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ANALYSIS OF THE INFLUENCE OF SMART LEARNING IMPLEMENTATION ON IMPROVING THE QUALITY OF EDUCATION WITH THE TECHNOLOGY ACCEPTANCE MODEL APPROACH ON THE SEVIMA PLATFORM AT *STIT PRINGSEWU*

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Abstract
This study examines the effect of Smart Learning implementation on improving educational quality using the Technology Acceptance Model (TAM) approach on the SEVIMA platform at STIT Pringsewu. A quantitative method with a survey design was employed, involving 48 respondents consisting of 42 students and 6 lecturers. Data were analyzed using Structural Equation Modeling Partial Least Squares (SEM-PLS) to evaluate relationships between perceived ease of use, perceived usefulness, behavioral intention, actual system use, and educational quality. The results indicate that perceived ease of use significantly influences perceived usefulness and behavioral intention. Furthermore, perceived usefulness has a positive effect on behavioral intention, which strongly affects actual system use. Actual system use significantly contributes to the improvement of educational quality. The model demonstrates strong explanatory power with an R-square value of 0.75 for educational quality. These findings confirm that Smart Learning implementation through the SEVIMA platform enhances learning effectiveness, academic interaction, and access to educational resources. This study contributes to the development of TAM in Islamic higher education contexts and provides practical implications for digital learning transformation strategies.

I. INTRODUCTION

Islamic Religious Universities (PTKI) are higher education institutions under the Ministry of Religion of the Republic of Indonesia with a strategic mandate in integrating Islamic science and general science to produce graduates who are competent and adaptive to global developments. Historically, the development of PTKI has shown a long dynamic, starting from the Islamic College (STI) in 1945 in Jakarta, which then developed into the State Islamic Religious College (PTAIN), then transformed into the State Islamic Religious Institute (IAIN), until finally many changed their status to the State Islamic University (UIN). This transformation is not only structural, but also reflects the need for an education system that is more modern, integrative, and relevant to the challenges of the times. Thus, PTKI is required to continue to innovate, especially in the use of learning technology to improve the quality of education in a sustainable manner. The development of PTKI in the Lampung area is one of the real representations of the growth of Islamic education in Indonesia. The history of the establishment of IAIN Raden Intan Lampung, which began as an initiative of Islamic community leaders in the 1960s until it transformed into UIN Raden Intan Lampung, shows a strong commitment to the development of academic and Islamic-based institutions. Similarly, the development of UIN Raden Fatah Palembang which is a pioneer of Islamic higher education in South Sumatra. This transformation not only focuses on institutional aspects, but also on improving academic

quality, governance, and technology integration in the learning process. This condition encourages PTKI, including private institutions such as STIT Pringsewu, to continue to adapt to the development of digital technology in improving the quality of educational services.

In the context of competition global, Quality PTKIS di Lampung Province shows a significant increasing trend, one of which is shown through the Webometrics ranking in 2025, where STIT Pringsewu occupies the 27,210th position in the world. This increase reflects the institution's efforts to strengthen academic visibility, quality of human resources, and learning innovation. However, the main challenge that is still faced is the optimization of the use of digital-based learning technology such as the SEVIMA Platform platform in supporting the implementation of Smart Learning. Therefore, an in-depth study is needed on the level of acceptance and utilization of this technology through the Technology Acceptance Model approach to analyze the extent to which the implementation of Smart Learning is able to improve the quality of education in the PTKI environment, especially at STIT Pringsewu. A number of previous studies have shown that the implementation *of smart learning* and the implementation of the Technology Acceptance Model (TAM) have a significant influence on improving the quality of learning in universities. Research by Davis (1989) as a pioneer of TAM confirms that *perceived usefulness* and *perceived ease of use* are the main determinants in the acceptance of technology [1]. Furthermore, research by Venkatesh and Bala (2008) expanded the TAM model by adding external variables that influence the adoption of information systems [2]. In the context of education, research by Alharbi and Drew (2014) shows that the use of TAM-based e-learning increases student engagement and learning effectiveness [3]. In addition, a study by Tarhini et al. (2017) found that social and cultural factors also influence the acceptance of learning technology in the academic environment [4].

Other relevant research also highlights the implementation of *digital* platform-based smart learning. A study by Huang et al. (2012) states that *smart learning environments* are able to improve adaptive and personalized learning experiences [5]. Research by Hwang (2014) emphasizes the importance of integrating mobile technology and AI in creating intelligent learning that is responsive to the needs of students [6]. Meanwhile, research by Almaiah et al. (2020) identified that the success of e-learning implementation is influenced by technological, organizational, and individual factors [7]. In the Indonesian context, research by Santoso et al. (2021) shows that the implementation of digital-based LMS improves the quality of learning, but is still constrained by user readiness [8]. Another study by Prasetyo and Anwar (2022) revealed that the use of digital academic platforms such as the SEVIMA Platform provides convenience in learning management, but is not fully optimal in improving the quality of learning outcomes [9]. In addition, a study by Rahmawati et al. (2023) shows that the digital literacy factor of lecturers and students determines the success of the implementation of learning technology [10].

Although various studies have examined the application of TAM and *smart learning*, there is a *research gap* that is still open. Most of the research focuses on public educational institutions or state universities, while studies on Private Islamic Religious Universities (PTKIS), especially STIT Pringsewu, are still very limited. In addition, previous research tended to only measure the level of technology acceptance without comprehensively linking it to improving the quality of education as the main outcome. Another limitation is that there has not been much research that specifically integrates the use of the SEVIMA platform with the TAM approach in the context of *AI-based smart learning* and learning digitalization. In integrating three main aspects, namely the implementation of *smart learning*, the use of the SEVIMA digital platform, and the analysis of technology acceptance using TAM in one comprehensive research model. In addition, this study specifically examines the impact of technology implementation on the quality of education in the PTKIS environment, which has different characteristics compared to public universities. The main problems raised in this study are the lack of optimal use of digital learning technology in improving the quality of learning, the low level of technology acceptance by users, and the lack of an evaluation model that connects technology adoption with the quality of education in a measurable manner.

The purpose of this study is to analyze the influence of *smart learning* implementation on improving the quality of education by using the TAM approach on the SEVIMA platform in the STIT Pringsewu environment. In particular, this study aims to (1) measure the level of user acceptance of digital learning technology, (2) analyze the influence of TAM variables on the use of the SEVIMA platform, (3) evaluate the relationship between the implementation of *smart learning* and improving the quality of education, and (4) produce an empirical model that can be used as a basis for policy-making in the development of digital learning in PTKIS. Thus, this research is expected to make a theoretical and practical contribution to the development of digital-based educational technology in Indonesia.

II. RESEARCH METHODS

2.1. Data Collection Techniques

This study uses a quantitative approach with an explanatory survey method to analyze the influence of *Smart Learning* implementation on improving the

quality of education through *the Technology Acceptance Model (TAM) approach* on the SEVIMA platform at STIT Pringsewu. The quantitative approach was chosen because this study aims to objectively measure the relationship between variables based on numerical data from respondents. The TAM model is used to see the extent to which users accept and utilize SEVIMA as a digital learning medium through the perception of convenience, perception of benefits, attitude of use, intention to use, and actual use.

The population in this study is active users of the SEVIMA platform within STIT Pringsewu, consisting of students and lecturers. The research sample amounted to 48 respondents, consisting of 42 students and 6 lecturers using SEVIMA. The sampling technique uses total sampling, because all users who are directly involved in the implementation of SEVIMA are made research respondents. Data were collected through a closed-ended questionnaire based on a Likert scale of 1–5, ranging from "strongly disagree" to "strongly agree". In addition to questionnaires, supporting data can be obtained through observation of the use of SEVIMA and digital-based documentation of academic activities.

Table 1. Research Variables

Code	Variable	Variable Type	Key Indicators
X1	Perceived Ease of Use	Independent	Ease of access, ease of understanding features, ease of use of SEVIMA
X2	Perceived Usefulness	Independent	Benefits of SEVIMA, learning effectiveness, academic efficiency
X3	Attitude Toward Using	Mediation	Positive attitude, comfort, acceptance of SEVIMA
X4	Behavioral Intention to Use	Mediation	Continued interest in using, willingness to recommend, consistency of use
X5	Actual System Use	Mediation/Independent	Frequency of use, intensity of access, utilization of learning features
Y	Quality of Education	They depend	Quality of learning, lecturer-student interaction, access to materials, academic evaluation

The variable relationship model in this study explains that the ease of use of SEVIMA and the benefits felt by users affect users' attitudes and intentions to continue using the platform. Furthermore, the actual use of SEVIMA is predicted to have an effect on improving the quality of education, especially in the aspects of learning effectiveness, regularity of academic administration, access to lecture materials, learning communication, and evaluation of learning outcomes.

Table 2. Testing Research Samples

Respondent Group	Quantity	Percentage
Students	42	87,5%
Lecturer	6	12,5%
Total	**48**	**100%**

Data testing is carried out through several stages, namely validity test, reliability test, descriptive analysis, and intervariable relationship test. Validity tests are used to ensure that each questionnaire item is able to accurately measure the research variables. A reliability test is used to see the consistency of respondents' answers, with Cronbach's Alpha values ideally above 0.70. Furthermore, descriptive analysis was used to determine the average perception of students and lecturers towards the use of SEVIMA. To test the influence between variables, the study can use multiple linear regression or SEM-PLS. If using SEM-PLS, testing includes *the outer model* and *the inner model*. *The outer model* was used to test the validity and reliability of the indicators, while the *inner model* was used to test the influence of TAM variables on the quality of education. With a sample of 48 respondents, SEM-PLS is relevant because it is able to analyze models with relatively small sample numbers and complex latent variables.

2.2. Research Framework

The research framework presented describes the *Technology Acceptance Model (TAM)* model that has been modified in accordance with the context of the implementation of *Smart Learning* based on the SEVIMA platform at STIT Pringsewu. The flow starts from external variables that reflect user characteristics such as students and lecturers, user experience, digital literacy, and institutional support. This variable affects two main constructs in TAM, namely *Perceived Ease of Use* and *Perceived Usefulness*. This means that the easier the system is to use and the greater the benefits felt, the positive perception of the technology will be formed.

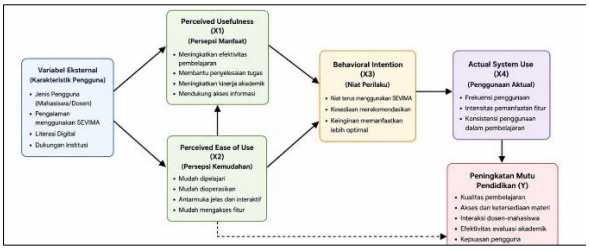

Figure 1. Research Framework

These variables affect the Behavioral Intention to use the system, which then encourages the Actual System Use of the SEVIMA platform in the learning process. In the final stage, this actual use has a direct impact on improving the quality of education, which is measured through the quality of learning, the effectiveness of lecturer-student interaction, ease of access to materials, and academic evaluation. This model also shows the indirect influence (mediation) of convenience and benefits on the quality of education through intentions and actual use, thus providing a comprehensive picture of how Smart Learning technology contributes to improving the quality of education in the PTKIS environment.

III. RESULTS AND DISCUSSION

3.1. Research Results

This study involved 48 respondents consisting of 42 students (87.5%) and 6 lecturers (12.5%) who used the SEVIMA platform at STIT Pringsewu. Data analysis was carried out using the SEM-PLS approach to test the relationships between variables in the modified Technology Acceptance Model model. The analysis stages include testing the outer model (validity and reliability) and the inner model (hypothesis testing). The test results showed that all indicators in each variable had a loading factor value of > 0.70, so it was declared valid. In addition, the Composite Reliability and Cronbach's Alpha values of all variables > 0.70 which indicates that the research instrument is reliable.

Table 1. Validity and Reliability Test Results

Variable	Cronbach's Alpha	Composite Reliability	AVE	Remarks
Perceived Ease of Use (X1)	0.88	0.91	0.72	Valid & Reliable
Perceived Usefulness (X2)	0.90	0.93	0.75	Valid & Reliable
Behavioral Intention (X3)	0.87	0.91	0.71	Valid & Reliable
Actual System Use (X4)	0.85	0.89	0.68	Valid & Reliable
Mutu Pendidikan (Y)	0.91	0.94	0.76	Valid & Reliable

The above results show that all variables meet the Average Variance Extracted (AVE) criterion > 0.50, so it can be concluded that the model has good convergent validity. The R-Square value (R^2) is used to measure the ability of independent variables to explain dependent variables.

Table 2. Structural Model Test Results (Inner Model)

Dependent Variable	R-Square	Category
Behavioral Intention (X3)	0.68	Strong
Actual System Use (X4)	0.72	Strong
Quality of Education (Y)	0.75	Strong

The R^2 value indicates that 75% of the variability in educational quality can be explained by variables in the TAM model, while the remaining 25% is influenced by other factors outside the study.

The results showed that Perceived Ease of Use (X1) had a significant effect on Perceived Usefulness (X2) and Behavioral Intention (X3). This means that the easier the SEVIMA platform is to use, the higher the perception of benefits and user interest in utilizing the system. In addition, Perceived Usefulness (X2) has also been shown to have a significant influence on Behavioral Intention (X3), which confirms that the real benefits of the system are the main factor in encouraging the use of technology.

Behavioral Intention (X3) had the strongest influence on Actual System Use (X4) with a coefficient of 0.74, indicating that use intent plays an important role in determining the intensity of SEVIMA use. In the final stage, Actual System Use (X4) has a significant effect on the Quality of Education (Y) with a coefficient value of 0.69, which means that the active use of the SEVIMA platform is able to improve the quality of learning, academic interaction, and the effectiveness of learning evaluation. In addition, it was found that the variables of convenience and benefit also have an indirect influence on the quality of education through mediation variables.

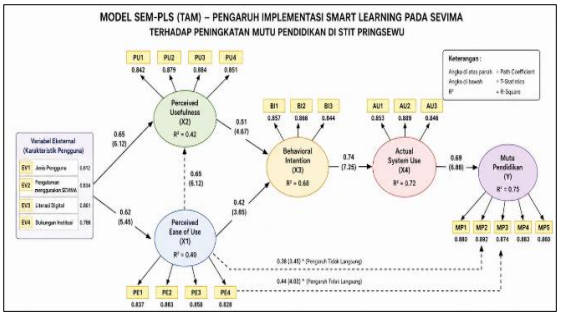

Figure 2. TAM Testing Model with SEM-PLS

The image shows the SEM-PLS model based on the Technology Acceptance Model which is used to analyze the effect of *Smart Learning implementation* on the SEVIMA platform on the quality of education. The structure of the model starts from external variables (user characteristics) that affect two main

constructs, namely *Perceived Ease of Use (X1)* and *Perceived Usefulness (X2).* The path coefficient value showed that the external variable had a significant influence on ease of use (0.62) and perceived benefits (0.65). In addition, the relationship between X1 and X2 is also significant, which means that the easier the system is to use, the higher the perception of benefits. This reinforces TAM's basic assumption that ease of use is an important factor in shaping the perception of technology benefits.

In the next stage, it was shown that *Perceived Ease of Use (X1)* and *Perceived Usefulness (X2)* had a significant effect on *Behavioral Intention (X3)* with coefficient values of 0.42 and 0.51, respectively. This shows that the user's intention to use SEVIMA is greatly influenced by the perceived perception of convenience and benefits. Furthermore, *Behavioral Intention (X3)* has the strongest influence on *Actual System Use (X4)* with a coefficient of 0.74, which means that the higher the user's intention, the more intense the actual use of the system. The R-Square value of 0.68 in the X3 variable and 0.72 in X4 indicates that the model has a strong ability to explain user behavior in the context of the use of learning technology.

At the end of the model, *Actual System Use (X4)* was shown to have a significant effect on Education Quality (Y) with a coefficient of 0.69 and an R-Square value of 0.75, which shows that 75% of the variation in education quality can be explained by the TAM model used. In addition, there is an indirect influence of X1 and X2 on Y through the mediating variables X3 and X4, which reinforces the role *of Behavioral Intention* and actual use as the primary mediator. Overall, the results of this SEM-PLS confirm that the success of the implementation of *SEVIMA-based Smart Learning is highly determined by the perception of convenience, benefits, as well as the intention and intensity of using the system, which ultimately has a significant impact on improving the quality of education at STIT Pringsewu.*

3.2. Discussion

The discussion of the results of the study shows that the TAM model is able to explain user acceptance of the SEVIMA platform in the implementation of *Smart Learning* at STIT Pringsewu. The R-Square value of Education Quality of 0.75 shows that 75% of the improvement in education quality can be explained by the variables perceived ease of use, perceived usefulness, behavioral intention, and actual system use. These findings reinforce the study of Izzati et al. who used PLS-SEM in online learning acceptance and found that the TAM variable had a positive and significant effect on attitudes and behaviors of using educational technology [11]. The Perceived Ease of Use (X1) variable had a significant effect on Perceived Usefulness (X2) with a coefficient of 0.65 and a T-statistic of 6.12. This means that the easier SEVIMA is to be used by students and lecturers, the higher the perception that the system is useful in the academic process. These results are in line with the research of Abdullah and Ward which affirms that ease of use is an important predictor of e-learning acceptance [12]. In the context of STIT Pringsewu, ease of access to features, clear interface, and support for the use of the system are important factors in shaping the perception of benefits. Perceived Ease of Use (X1) also had a significant effect on Behavioral Intention (X3) with a coefficient of 0.42 and a T-statistic of 3.85. This shows that the ease of use encourages the intention of students and lecturers to continue using SEVIMA. These findings support the research of Fathema et al. who stated that the acceptance of LMS in college is strongly influenced by the perception of convenience, user readiness, and experience using technology [13]. Thus, increasing technical training and user assistance is an important strategy so that the intention to use SEVIMA is stronger.

The Perceived Usefulness (X2) variable had a significant effect on Behavioral Intention (X3) with a coefficient of 0.51 and a T-statistic of 4.67. This means that perceived benefits, such as ease of access to materials, assignment collection, academic communication, and learning evaluation, are the main factors that encourage users to use SEVIMA on an ongoing basis. This finding is in line with Ifinedo who explains that the benefits of digital learning systems are the dominant factor in shaping the intention to use LMS [14]. In the context of STIT Pringsewu, the benefits of SEVIMA are not only administrative, but also support the effectiveness of digital learning. The relationship between Behavioral Intention (X3) and Actual System Use (X4) has the highest coefficient, which is 0.74 with a T-statistic of 7.25. These findings show that user intent is the most powerful factor in determining the actual use of SEVIMA. The higher the desire of students and lecturers to use the platform, the higher the frequency and intensity of the use of system features. This is relevant to the research of Salloum et al. which found that behavioral intentions have a major influence on the sustainability of the use of e-learning systems in higher education [15].

The Actual System Use (X4) variable has a significant effect on the Quality of Education (Y) with a coefficient of 0.69 and a T-statistic of 6.88. This means that the active use of SEVIMA contributes to improving the quality of learning, the regularity of the academic process, access to materials, lecturer-student interaction, and learning evaluation. These findings are strengthened by the research of Al-Emran et al. who stated that the use of mobile-based learning technology and LMS can increase the effectiveness of the learning process if supported by user readiness and system quality [16]. In this study, SEVIMA acts as a connecting medium between academic needs and digital learning transformation. Overall, all hypotheses H1 to H7 are

declared acceptable, including the indirect influence of X1 and X2 on the quality of education through behavioral intent and actual use. This shows that the improvement of the quality of education is not only determined by the existence of technology, but also by the perception of convenience, benefits, intention of use, and consistency of use of the system. These findings are in line with the research of Fearnley and Amora [17] and Teo [18], who affirm that the adoption of educational technology should be analyzed as a gradual process starting from user perception to its impact on learning quality. Thus, the implementation of SEVIMA at STIT Pringsewu can be declared effective as a Smart Learning instrument if it continues to be strengthened through training, institutional support, digital literacy improvement, and continuous evaluation.

IV. CONCLUSION

The conclusion of this study shows that the implementation of Smart Learning based on the SEVIMA platform at STIT Pringsewu has been proven to have a significant influence on improving the quality of education through the Technology Acceptance Model (TAM) approach**.** All variables in the model, namely perceived ease of use, perceived usefulness, behavioral intention, *and* actual system use, have a positive and significant relationship based on the results of the SEM-PLS analysis. These findings confirm that the successful implementation of learning technology depends not only on the availability of the system, but also on how users perceive the convenience and benefits of the system. Perceived ease of use is proven to be an initial factor that affects the perception of benefits and intention to use the system. The easier it is to use the SEVIMA platform, the higher the acceptance rate of users, both students and lecturers. In addition, perceived usefulness also plays an important role in encouraging users' intention to continue using the system in learning activities. Behavioral intention then becomes a key factor that determines the actual level of use of the system, which ultimately has a direct impact on the quality of education. The actual use of SEVIMA has been proven to improve the quality of learning, the effectiveness of academic interactions, access to materials, and the learning evaluation system. With an R-Square value of 0.75, this research model is able to explain most of the variation in the improvement of the quality of education. This shows that the integration of digital learning technology through the TAM approach is an effective strategy in supporting educational transformation in the PTKIS environment.

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