LEARNING FEATURES EVALUATION BASED ON RESEARCH ACCEPTANCE OF DISTANCE LEARNING TECHNOLOGY USING THE TECHNOLOGY ACCEPTANCE MODEL (TAM)

(STUDY ON POSTGRADUATE STUDENTS OF THE OPEN UNIVERSITY)

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Abstract

The Technology Acceptance Model (TAM) describes the factors that influence the acceptance and adoption of technology by individuals. In the context of education management, TAM is used to understand how educators and students respond to the use of technology in the educational process.

Previous research on Open University postgraduate students shows high student acceptance of the distance learning model in the TAM context. This research then evaluates the features of the learning service website, especially for Postgraduate students and tutors. The research results show that all students use the features on the UT learning services website, related to registration, web tutorials, THE, online exams, and thesis guidance. However, there are still several features that need to be added to these learning services, such as: (a) the quality of the Zoom meeting application is considered better than the Teams application; (b) tutorial time is considered insufficient to deepen the material; (c) tutors and students have difficulty using various learning resources interactively in webinars, due to limited applications and material presented in online tutorial. Furthermore, it is suggested that additional learning service features be added to the integrated website. So that students can access various learning services at UT starting from registration to thesis writing. Likewise, Tutors can carry out various assignments received with single access and supporting features.

Keywords: TAM, UT learning services website, quality

1 RESEARCH BACKGROUND

The Technology Acceptance Model (TAM) is a framework that is widely employed in information systems research to assess how users respond to information systems (Landry et. al., 2006). This model was first introduced by Davis in 1989. TAM asserts that when users are faced with the choice to use a new system, there are several factors that influence their decision. These factors are mainly related to (a) Usefulness. The user believes that using the system will improve its performance or provide significant benefits; (b) Ease of Use. Users believe that using the system will relieve them of difficulties, and the system is easy to use. TAM, which has a strong behavioral element, assumes that when someone has the intention to act, they will

be free to do so without hindrance. This model explains how a technological system is accepted by the users who will use it, and was developed by Davis and his colleagues in 1989 based on the model TRA (Jogiyanto, 2007) which is known as the Technology Acceptance Model or TAM.

The success of an information system depends on the extent of the user's interest in continuing to use the system. One way to assess whether users will continue to use the system is through the level of user satisfaction. This state of satisfaction can be seen from the extent to which individuals as users feel satisfied and motivated to continue using the Information System when they feel that the results obtained are in accordance with what they input (Adam, 1965). Martinez-tur et al's (2006) research discovered that individuals will have a fairness motive and consider their level of satisfaction using fairness as a fundamental thing. In order to achieve justice, quality information, systems and services are needed, so that it is hoped that ultimately individual satisfaction will be achieved in using information systems (Delone & Mc Lean, 2004).

UT as a university that implements a distance and open learning system uses information technology systems in its learning process. UT students' acceptance of information technology systems is one of the factors in student learning success. Increasing student use of information technology is facilitated by the development of various internet-based service and learning support programs. Currently UT has provided online tutorials for all courses and has an adequate LMS for online tutorials. This is motivated by several factors, namely: (a) learning assistance services through tutoring are increasingly in demand by students; (b) UT students' ICT literacy is getting better; and (c) access to the internet and supporting technology is getting easier.

Currently, UT students are increasingly using online learning assistance. This was marked by a significant increase in tutoring participants, namely 103,861 people (59.72%). Meanwhile, 1,129 courses were tested in writing and 909 courses were tested online with a fluctuating number of participants (Open University Business Strategic Plan 2021-2025). Muflikah's research (2022) shows that the Open University Tutor's acceptance of the use of the Microsoft Teams application for Tuweb received an average of 89.77 in the fully acceptable category with a contribution of 67.5%. In addition, tutor acceptance of the use of the LMS application received an average of 88.04 in the fully acceptable category with a contribution of 75.0% from

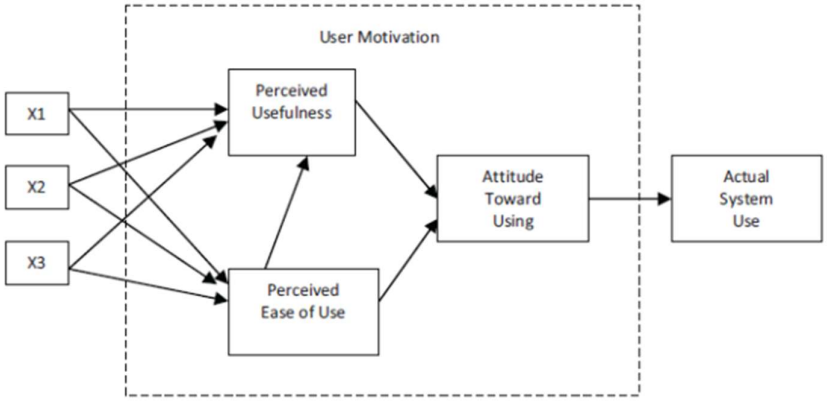
other dimensions. Fatmasari and Rosita's (2022) research also shows that all information technology acceptance variables have a significant effect on the use of information technology by UT postgraduate students.

2 LITERATURE REVIEW

2.1 Technology Acceptance Model (TAM)

The Technology Acceptance Model (TAM) is a theory that developed from the Theory of Reasoned Action (TRA) which was previously introduced by Ajzen and Fishbein in 1980. TAM was then proposed by Davis in 1989. TRA is a theory demonstrating individuals carry out a behavior, as they have the will or intention to do so, related to the activities they undertake voluntarily. TAM, basically, explains the cause-and-effect relationship between an individual's belief in the benefits of an information system and its ease of use with usage behavior and needs for that information system. The main goal of TAM is to demonstrate and predict how users will receive an information system. In TAM, the TRA concept is used as a basis for understanding the relationship between perceptions about the benefits and ease of use of an information technology and users' interest in adopting that technology. TAM is basically a theory demonstrating how technology users form their perceptions, and how these perceptions will influence their interest in using information technology (Davis, 1989).

In the TAM model, the level of acceptance of IT use is determined by five constructs, namely, perceived ease of use, perceived usefulness, attitude toward use, behavioral intention to use, and actual system usage. The TAM model introduced by Davis (1989) is described as follows.



Picture 1: TAM Model by Davis, 1989

Along with the development of technology, the variables that influence the acceptance of information technology are increasingly developing, such as: (1) quality of information, related to accuracy, completeness, easy to understand, and relevant to the lecture material that will be delivered online (Carr, 2000; DeLone & McLean's, 1992; Chae and Kim 2001). (2). system quality, regarding the interrelationship of features in the system including system performance and user interface (Arbaugh, 2002); (3) system use. Human-Organization-Technology (HOT) Fit Model developed by Yusof et al. (2006); (4) cognitive style is the main basis in information management and Decision Support Systems (Huber, 1983; Lee et al. (2003; Compeau and Higgins, 1995; Compeau et al., 1999); (5) user satisfaction, (Chiu et al., 1999); al, 2005).

2.2 UT Academic and Non-Academic Services

The main focus in the UT Strategic Plan is to prioritize service to students as the core of its business activities. Services to students are divided into two types, namely academic services and non-academic services. UT academic services include several things, such as: a) registration process, b) tutorials, and c) academic consultations. Apart from that, UT also provides non-academic services which involve: a) providing information, b) assistance in the learning process, c) academic guidance, d) academic administration, e) handling complaints from customers, and f) library facilities. All types of services aim to help students overcome various problems related to academic aspects and academic administration while they study at UT. Based on the UT Strategic Plan for 2021-2025, UT's policies are directed at three focuses for improvement, namely (1) improving academic quality, (2) improving internal management, and (3) increasing student participation rates.

Apart from services directly related to academic aspects, UT also provides administrative services to students. This service is focused on helping students in various matters such as the registration process, obtaining learning materials, applying for credit transfers, and so on, which can influence the student's learning process. Almost all services provided by UT to students can now be accessed online using information technology networks throughout UT Regions.

2.3 Research Methodology and Results

This research was conducted on UT Postgraduate students who entered the seventh semester of UT Postgraduate Study Programs. Research data was collected using questionnaires and interview guidelines. Questionnaires were given to students directly and online. Next, interviews were conducted with several selected regional UT samples. The selection of Regional UT samples was carried out using a purposive sampling method taking into account the representativeness of Regional UTs. Apart from that, questionnaires were also given to UT Postgraduate students who took part in online tutorials.

Data processing employed Structural Equation Modeling to test hypotheses and interview guidelines to find out more about respondents' perceptions of the use of internet-based learning applications organized by the Postgraduate Program.

2.1.1 Hypothesis Test Results

The hypothesis proposed in this research is

H1: There is a significant positive influence of the Perceived Ease of Use variable on the Attitude Toward Using variable

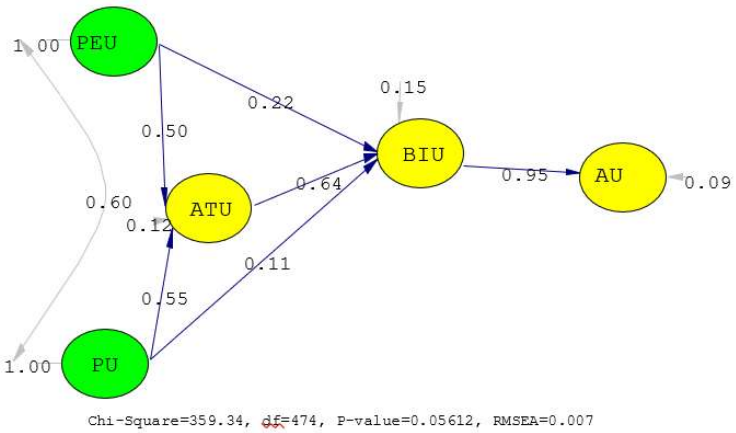
H2: There is a significant positive influence of the Perceived Usefulness variable on the Attitude Toward Using variable

H3: There is a significant positive influence of the Perceived Ease of Use variable on the Behavioral Intention to Use variable

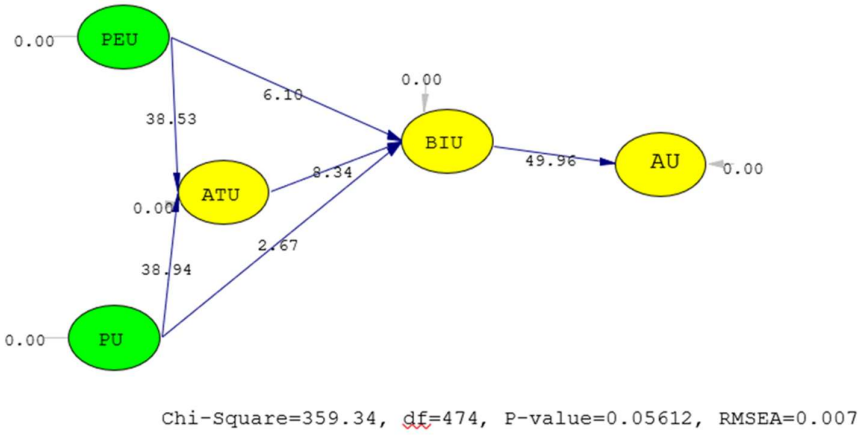
H4: There is a significant positive influence of the Perceived Usefulness variable on the Behavioral Intention to Use variable

H5: There is a significant positive influence of the Attitude Toward Using variable on the Behavioral Intention to Use variable

H6: There is a significant positive influence of the Behavioral Intention to Use variable on the Actual Use variable



Picture 1. SLF Structural Model



Picture 2. T Count Structural Model

Table 1. Hypothesis Testing Results

Hypothesis		SLF	T-Count	Direction of Influence	Conclusion
H1	PEU → ATU	0.50	38.53	Positive	Significant
H2	PU → ATU	0.55	38.94	Positive	Significant
H3	PEU → BIU	0.22	6.10	Positive	Significant
H4	PU → BIU	0.11	2.67	Positive	Significant
H5	ATU → BIU	0.64	8.34	Positive	Significant
H6	BIU → AU	0.95	49.96	Positive	Significant

2.4 Discussion

The results of hypothesis testing show that all hypotheses are accepted. Students' perceptions of the ease of use of the distance learning model have a significant effect on attitudes towards application. Students believe that using distance learning services will be able to increase their independence and that the distance education model is useful in improving IT skills. Students also feel comfortable and enjoy studying using distance education methods and they find online distance education and using the UT website enjoyable.

Perceived Usefulness, in the form of the ease felt by students to learn from anywhere and flexibly. Helps to access lecture materials more quickly via the UT website and helps improve learning performance and productivity. The ease felt by students influences Attitude Toward Using so that students are comfortable with the distance learning model.

Perceived Ease of Use (PEU) is related to the extent to which students perceive distance learning via information technology as easy to use. PEU is one of the key factors that influences students' intentions and behavior to adopt technology. Students find it easy to use distance learning technology so they can accept it and use it. According to TAM, PEU has a positive effect on Behavioral Intention to Use (BIU). The easier students find the technology to use, the more willing they are to use it and they tend to have stronger intentions to use it. However, PEU is only one of the factors that influence BIU. Other factors, such as Perceived Usefulness (PU) or the perception of the extent to which the technology is useful in achieving user goals, also play an important role in shaping BIU.

Perceived Usefulness (PU) is a student's subjective perception of the extent to which a distance learning technology or distance education system will help them achieve their desired goals or tasks. A high PU level indicates that students believe that the use of technology will provide significant benefits in their work. PU has a positive effect on Behavioral Intention to Use (BIU), the higher the level of PU felt by users towards technology, the greater their intention to use it. UT graduate students feel that distance learning is very useful and provides real benefits in achieving their goals, so they tend to have a stronger intention to use it (high BIU).

Actual System Use (ATU) refers to the actual act of using a technology or system by an individual or group, the extent to which a person has actually adopted and used the technology in practical situations. For UT postgraduate students, it appears that students have had

experience using distance learning technology and experienced the benefits of using technology and felt satisfied with this experience. Therefore, they tend to have a stronger intention to continue using distance learning technology. Positive experiences with technology can strengthen an individual's intention to use it in the future. Conversely, negative experiences or dissatisfaction with technology can reduce intentions to use the technology. However, the relationship between ATU and BIU is not always consistent. Other variables that can also influence BIU are Perceived Usefulness (PU), Perceived Ease of Use (PEU), and social or environmental factors. In analyzing technology adoption, it is important to understand the relationship between ATU and BIU and other factors that influence both. It helps in designing appropriate strategies to increase technology adoption and understand how user behavior evolves over time.

The results of this research also show that Behavioral Intention to Use (BIU) has a positive influence on Actual System Use (AU). This means that if students have a strong intention to use distance learning technology (high BIU), they are more likely to actually adopt the technology and use it in real action (high AU). A positive user experience, can strengthen their intention to continue using the technology (higher BIU).

Based on the results of testing this hypothesis, this research then conducted a study of the features of learning service sites, especially for postgraduate students and tutors. The research results show that all students use the features on the UT learning services site, related to registration, web tutorials, THE, online exams, and thesis guides. However, there are still several features that need to be added to this learning service, such as: (a) the quality of the Zoom meeting application is considered better than the Teams application; (b) tutorial time is considered insufficient to deepen the material; (c) tutors and students experience difficulties in using various learning resources interactively in webinars, due to limited applications and materials presented in online tutorials. Furthermore, it is recommended to add additional learning service features to this integrated website. Therefore, students can access various learning services at UT, from registration to writing a thesis. Likewise, tutors can carry out various tasks received with single access and supporting features.

3 CONCLUSIONS AND SUGGESTIONS

Based on the results of testing the variables that influence the use of distance learning technology among UT postgraduate students, it can be concluded that postgraduate students' acceptance of information technology is very good. This can be seen from the results of hypothesis testing which shows that UT postgraduate students have used distance learning technology well. Respondents believe that distance learning technology increases independence, improves performance and productivity. Postgraduate students are also very comfortable using technology. They think that distance learning technology is easy to use and has a positive impact on their activities. This affects the intensity of use and in the long-term UT students will always use this distance learning technology.

In line with the high activity in the use of long-distance technology, a factor that currently needs to be addressed is the services provided via online technology. Features that need to be improved include webinar quality, online exams and integration of all learning services in one feature.

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