knowledge available to users or students and ignores time restrictions or geographical proximity. Whereas online learning has advantages over traditional face-to-face education [1], concerns include time, labour intensity, and material resources involved in running an e-Learning environment. The failure rate of e-Learning is expensive. The implementation discussed by Arbaugh and Duray [2] deserves attention from management and system designers.

B. Zoom Meeting as a Learning Medium

The development of science and technology is increasingly encouraging efforts to utilize the results of technology in the teaching and learning process at the university itself. With this, it requires students to be able to innovate in using more modern tools in accordance with the developments and demands of the times. One that is developing in teaching and learning activities is learning media.

Media is a tool that helps the teaching and learning process and serves to clarify the meaning of the message conveyed in order to achieve the learning objectives that have been set along with the times, learning media is also classified in non-

physical form (software). Non-physical learning media is the content of messages contained in hardware and contains messages to be conveyed both inside and outside the classroom [3].

C. Technology Acceptance Model (TAM)

Several research models have been used to find out and analyse how to use an information system, one of which is the Technology Acceptance Model or commonly abbreviated as TAM developed by Fred D. Davis [4]. According to Davis TAM is an information systems theory designed to explain how an information technology can be understood and applied by its users [4]. TAM is a research development process previously known as Theory of Reasoned Action (TRA) by Fisbein et al [5]. TRA itself explains how users respond to the use of information technology based on the reactions and perceptions of the use of information technology.

The original construction of TAM introduced by Fred Davis [4] is the perception of perceived ease of use, perceived usefulness, attitude, actual use, but over time the model has several been revised several times, by adding several variables including behavioural intention, which was added to an external perspective, namely experience and complexity (figure 2).

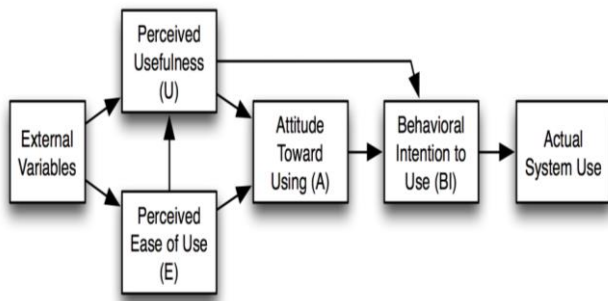


Fig. 2. Technology Acceptance Model [6].

1) *Perceived usefulness*: Perceived usefulness is a phase where a person believes that the user of a particular system will be able to increase that person's work performance. Based on this definition, it can be interpreted that the usefulness of using ICT can increase the performance, work performance of anyone who uses it. Thompson then concludes that the benefits of information technology are the expected impact of information technology users in carrying out their duties. Thompson also states that individuals will use information technology, if the person has a good understanding of the benefits or usefulness of its use.

2) *Perceived ease of use*: Perceived ease of use describes the extent to which one believes that using a system is easy. Before someone has the intention to use, the individual will consider and find out how easy the system can be operated/used, in terms of features to specifications that aim to free users from physical and mental burdens. Perceived ease

of use is defined in Pour's book, "Which when translated into, Perceived ease of use is defined as the extent to which a person believes that using a particular system will be free from effort".

3) *Attitude toward using system*: Attitudes towards the use of whether or not they like the use of the system, which in turn will affect whether users will continue to use the system or not. According to Davis [4] it is said that the attitude toward using technology (attitude toward using technology), is an evaluation of those who use technology regarding their interest in using the technology.

4) *Behavioral intention to use*: Behavioral intention to use is a person's behavioral tendency to continue using a technology Davis [4]. The use of an information technology system by a person can be predicted by looking at the attitude of the user's attention to the technology, whether he is still motivated to use it and motivating others to want to use the technology.

5) *Real system usage conditions (actual system usage)*: A person will feel satisfied using a system if he believes that the system can increase his productivity and is easy to use, which can be seen from the real conditions of use (figure 3).

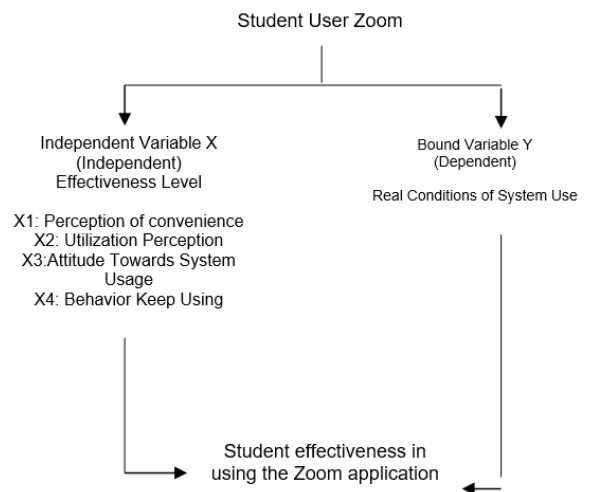


Fig. 3. Variable framework schematic.

D. Research Variables and Models

1) *The effectiveness of using the zoom meeting application*: Is a condition that shows the level of success or achievement of a goal as measured by using the TAM Model which includes 4 indicators including perceived usability, perceived ease of use, attitudes towards users, behavior to keep using, in the use of the zoom meeting application. Where the level of effectiveness of using the zoom meeting application is X or the independent variable (Independent).

2) *Learning media for students*: Is a means or intermediary used in the interaction process that takes place between students and lecturers then measured using the TAM Model with indicators of real conditions of use. Where the learning media for students is Y or the dependent variable (Dependent).

II. RESEARCH METHODS

This study examines the level of effectiveness of using the zoom meeting application as a learning medium for Islamic students of IAI Muhammadiyah Sinjai, researchers use a descriptive quantitative approach because to obtain more general data and can represent the conditions on the object and subject of research. The quantitative research in this study uses a questionnaire as the main instrument to collect data and interviews as a tool to collect supporting data, then the interpretation of the data, and the presentation of the results are described by deduction which departs from general theories, then tests the validity of the validity of the theory and conducts research. conclusion. Then described descriptively, to answer the formulation of the research problem.

A. Data Sources and Data Collection Techniques

The research method used is descriptive quantitative research type, namely research conducted by describing or explaining the phenomenon of data obtained from questionnaires / questionnaires. The data collection technique used in this study is a questionnaire containing questions with 1 category, namely the Effectiveness of Using the Zoom Meeting Application as a Learning Media for IAI Muhammadiyah Sinjai students, especially students of the Faculty of Economics and Islamic Law where the population is 858 people and then used as a total The sample amounted to 122 people who were known through the volunteer sampling process, meaning that this was done by distributing online questionnaires to the entire population. The data analysis technique used is the Likert scale measurement.

B. Data Analysis Method

In order for the data obtained with the questionnaire to be valid, it is necessary to test the validity and reliability of the questionnaire on the question instrument, simple regression test and descriptive analysis.

1) *Validity test*: Validity test is needed to assess the suitability of the measurement tool on the questionnaire as a research instrument, validity is an index that states the extent to which the instrument will measure what it wants to measure.

The instrument validity test was carried out with using ordinal scale data that shows the existence of a hierarchy as revealed [7] that the correlation of levels, which is referred to in English terms as rank-difference correlation or rank order correlation, is used to determine the relationship between two symptoms, both of which are ordinal and systemic symptoms. level. The application form of using the rank-difference

correlation (ρ) in this study was carried out using the SPSS version 21 application. Each item in the instrument is declared valid or not, it can be known by correlating the item score with the total score (Y). If the correlation price is below 0.30 (r -critical < 0.30), it can be concluded that the item of the instrument is invalid, so it must be corrected or discarded.

2) *Reliability test*: A measuring instrument is said to have reliability if it is used many times by the same researcher or by other researchers still giving the same results. In assessing the reliability of all question items, the researchers used instrument testing with the halving technique as disclosed [8] that the instrument reliability test can be done with the Spearman Brown halving technique (Split half). For this reason, the use of the alpha coefficient is also relevant for use on ordinal scale data by testing all items of research questions or statements. This test was carried out using the SPSS version 21 application.

The reliability test on the research instrument can be declared reliable if the correlation coefficient value is greater than 0.6 that the criteria for a research instrument is said to be reliable if the reliability coefficient 0.6 then it is said to be reliable [7].

3) *Simple linear regression test*: Simple regression test is used to measure the influence of one independent variable with the dependent variable, the function of this test is to determine how much the value of the variable has been influenced by the independent variable. The following is a simple linear regression formula:

$$Y = a + bX$$

Information:

Y: Dependent Variable X: Independent Variable
a: constant b: Regression Coefficient

4) *Descriptive statistics*: Descriptive statistics are concerned with recording and summarizing data, with the aim of describing important things in a group of data, such as what is the average, variation of data and so on. Research data in this study, researchers used to describe the results of learning mathematics. One of the methods used is to use a frequency distribution.

III. RESULTS AND DISCUSSION

Technology Acceptance Model or commonly abbreviated as TAM which was developed by Fred D. Davis. According to Davis TAM is an information systems theory designed to explain how an information technology can be understood and applied by its users. TAM is used to describe and estimate how the level of acceptance of the use of an information system, there are several bases used in this model to find out what factors affect the acceptance of a system, and then explain how an information system has a causal relationship with benefits and ease of use [9].

TABLE I. THE EFFECTIVENESS OF USING THE ZOOM MEETING APPLICATION

Effective Level			
No.	Category	Frequency	Percentage
1	Ineffective	-	-
2	Somewhat Effective	16	13.1
3	Effective	74	60.7
4	Very effective	32	26.2
Total		122	100.0

Source: Processed Primary Data 2020

From the table 1 above, it can be concluded that based on the four indicator items in measuring the level of effectiveness of using the zoom meeting described above, it can be explained that the level of effectiveness is in the effective category with a percentage of 60.7% or 74 respondents, then continued with the very effective category. with a percentage of 26.2% or 32 respondents, followed by a moderately effective category with 13.1% or 16 respondents from 122 respondents.

In addition, in determining the indicators the researcher uses the TAM Model to describe and estimate how the level of acceptance of a person in using an information technology. From the results of research that has been done about an information technology, namely the zoom meeting application which is used as a learning medium for students. Based on the results of overall data processing on the variable level of effectiveness of using the Zoom Meeting application as a learning medium for students of the Faculty of Economics and Islamic Law, it can be concluded that the level of effectiveness of using the Zoom Meeting application as a learning medium for students of the Faculty of Economics and Islamic Law are in the moderately effective category with a percentage of 13.1%, effective with a percentage of 60%, then in the very effective category with a percentage of 26.2%, then with. The category that has the lowest percentage is in the moderately effective category with a percentage of 13.1%, while the category that has the highest percentage is in the effective category with a percentage of 60.7%. This means that students agree to use the Zoom Meeting application in the learning process. However, 31.1% of students are quite satisfied with using zoom.

To find out the overall real condition of using the system, a scoring of all total respondents' answers is carried out, for more details can be seen in the table 2 below:

TABLE II. LEVEL REAL CONDITIONS OF SYSTEM USERS

Real Condition Level of System Use			
No.	Category	Frequency	Percentage
4	Not satisfied	5	4.1
1	Quite satisfied	44	36.1
3	Satisfied	43	35.2
2	Very satisfied	30	24.6
Total		122	100%

Source: Processed Primary Data 2020

From the table above, it can be concluded that based on the four statement items to measure the level of real conditions of system users described above, it can be explained that the level of conditions is in the doubtful category with a percentage of 36.1% or 44 respondents, then continued with the agree category. with a percentage of 35.2% or 43 respondents, followed by the category strongly agree with 24.6% or 30 respondents and 4.1% or 5 respondents from 122 respondents who are in the category of disagreeing with the use of zoom meetings in the teaching and learning process for students IAIM Sinjai.

The research that has been carried out is in line with the research conducted by Suzanne Young with the title Student Views of Effective Online Teaching in Higher Education of. This study investigates students' views about online instruction in higher level education courses. Data were collected from 199 online students using a web-based instrument. The instrument consists of items that are expected to be related to effective online teaching. One overall effective teaching item was regressed into twenty-five items sequentially to identify the core group of items most strongly associated with effective teaching. Seven items emerged as a core group: adapting to students' needs, using meaningful examples, motivating students to do their best, facilitating the course effectively, deliver courses, communicate effectively, and show concern for student learning. These seven items explain 86.2% of the variability in effective teaching and provide a definition of effective online teaching. In open comments, students wrote that effective teachers are visible and actively involved in learning, work hard to build trusting relationships, and provide a structured, yet flexible classroom environment.

Then Pie Chen Sun and Glen Finger Dwi also conducted research on What drives a successful e-Learning? An empirical investigation of the critical factors influencing learner satisfaction. Using quantitative methods, Pie Chen Sun and Glen Finger found that E-learning emerged as a new paradigm of modern education. Worldwide, the e-learning market has a growth rate of 35.6%, but there are failures. Little is known about why many users stop their online learning after their initial experience. Previous research conducted under different task environments has suggested various factors that influence user satisfaction with e-Learning. This study developed an integrated model with six dimensions: learners, instructors, courses, technology, design, and the environment. A survey was conducted to investigate the important factors that influence learner satisfaction in e-Learning. The results showed that students' computer anxiety, instructor's attitude towards e-Learning, e-Learning course flexibility, quality of e-Learning courses, perceived usefulness, perceived ease of use, and diversity in assessment were important factors influencing participants' perceived satisfaction. educate. The results show institutions how to increase student satisfaction and further strengthen their e-Learning implementation. Instructor attitudes towards e-Learning, e-Learning course flexibility, quality of e-Learning courses, perceived usefulness, perceived ease of use, and diversity in assessment are the important factors influencing the perceived satisfaction of learners. The results

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IV. CONCLUSION

The results of the study on the Effectiveness of Using the Zoom Meeting Application as a Learning Media for Students of the Faculty of Economics and Islamic Law IAI Muhammadiyah Sinjai concluded that:

- The level of effectiveness of using the Zoom Meeting application as a learning medium, both in terms of perception of use, perception of ease of use, attitude towards system use, behaviour to continue to use, is fairly effective. However, the real condition of using the system is that they are quite satisfied in using zoom meetings as a learning medium.
- The main factor is that the zoom meeting application is effectively used by students of the Faculty of Economics and Islamic Law IAI Muhammadiyah Sinjai as a learning medium because the application is more flexible in terms of time, while encouraging students to study independently or self-regulated learning.

REFERENCES

- [1] G. Piccoli, R. Ahmad and B. Ives, "Web-based virtual learning environments: A research framework and a preliminary assessment of effectiveness in basic IT skills training," *MIS quarterly*, pp. 401-426, 2001.
- [2] J.B. Arbaugh and R. Duray, "Technological and structural characteristics, student learning and satisfaction with web-based courses: An exploratory study of two on-line MBA programs," *Management learning*, vol. 33, no. (3), pp. 331-347, 2002.
- [3] K. Cecep and S. Bambang, *Manual and digital learning media*. Bogor: Ghalia Indonesia, 2011.
- [4] F.D. Davis, *A technology acceptance model for empirically testing new end-user information systems*. Cambridge, MA, 1986.
- [5] M. Fishbein, J. Jaccard, A.R. Davidson, I. Ajzen and B. Loken, *Predicting and understanding family planning behaviors. In Understanding attitudes and predicting social behavior*. Prentice Hall, 1980.
- [6] V. Venkatesh and F.D. Davis, "A model of the antecedents of perceived ease of use: Development and test," *Decision sciences*, vol. 27, no. (3), pp. 451-481, 1996.
- [7] S. Arikunto, *A Practice Research Procedure*. Jakarta: Rineka Cipta, 2010.
- [8] S. Sugiyono, *Educational research methods approach quantitative, qualitative and R&D*. Bandung: Alfabeta, 2012.
- [9] N. Nurriyah, N.A. Mayangky, S. Hadiani and D. Riana, "Analisis Technology Acceptance Model Pada Aplikasi Platform Perdagangan Elektronik Di Kalangan Mahasiswa," *Jurnal Teknik Informatika*, vol. 12, no. (1), pp. 59-68, 2019.