Research Paper

The Successful Implementation of a Financial Information System at Hasanuddin University: Development of the Financial Information System Technology Adoption Model (FISTAM)

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ABSTRACT: *This This study aims to explore the factors that influence the successful implementation of the Financial Information System (SIMKEU) at Hasanuddin University (Unhas). The theories referred to in this study are the most frequently used technology adoption theories, such as the Technology Acceptance Model (TAM), IS Success Model, Unified Theory of Acceptance and Use of Technology (UTAUT), Task Technology Fit (TTF), and Information System Continuance (ISC). This research is descriptive in nature, and the selected respondents are SIMKEU users at Hasanuddin University. The analysis resulted in a successful model of SIMKEU implementation at Unhas called the Financial Information System Technology Adoption Model (FISTAM), which we developed and is expected to be a reference for researchers in the field of technology adoption.*
KEYWORDS: SIMKEU, Unhas, TAM, IS Success Model, UTAUT, TTF, ISC, FISTAM

I.   INTRODUCTION

The development of information and communication technology has affected almost all industrial fields [1]. This influence is not only on the business sector, but also on other sectors such as health, government, and education. The education sector as a process and industry cannot be separated from the influence of information technology developments [1]. Information technology in the education sector can affect the learning process which is the main business of an educational institution. E-learning, learning management systems (LMS), e-library, and many more are forms of using information technology to support the implementation of education. Several previous studies have found the effectiveness of using E-learning and LMS to improve the quality of education [2], [3], [4].

Information technology does not only affect the learning process as the core business of the education sector but also influences its supporting activities such as financial management. Financial management is planning, directing, monitoring, organizing, and controlling the monetary resources of an organization efficiently and effectively to achieve organizational goals. This financial management must be carried out properly because it is a source of funds for operational activities and is very supportive of improving the quality of implementing education in a sustainable manner [5]. The use of technology to support financial management in the education sector can be done in the form of a financial information system or an accounting information system. Indrayani explained that using information technology for financial management can provide value in the form of transparency, decentralization, integration, democracy, and independence in educational institutions [6], [7].

Higher education is one of the educational institutions that has widely implemented the use of information technology in its financial management. Universities are required to be more transparent and

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accountable in managing their finances because sound financial management is one of the main objectives of a tertiary institution. This has caused many tertiary institutions to develop financial information systems (SIMKEU) or accounting information systems (SIA) to support their management. The application of SIMKEU in tertiary institutions has proven successful in providing a positive and significant impact on financial management. A study by H.N. Hartikayanti found that the use of SIMKEU in tertiary institutions was proven to increase the performance of tertiary institutions [8]. Several other previous studies have also found the effect of SIMKEU on improving the performance of a tertiary institution [9], [10], [11].

One of the universities that has successfully implemented SIMKEU is Hasanuddin University (Unhas). Unhas is the largest and best tertiary institution in eastern Indonesia. Unhas is a state university that has implemented a system of financial management for State Universities with Legal Entities (PTNBH) and is the only one in Eastern Indonesia. PTNBH's financial management is autonomous in that universities are given full authority to manage their finances. Because it is autonomous, the financial management carried out by Unhas continues to be in the spotlight of very high attention every year. The existence of SIMKEU as an information system that helps Unhas in managing its finances is proven to provide good performance, transparency, and accountability. This can be seen from the results of the assessment of Unhas' financial statements which have received the Unqualified Qualification (WTP) title for 14 consecutive years.

Based on the explanation above, we intend to conduct a study to find the factors that influence the successful implementation of SIMKEU at Hasanuddin University. This study will conduct a literature review regarding the success factors of information system implementation from several previous studies and then confirm whether these factors also influence the successful implementation of SIMKEU at Hasanuddin University. The output of this study is a Financial Information System Technology Adoption Model (FISTAM) that was successfully implemented at Unhas.

II.   LITERATURE REVIEW
TECHNOLOGY ACCEPTANCE MODEL (TAM)
TAM is a technology acceptance model that is used to see the level of individual acceptance of the adoption of technology [12]. This model was developed from psychological theory which explains that the behavior of using technology by individuals is influenced by factors of beliefs, attitudes, and user interests. The goal is that this model can be predicted what factors influence the adoption of certain technologies in individuals and can also predict and explain why users accept or reject an information system. This model explains that the actual use of an information system will be greatly influenced by user interests where user interests are influenced by perceived usefulness and perceived ease of use [13]. Perceived usefulness implies that the more useful a technology or system is for an individual, the individual will continue to use the technology or system. Perceived ease of use implies that if an individual feels that using the technology or system is easier than other systems, then the individual will tend to choose that technology or system.

The results of this study found that perceived usefulness has a significant effect on users' interest in using a technology or system, even without developing interest, individuals will immediately use a technology if it is deemed beneficial for them [13]. In the same study, it was found that perceived ease of use also influences user interest but does not directly influence the actual use of a particular technology or system. Recent studies examining the use of TAM in technology adoption in colleges found that user interest, perceived ease of use, and perceived usefulness still have a large influence on technology adoption [14]. Another study also found a significant influence between user interest, perceived ease of use, and perceived usefulness on the actual use of technology [15]. Several studies have also used TAM as a reference to predict information technology adoption [16], [17], [18].

IS SUCCESS MODEL
The IS Success Model is a technology acceptance model developed by DeLone and McLean. They explained that measuring the success of information system implementation is important to be able to know the value of the steps taken in the management and investment of information systems [19]. In this model, the factors that influence the successful implementation of an information system are system quality, information quality, usage, user satisfaction, and individual impact. The quality of systems and information will affect the use of information systems, where the higher the usage, the more it will affect user satisfaction. The amount of user satisfaction will affect individual user satisfaction which will then affect the overall organizational performance.

The results of this study indicate that the successful implementation of an information system is influenced by the output of the system, in this case, information. In addition, the quality of the system will also affect its use and lead to the successful implementation of the system [19]. Yanxing Li and Jinghai Wang conducted a study using the IS Success model and found that the use of this model can still explain the adoption of the latest technologies such as information systems based on cloud computing [11]. Mohamed Saad also uses the variables in the IS Success model to predict the success of information system implementation and finds that all the variables in the IS Success model are still significant [20]. Several studies have also used the IS Success Model as a reference for predicting the success of information system implementation [21], [22], [23], [24].

UNIFIED THEORY OF ACCEPTANCE AND USE OF TECHNOLOGY (UTAUT)

The Unified Theory of Acceptance and Use of Technology is an information technology acceptance model developed by Venkatesh [25]. This theory combines 8 (eight) theories of information technology adoption including the theory of reasoned action, technology acceptance model, motivational model, theory of planned behavior, model of PC utilization, innovation diffusion theory, and social cognitive theory. This theory explains that user acceptance is a key factor in the adoption of information technology. Acceptance of use is influenced by four factors, namely, performance expectancy, effort expectancy, social influence, and facilitating conditions. Performance expectancy refers to a person's belief that using technology will improve performance. Effort expectancy refers to the level of ease of use of these technologies and systems. Social influence refers to one's awareness of other people or the environment using the system. Facilitating conditions refer to the belief that other people support the activity of using the system.

Mohammad Husam Odeh used the UTAUT model to predict financial information system adoption and found that the model as a whole could explain financial information system adoption [26]. Wisudani – Rahmaningtyas used the UTAUT model to predict e-learning adoption and found that all variables in the model had a significant effect on e-learning adoption [27]. Jing Wang conducted a study to see the use of the UTAUT model by several other studies and found that this model is still very significantly used by system adoption researchers around the world, especially those from China, the United States, Malaysia, and Britain [28].

OTHER TECHNOLOGY ACCEPTANCE THEORY

Goodhue and Thompson developed a model known as Task Technology Fit (TTF) [29]. This model explains the use of technology by examining the match between technology and user tasks/needs. In contrast to several previous models which focused on the antecedents of use and interest, this model explores more aspects of post-adoption technology utilization. TTF includes five constructs that represent the model, namely task characteristics, technology characteristics, task technology compatibility, technology utilization, and performance impact. Several studies have used the TTF model to predict information technology use [30], [31], [32].

Anol Bhattacherjee developed an Information System Continuance model based on the expectation-confirmation theory [33]. This model assumes that post-adoption expectations are more important than pre-adoption expectations. A user will continue to develop expectations to continue using a technology after gaining more experience when using it. This shows that post-adoption expectations are a relevant determinant of user satisfaction. Several studies have used the TTF model to predict information technology usage [34], [35], [36].

III.   METHODOLOGY

This research is descriptive research that will look for key factors for the successful implementation of financial information systems at Unhas. The factors that are used as references in this study are all variables in the technology acceptance model, IS Success Model, Unified Theory of Acceptance and Use of Technology, and several adoption theories that have been explained in the previous subsection. Respondents will be asked for their opinion on what factors influence the successful implementation of the financial information system at Unhas. The output of this research is a model of the successful implementation of financial information systems at Unhas. The respondents in this study were all users of financial information systems at Unhas. Following are some of the factors that will be used in this study:

Table 1. Factors influencing technology adoption based on previous studies

NO	FACTORS	REFERENCE
1	Perceived Usefulness	Technology Acceptance Model
2	Perceived Easy of Use	Technology Acceptance Model
3	Information Quality	IS Success Model
4	Service Quality	IS Success Model
5	Performance Expectation	UTAUT

6	Social Influence	UTAUT
7	Facilitating Conditions	UTAUT
8	Task Technology Fit	TTF
9	Impact on Performance	TTF
10	Usage Experience	Information System Continuance
11	Confirmation	Information System Continuance
12	Perceived Enjoyment	-
13	User Satisfaction	IS Success Model, Information System Continuance

Sumber: Data diolah (2023)

IV.   RESULT AND DISCUSSION

This research was conducted at Unhas with respondents who were users of the Unhas Financial Information System (SIMKEU). The number of respondents who filled out the questionnaire that we distributed was 50 people, and this number is 80% of all SIMKEU Unhas users. Those who filled out the questionnaire were finance staff, treasurers, and heads of finance sections of all work units at Unhas. The following are the characteristics of the respondents from this study:
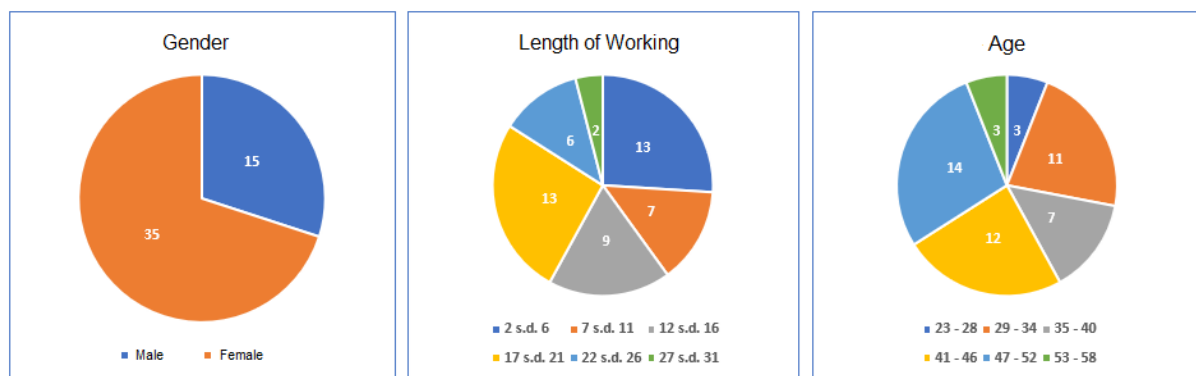

Figure 1. Characteristics of Respondents

The data in Figure one shows that the majority of SIMKEU users at Hasanuddin University are female. For years of service, the majority of users are employees with 2 to 6 years of service and 17 to 21 years of service. The data also shows that the majority of users are employees aged 41 to 52 years. This shows that Unhas has succeeded well in providing digital literacy to its employees so that employees who are in the digital immigrant category (those who were not born in the digital age and studied computer use during their adult lives) can use SIMKEU very well.

The results of the analysis show that the most dominant factor influencing the successful implementation of SIMKEU at Unhas is Perceived Usefulness. This finding is in line with Davis' findings who also found that perceived usefulness is the most dominant factor determining the adoption of technology [12], [13]. What's interesting about our findings is that when users are confirmed for their perceptions of usability during post-adoption, the value tends to decrease. This finding is different from the Information System Continuance model developed by Anol Bhattacherjee [33]. To confirm the reasons, we conducted interviews with respondents and they explained that some of them after using SIMKEU felt that some additional features were needed to adjust because of their work factors to be able to experience more benefits from using SIMKEU. The lack of training on using SIMKEU also causes some employees to have difficulty using SIMKEU, so the repeated use of the perceived usefulness effect decreases.

Other factors that have a strong influence on the successful implementation of SIMKEU at Unhas are task technology fit, quality of information, the experience of use, performance, satisfaction, and pleasant feelings related to the use of technology. Most of the respondents felt that the use of SIMKEU was by their work so it helped improve their performance which led to user satisfaction. In addition, users say that the more they use SIMKEU, the more their performance will increase. However, for the record, respondents said that financial management policies continued to change every year, so additional features were needed in SIMKEU to further improve its performance. What is a record of the successful implementation of SIMKEU at Unhas is the quality factor of the data and information produced is very good and by applicable financial management regulations. This finding is consistent with the information technology adoption theories described previously [19], [29]

Several factors need to be considered, namely ease of use and training that has not been optimally provided. Users still feel that using SIMKEU at Unhas is still quite difficult due to a lack of training. Considering that the SIMKEU used at Unhas is a system specifically developed only for use within the Unhas environment, it is very necessary to carry out regular training to improve user capabilities. Another factor that also needs to be considered is social factors and supporting facilities for users in using SIMKEU at Hasanuddin University. Social support from colleagues and leaders will further enhance the success of implementing SIMKEU at Unhas. In addition, supporting facilities such as hardware availability, and helpdesk availability in using SIMKEU can also further increase success in implementation. This finding is quite different from the information technology adoption theories described previously [12], [13], [29], [33]. The following is a summary of the average results of data analysis in this study.

Table 2. Result of Data Analysis

NO	FACTORS	VALUE
1	Perceived Usefulness	3,9
2	Perceived Easy of Use	2,9
3	Information Quality	3,7
4	Service Quality	2,4
5	Performance Expectation	3,7
6	Social Influence	2,5
7	Facilitating Conditions	2,7
8	Task Technology Fit	3,7
9	Impact on Performance	3,7
10	Usage Experience	3,7
11	Confirmation	3,7
12	Perceived Enjoyment	3,6
13	User Satisfaction	3,6

Sumber: Data diolah (2023)

Based on the explanation above, we have developed a model for successful SIMKEU implementation at Unhas. We will test the causality of all the variables in the model in the next study. Here is a picture of the model we developed.
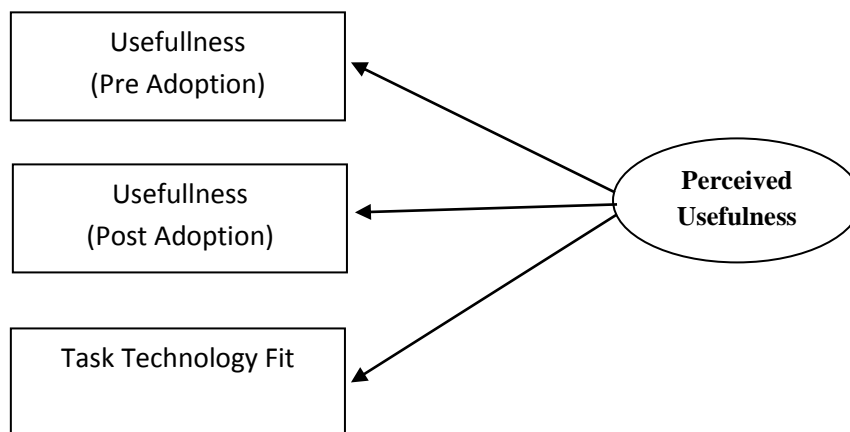
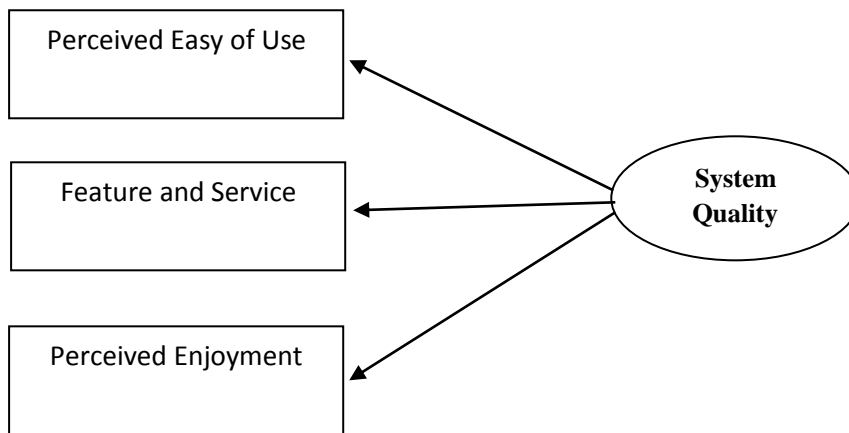**Figure 2. Perceived Usefulness Variables and Their Indicators**

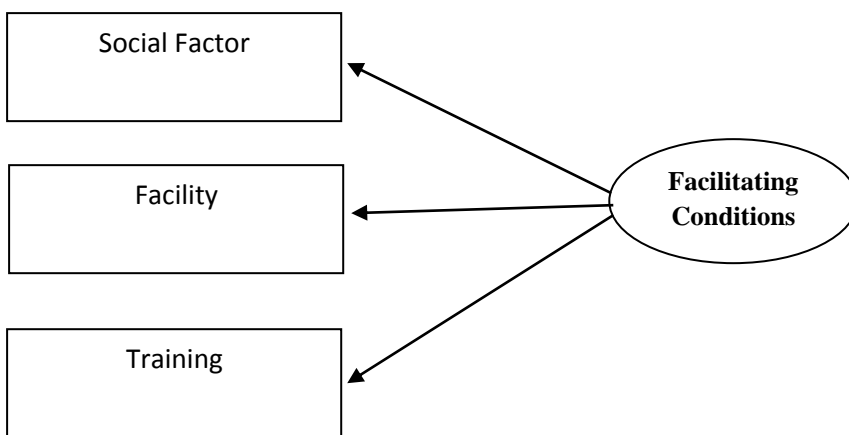**Figure 3. System Quality Variables and Indicators**

Figure 4. Facilitating Condition Variables
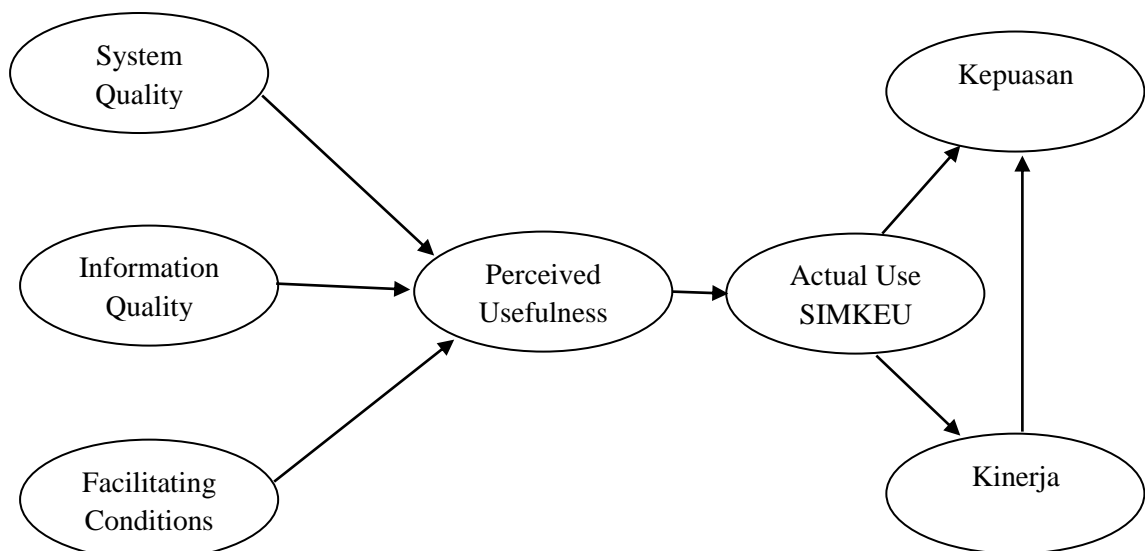

Figure 5. Financial Information System Technology Adoption Model (FISTAM)

V. CONCLUSION

This study found that almost all variables used in information technology adoption models such as Technology Acceptance Model (TAM), IS Success Model, Unified Theory of Acceptance and Use of Technology (UTAUT), Task Technology Fit (TTF), and Information System Continuance influence success. implementation of the Financial Information System at Hasanuddin University. However, there are some interesting findings, such as perceived usefulness, which tends to decrease after adoption. Therefore, we developed a special model that we call the Financial Information System Implementation Success Model at Hasanuddin University. In future research, we will continue this research to see the causal relationship between the variables in the model. We hope that this model can be a reference for studies on information technology adoption.

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