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# Analysis of User Satisfaction with the Academic and Student Affairs Information System Using the End-User Computing Satisfaction (EUCS) Model

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User Satisfaction; End-User Computing Satisfaction; DeLone & McLean Model; Task-Technology Fit; Moderation

**Abstract**
Digital transformation in higher education has driven the adoption of academic information systems. The Jembrana Polytechnic of Marine and Fisheries implemented the Academic and Student Affairs Information System (SIKADEK). Objective technical indicators revealed areas for improvement, including a relatively slow loading time based on GTmetrix testing, broken link, and helpdesk tickets; however, user satisfaction was notably high, indicating an objective-subjective quality gap. This study analyzed the influence of the five End-User Computing Satisfaction (EUCS) dimensions on user satisfaction with SIKADEK, and examined the moderating role of user category. The study was grounded in an integrated theoretical framework: the DeLone & McLean IS Success Model as the grand theory, EUCS as the measurement instrument, Expectation-Confirmation Theory as the explanatory framework, and Task-Technology Fit as the justification for moderation. A quantitative approach was applied using a Likert-scale questionnaire with 167 respondents, analyzed through multiple linear regression and Moderated Regression Analysis. The results show that all EUCS dimensions had a positive and significant influence on user satisfaction, with timeliness (B = 0.276) and ease of use (B = 0.262) as the most dominant factors, and $R^2 = 0.815$. User category significantly moderated all relationships, with influence patterns differing across groups according to their task profiles. The gap between objective technical quality and subjective satisfaction is explained through the expectation-confirmation mechanism. These findings highlight the need for a differentiated system development approach.

## INTRODUCTION

The rapid development of information technology has driven digital transformation in various sectors, including the higher education sector (Fernández et al., 2023; Kaputa et al., 2022; Mabotha & Ngcamu, 2025; Mohamed Hashim et al., 2022; Shard et al., 2024). In this context, the use of information technology in higher education institutions has a strategic role in increasing the efficiency, accuracy, and transparency of academic administration management. Information systems not only function as a support for the academic process, but are also the main factor in improving the quality of services for all stakeholders, ranging from students, lecturers, to education staff. Recent research has also shown that an effective information system contributes directly to user job satisfaction and effectiveness. One form of application of information technology in the higher education environment is an academic

information system that allows for more structured, efficient, and transparent management of academic data. (Made New Suranti, 2020) (Indrajit, 2011) (Davis, 1989; Delone and Mclean, 2003) (Rulinawaty et al. , 2024)

Jembrana Marine and Fisheries Polytechnic is a vocational education institution that has unique characteristics compared to universities in general, namely the application of the cadet system in all its educational activities (Beno et al., 2023; Nugraha & Desnanjaya, 2025; Pratama et al., 2025). This educational model combines academic aspects, character development, and the discipline of dormitory life in a single education system. This characteristic makes the need for information management in cadet institutions multidimensional, including academic data, cadet data, and interrelated personnel administration data. In response to these needs, since the end of 2023, the Jembrana Marine and Fisheries Polytechnic has implemented the Academic and Cadet Information System (SIKADEK) to support academic administration, cadet data management, lecture schedules, grades, and cadet aspects that are characteristic of education at the polytechnic. Based on user data as of July 2025, SIKADEK has been used by 71 active lecturers and thousands of cadets who are registered as system users, in addition to education personnel who run the institution's administration.

To evaluate user satisfaction with academic information systems such as SIKADEK, one of the most widely used models is End-User Computing Satisfaction (EUCS) developed by Doll and Torkzadeh (1988). The EUCS model measures end-user satisfaction through five main dimensions, namely content, accuracy, format, ease of use, and timeliness. EUCS has been applied extensively to a variety of information systems contexts, including hospital information systems, academic information systems, and online learning systems, with consistent results demonstrating the relevance of this model in measuring information system user satisfaction. (Doll & Torkzadeh, 1988) (Aggelidis & Chatzoglou, 2012) (Ariska & Sanjaya, 2024) (Khairani, Ahsyar and Saputra, 2022)

The Academic and Cadet Information System (SIKADEK) is the main system used at the Jembrana Marine and Fisheries Polytechnic to support academic, administrative, and cadet processes. Although it has been widely used, technical evaluations show that there are still several obstacles, such as the high number of unresolved helpdesk tickets, relatively slow page load times, the existence of broken links, and fluctuations in access performance based on Google Search Console data. This condition indicates potential problems with system quality and information quality that can affect the user experience. However, it is not yet known whether these technical conditions really affect the level of user satisfaction with SIKADEK.

Theoretically, user satisfaction is determined not only by the technical quality of the system, but also by the conformity between the system's performance and the user's expectations. Expectation-Confirmation Theory (ECT) explains that users can still feel satisfied if the system's performance is up to their expectations, although there are still some technical shortcomings. In addition, SIKADEK is used by three groups of users who have different characteristics and needs, namely cadets, lecturers, and education personnel. Based on Task-Technology Fit (TTF), the difference in the characteristics of the task allows each group to have a different perception of system quality and user satisfaction levels.

Various studies on the End-User Computing Satisfaction (EUCS) model have also shown inconsistent results. Some studies have found that only part of the EUCS dimensions have an

effect on user satisfaction, while other studies have obtained different results. These differences show that the relationship between system quality and user satisfaction is influenced by certain factors, including user characteristics. Therefore, this study uses the EUCS model with five dimensions, namely content, accuracy, format, ease of use, and timeliness, and tests user categories as moderator variables to obtain a more comprehensive understanding of SIKADEK user satisfaction.

Based on these conditions, this research aims to analyze the influence of the five dimensions of EUCS on SIKADEK user satisfaction and test the role of user categories as a moderator variable. This research is expected to make a theoretical contribution through the development of studies on information system user satisfaction by integrating the EUCS, DeLone and McLean IS Success Model, ECT, and TTF models. From a practical perspective, the results of the research are expected to be the basis for the Jembrana Marine and Fisheries Polytechnic in evaluating and developing SIKADEK to better suit the needs of cadets, lecturers, and education personnel, as well as a reference for the development of academic information systems in other vocational education institutions.

## METHODS

### Types of Research

This research used a quantitative approach with survey methods and explanatory research. This approach aims to test the causal relationship between the five dimensions of End-User Computing Satisfaction (EUCS), namely content, accuracy, format, ease of use, and timeliness, to SIKADEK user satisfaction, as well as test the role of user categories (Cadets, Lecturers, and Education Personnel) as moderator variables. The study used a cross-sectional design, so that data was collected over a period through a structured questionnaire to respondents, while secondary data in the form of technical indicators of the system was used as supporting information.

### Population and Sample

The research population is all active users of the Academic and Cadet Information System (SIKADEK) at the Jembrana Marine and Fisheries Polytechnic which consists of 916 users, including 845 Cadets, 34 Lecturers, and 37 Education Personnel. The sampling technique uses convenience sampling, which is the selection of respondents based on ease of access and willingness to participate. The study successfully obtained 167 respondents, a number who had met the sample adequacy criteria for multiple regression analysis and moderation analysis, although the results of the subgroup analysis were interpreted descriptively due to the disproportionate sample size.

### Data Collection Techniques

This study uses primary data and secondary data. Primary data was obtained through the distribution of online questionnaires using Google Form to active SIKADEK users in the February-March 2025 period. The questionnaire consisted of respondents' demographic data and 15 statement items that measured the five dimensions of EUCS as well as user satisfaction using a five-point Likert scale. Meanwhile, secondary data is obtained from the results of

technical testing of the system, such as GTmetrix, helpdesk data, broken links, and Google Search Console, which are used as support in interpreting the research results.

**Data Analysis Techniques**

Data analysis began with a data quality test through a validity test using Pearson Product Moment correlation and a reliability test using Cronbach's Alpha. Furthermore, hypothesis testing was carried out using multiple linear regression analysis (Ordinary Least Squares/OLS) to test the simultaneous and partial influence of the five-dimensional EUCS on user satisfaction through the F test, t-test, and coefficient of determination ($R^2$). To determine the role of user categories as moderator variables, the study used Moderated Regression Analysis (MRA) which was equipped with subgroup regression analysis so that it could compare the influence of each dimension of EUCS on the group of Cadets, Lecturers, and Education Personnel.

## RESULTS OF RESEARCH AND DISCUSSION

**Regression Analysis Results**

Multiple linear regression analysis using the Ordinary Least Squares (OLS) approach was used in this study to test the simultaneous and partial influence of independent variables on dependent variables. The OLS method was chosen because this study aims to analyze the causal relationship between several independent variables, namely the dimensions in the End-User Computing Satisfaction (EUCS) model, and the satisfaction of SIKADEK users as a dependent variable. In this study, multiple linear regression was used to test the hypothesis of H1 to H5, namely the influence of each dimension of EUCS on SIKADEK user satisfaction. The following are the regression results obtained:

**Independent variable model regression to user satisfaction**

**Table 1. Multiple Linear Regression Test Results**

| Variabel | Coeficin | T Statistics | Sig | Remarks |
|---|---|---|---|---|
| (Constant) | -0,195 | | | |
| Content (X1) | 0,223 | 3,235 | 0,001 | H1 accepted |
| Accuracy (X2) | 0,175 | 3,790 | 0,000 | H2 accepted |
| Format (X3) | 0,133 | 2,714 | 0,007 | H3 accepted |
| Ease of Use (X4) | 0,262 | 5,258 | 0,000 | H4 accepted |
| Timeliness (X5) | 0,276 | 6,042 | 0,000 | H5 accepted |
| R square = 0,815 | | | | |
| F sig = 0,000 | | | | |

Source: Primary data processed by the authors (2025)

The regression model used is formulated as follows:

$$Y = -0{,}195 + 0{,}223X_1 + 0{,}175X_2 + 0{,}133X_3 + 0{,}262X_4 + 0{,}276X_5$$

with: Y = User Satisfaction ; = Content; = Accuracy; = Format; = Ease of Use; = Timeliness$X_1 X_2 X_3 X_4 X_5$

**1. Partial Testing**

The following is an explanation of the partial test:

a. The content variable has a t-value of 3.235 and a significance of 0.001 so that the significance value is less than 0.05, so that there is a significant partial influence of

the content variable on user satisfaction. The value of a regression coefficient of 0.223 indicates a positive influence, meaning that the better the content, the more user satisfaction will increase, and vice versa. This coefficient value also means that user satisfaction will increase by 0.223 units for every single increase in content.

b. The accuracy variable has a t-value of 3.790 and a significance of 0.000 so that the significance value is less than 0.05, so that there is a significant partial influence of the accuracy variable on user satisfaction. The value of the regression coefficient of 0.175 indicates a positive influence, meaning that the better the accuracy, the more user satisfaction will increase, and vice versa. This coefficient value also means that user satisfaction will increase by 0.175 units with every one-unit increase in accuracy.
c. The format variable has a t-value of 2.714 and a significance of 0.007 so that the significance value is less than 0.05, so there is a significant partial influence of the format variable on user satisfaction. The value of the regression coefficient of 0.133 indicates a positive influence, meaning that the better the format, the user satisfaction will increase, and vice versa. This coefficient value also means that user satisfaction will increase by 0.133 units for every one-unit increment of the format.
d. The ease of use variable has a calculated t-value of 5.258 and a significance of 0.000 so that the significance value is less than 0.05, so that there is a significant partial influence of the ease of use variable on user satisfaction. The value of the regression coefficient of 0.262 shows a positive influence, meaning that the better the ease of use, the user satisfaction will increase and vice versa. This coefficient value also means that user satisfaction will increase by 0.262 units for every single increase in ease of use.
e. The timeliness variable has a t-value of 6.042 and a significance of 0.000 so that the significance value is less than 0.05, so there is a significant partial influence of the timeliness variable on user satisfaction. The value of the regression coefficient of 0.276 indicates a positive influence, which means that the better the timeliness, the more user satisfaction will increase, and vice versa. This coefficient value also means that user satisfaction will increase by 0.276 units for every single increment of the timeliness.

**2. Simultaneous Test (F Test)**

The simultaneous test aims to determine whether there is a joint influence of independent variables on dependent variables. This test is visible on the output table of ANOVA. There is a joint influence between independent variables if the significance value is less than 0.05. The significance value of 0.000 so that the significance is less than 0.05, it can be concluded that there is a simultaneous influence of content, accuracy, format, ease of use, and timeliness on user satisfaction.

**3. Coefficient of Determination (R square)**

The determination coefficient aims to determine the magnitude of the influence of independent variables on dependent variables. The result of the determination coefficient above is 0.815 which can be said that the variables of content, accuracy, format, ease of use, and timeliness are able to affect user satisfaction by 81.5%, the remaining 18.5% is influenced by other variables outside the research model.

**Regression of the Moderation Model**

The moderation analysis in this study was carried out to test whether the user category (cadets, lecturers, and education staff) strengthens or weakens the relationship between the dimensions of End-User Computing Satisfaction (EUCS) and user satisfaction of the Academic and Cadet Information System (SIKADEK). The user category variable is treated as a moderator variable because differences in roles, needs, and intensity of system use are thought to affect how users assess the quality of information systems. The moderation test was carried out using Moderated Regression Analysis (MRA), which is the development of multiple linear regression by adding interaction variables between independent variables and moderator variables. The second stage is to incorporate the moderator variables and interaction variables into the regression model to see if the existence of a user category affects the relationship between the EUCS dimension and user satisfaction.

**Table 2. User Moderation Results with Contents**

| Variabel | Coeficin | T Statistics | Sig | Remarks |
|---|---|---|---|---|
| **Content (X1) * User** | 0,378 | 8,577 | 0,000 | H6 accepted |

Source: Primary data processed by the authors (2025)

The variable of user interaction with content has a t-value calculated as 8.577 with a significance of 0.000 so that the significance value is less than 0.05, so that there is moderation from users with content to user satisfaction. The value of the regression coefficient has a positive value, which means that there is a positive moderation.

**Table 3. User Moderation Results with Accuracy**

| Variabel | Coeficin | T Statistics | Sig | Remarks |
|---|---|---|---|---|
| **Accuracy (X2) * User** | 0,387 | 9,444 | 0,000 | H7 accepted |

Source: Primary data processed by the authors (2025)

The variable of user interaction with accuracy has a t-value of 9.444 significance of 0.000 so that the significance value is less than 0.05, so that there is moderation from users with the format to user satisfaction. The value of the regression coefficient has a positive value, which means that there is a positive moderation.

**Table 4. User Moderation Results with Format**

| Variabel | Coeficin | T Statistics | Sig | Remarks |
|---|---|---|---|---|
| **Format (X3) * User** | 0,357 | 9,870 | 0,000 | H8 accepted |

Source: Primary data processed by the authors (2025)

The variable of user interaction with the format has a t-value of 9.870 significance of 0.000 so that the significance value is less than 0.05, so that there is moderation from users with the format to user satisfaction. The value of the regression coefficient has a positive value, which means that there is a positive moderation.

**Table 5. User Moderation Results with Ease of Use**

| Variabel | Coeficin | T Statistics | Sig | Remarks |
|---|---|---|---|---|
| **Ease of Use (X4) * Pengguna** | 0,435 | 11,889 | 0,000 | H9 accepted |

Source: Primary data processed by the authors (2025)

The variable of user interaction with ease of use has a t-value of 11.889 significance of 0.000 so that the significance value is less than 0.05, so that there is moderation from users with ease of use to user satisfaction. The value of the regression coefficient has a positive value, which means that there is a positive moderation.

**Table 6. User Moderation Results with Timeliness**

| Variabel | Coeficin | T Statistics | Sig | Remarks |
|---|---|---|---|---|
| **Timeliness (X5) * User** | 0,489 | 12,142 | 0,000 | H10 accepted |

Source: Primary data processed by the authors (2025)

The variable of user interaction with timeliness has a t-value of 12.142 significance of 0.000 so that the significance value is less than 0.05, so that there is moderation from users with timeliness to user satisfaction. The value of the regression coefficient has a positive value, which means that there is a positive moderation.

In this section, a large calculation of each variable will be carried out against the independent variable. The magnitude of the influence is obtained from the multiplication of beta by partial coefficient. This is the magnitude of the influence of each variable:

**Table 7. The Magnitude of Influence of Each Variable**

| Variabel | Coeficin | Beta | Correlation | Big Influence |
|---|---|---|---|---|
| **Great Influence Without Moderation Effect** | | | | |
| **Content (X1)** | 0.223 | 0.174 | 0.751 | 13.1% |
| **Accuracy (X2)** | 0.175 | 0.190 | 0.744 | 14.1% |
| **Format (X3)** | 0.133 | 0.145 | 0.746 | 10.8% |
| **Ease of Use (X4)** | 0.262 | 0.276 | 0.787 | 21.7% |
| **Timeliness (X5)** | 0.276 | 0.287 | 0.761 | 21.8% |
| **Great Moderation Effect** | | | | |
| **X1*M** | 0.378 | 1.313 | 0.163 | 21.5% |
| **X2*M** | 0.387 | 1.217 | 0.219 | 26.7% |
| **X3*M** | 0.357 | 1.239 | 0.231 | 28.6% |
| **X4*M** | 0.435 | 1.534 | 0.230 | 35.2% |
| **X5*M** | 0.489 | 1.669 | 0.210 | 35.1% |

Source: Primary data processed by the authors (2025)

In this section, the average variable based on the user will be calculated. The following is the average of each variable:

**Table 8. Calculation of Variable Averages by User**

| Variabel | Average by User | | |
|---|---|---|---|
| | **Squad/I (n=128)** | **Lecture r (n=22)** | **Education Personnel (n= 17)** |
| Content (X1) | 4.34 | 4.08 | 4.06 |
| Accuracy (X2) | 4.12 | 3.75 | 3.65 |
| Format (X3) | 4.18 | 3.80 | 3.94 |
| Ease of Use (X4) | 4.18 | 3.61 | 4.15 |

| | | | |
|---|---|---|---|
| Timeliness (X5) | 4.14 | 4.02 | 3.94 |
| User Satisfaction (Y) | 4.26 | 3.95 | 4.18 |

Source: Primary data processed by the authors (2025)

In the highest content variable, cadets scored 4.34, then lecturers and education staff showed an average that was not much different. In the accuracy variable, it was also obtained that the highest average was the perception of accuracy assessed by the tanuna/i reaching 4.12 while lecturers and education staff were 3.75 and 3.65 respectively. In the format variable, cadets had a perception of 4.18 while lecturers were 3.80 and education staff were 3.94. In the ease of use variable, the perception of cadets has an average of 4.18 which is not much different from education personnel, which is 4.15. The timeliness variable shows that the perception of cadets has an average of 4.14 and for lecturers it is 4.02 while for education personnel it is 3.94. The satisfaction variable showed that the average of cadets was 4.26 and education staff were 4.18 while lecturers were 3.95.

**The Influence of Content on SIKADEK User Satisfaction**

The test results showed that Content had a positive and significant effect on SIKADEK user satisfaction, with a regression coefficient of 0.223 (t = 3.235; sig. = 0.001), so that H1 was accepted. This positive value shows that the better the quality of the information provided by SIKADEK, the higher the user satisfaction.

Theoretically, these findings confirm the core proposition of the DeLone & McLean IS Success Model. In this framework, Content is the operationalization of the Information Quality dimension, which is the extent to which the system produces complete, relevant, and user needs. Thus, the significance of the influence of Content on satisfaction is not merely a statistical relationship, but an empirical support for the causal pathway of Information Quality → User Satisfaction hypothesized by the D&M Model. These findings strengthen the applicability of the model in a context that has not been widely researched, namely academic information systems and cadets in the maritime vocational education environment. (Delone & Mclean, 2003)

The mechanism of how the quality of information content leads to satisfaction can be explained through Expectation-Confirmation Theory (ECT). According to ECT, satisfaction is formed when the perceived performance of the system confirms or exceeds the user's initial expectations. When SIKADEK presents complete and relevant academic and cadet information, users obtain confirmation of their expectations of the core functionality of the system, which then manifests as satisfaction. Conversely, incomplete or irrelevant information leads to disconfirmation that lowers satisfaction. This explanation suggests that the influence of Content on satisfaction operates through a cognitive process of confirmation-expectation, rather than just direct association ( Bhattacherjee , 2001)

Descriptively, the content dimension was perceived as high by respondents with an average of 4.28, which indicates that users positively assessed the completeness and relevance of SIKADEK information. These results are in line with the empirical findings of the application of EUCS to other academic information systems. (Ariska & Sanjaya, 2024)

Although significant, the contribution of Content in the aggregate model is relatively moderate compared to other dimensions (standardized β = 0.174). This indicates that Content

roles are not uniform across user groups. The analysis shows that the level of importance of Content is highly dependent on the category of users.

**The Effect of Accuracy on SIKADEK User Satisfaction**

The test results showed that Accuracy had a positive and significant effect on SIKADEK user satisfaction, with a regression coefficient of 0.175 (t = 3.790; sig. < 0.001), so H2 was accepted. This positive value shows that the more accurate the information produced by SIKADEK, the higher the user satisfaction.

Theoretically, Accuracy together with Content and Timeliness is the operationalization of the Information Quality dimension in the DeLone & McLean IS Success Model (DeLone & McLean, 2003). The significance of its influence reinforces empirical support for the causal pathway of Information Quality → User Satisfaction: it is not only the completeness of the content that determines satisfaction, but also the accuracy and reliability of the information. With a standardized coefficient of 0.190, the Accuracy contribution is moderate and comparable to the other information quality dimensions in the model.

The theoretical mechanism of this influence can be explained through the relationship between accuracy, trust, and expectation confirmation. Accuracy is the foundation of the formation of user trust in the system: consistent and error-free information confirms the user's expectations of the reliability of the system, which according to the Expectation-Confirmation Theory results in satisfaction (Bhattacherjee, 2001). On the contrary, errors or inconsistencies in data lead to disconfirmation that erodes trust and lowers satisfaction. In the context of academic and cadets information systems, accuracy has direct consequences because it concerns critical data such as grades, schedules, academic status, and cadets' records, so that errors in these data have a real impact on users.

Descriptively, the perception of Accuracy shows an interesting pattern between user groups. Cadets rated the accuracy relatively high (average 4.12), while lecturers (3.75) and education staff (3.65) gave lower scores. This pattern indicates that groups of users with responsibility for managing and verifying data tend to be more critical of accuracy.

**The Influence of Format on SIKADEK User Satisfaction**

The test results showed that Format had a positive and significant effect on SIKADEK user satisfaction, with a regression coefficient of 0.133 (t = 2.714; sig. = 0.007), so H3 was accepted. This positive value shows that the better the quality of SIKADEK's presentation, the higher the user satisfaction.

Theoretically, the Ease of Use Format is the operationalization of the System Quality dimension in the DeLone & McLean IS Success Model (DeLone & McLean, 2003), different from Content, Accuracy, and Timeliness which represent Information Quality. Significance of Format thus provides empirical support for the causal pathway of System Quality → User Satisfaction: user satisfaction is determined not only by the quality of information (what the system delivers), but also by the quality of presentation (how it is displayed and accessed).

The mechanism of this influence can be explained through Expectation-Confirmation Theory. An organized layout, good readability, and clear navigation structure confirm the user's expectations of ease of understanding and accessing information, and such confirmation results

in satisfaction (Bhattacherjee, 2001). On the other hand, poor presentation demands greater cognitive effort from the user, leading to disconfirmation that decreases satisfaction.

However, among the five dimensions of EUCS, Format contributed the least to satisfaction (B = 0.133; standardized β = 0.145). Theoretically, these findings indicate that SIKADEK users prioritize the substance of the completeness system, accuracy, timeliness of information, and ease of use over presentation aspects. Format can be seen as a complementary supporting factor: its presence is necessary, but as long as the information is functionally presented, aesthetic and layout aspects play a secondary role in shaping satisfaction.

Descriptively, the format was considered relatively high by cadets (average 4.18), but lower by lecturers (3.80) and education staff (3.94). As with Accuracy, the significance of Format's influence turns out to depend on the category of user.

**The Effect of Ease of Use on SIKADEK User Satisfaction**

The test results showed that Ease of Use had a positive and significant effect on SIKADEK user satisfaction, with a regression coefficient of 0.262 (t = 5.258; sig. < 0.001), so H4 was accepted. This coefficient is one of the strongest among the five dimensions, just below Timeliness.

Theoretically, Ease of Use together with Format is the operationalization of the System Quality dimension in the DeLone & McLean IS Success Model (DeLone & McLean, 2003). However, there is a theoretically important finding: within the System Quality dimension, the contribution of Ease of Use (β = 0.276) is much greater than that of Format (β = 0.145). This shows that the quality of the system that affects satisfaction is more determined by the aspect of ease of interaction (usability) than the aspect of presentation. Thus, these findings not only confirm the System Quality → User Satisfaction pathway, but also clarify which components of system quality play the most role in the context of SIKADEK.

The mechanism of this influence can be explained through Expectation-Confirmation Theory. Ease of use reduces the effort that users have to spend to interact with the system. When SIKADEK can be operated easily without the need for special training, users get confirmation of their expectations of ease of use, which then results in satisfaction (Bhattacherjee, 2001). In contrast, a system that is difficult to operate increases cognitive load and generates disconfirmation that lowers satisfaction, even when the information presented is of high quality.

The dominance of Ease of Use, along with Timeliness, over the dimensions of information quality indicates that for SIKADEK users, a smooth interaction experience is just as important, or even more important, than the attributes of the information itself. These findings theoretically confirm that the success of academic information systems is not sufficiently supported by information quality alone; Operational convenience is the main determinant of user satisfaction.

Descriptively, Ease of Use was rated high by cadets (average 4.18) and education staff (4.15), but much lower by lecturers (3.61), which was the lowest assessment of the lecturer group among all dimensions. This sharp contrast of perception hints at the role of user category moderation.

**The Influence of Timeliness on SIKADEK User Satisfaction**

The test results showed that Timeliness had a positive and significant effect on SIKADEK user satisfaction, with a regression coefficient of 0.276 (t = 6.042; sig. < 0.001), so H5 was accepted. This coefficient is the largest of the five dimensions (standardized β = 0.287), so Timeliness is the most dominant determinant of user satisfaction.

Theoretically, Timeliness together with Content and Accuracy is the operationalization of the Information Quality dimension in the DeLone & McLean IS Success Model (DeLone & McLean, 2003). Timeliness' position as the strongest contributor emphasizes, theoretically, that in the context of SIKADEK, the information quality component that most determines satisfaction is not just the completeness or accuracy of the content, but the up-to-date and timeliness of information presentation.

The mechanism of this influence can be explained through Expectation-Confirmation Theory. Information that is presented in a timely manner and a system that responds quickly confirms the user's expectations of speed and up-to-dateness, and such confirmation results in satisfaction (Bhattacherjee, 2001). On the other hand, delays in the presentation of information or system responses cause disconfirmation that decreases satisfaction, especially in time-bound academic activities such as filling out KRS, accessing schedules, and announcements.

This finding acquires deeper theoretical significance when it is associated with the phenomenon of objective-subjective quality gap. Although objective technical measurements indicate room for improvement in the load time aspect of the full load time system of 4.9 seconds based on GTmetrix testing, which is above the ideal threshold users still perceive Timeliness positively (average 4.14 for cadets; 4.02 for lecturers; and 3.94 for education personnel), and this dimension is actually the strongest driver of satisfaction. The gap between objective technical quality and subjective perception is explained in more depth through Expectation-Confirmation Theory in the discussion of objective-subjective quality gap.

**The Role of User Category Moderation on EUCS Relationships and Satisfaction**

Testing of the role of moderation of user categories is carried out through two complementary approaches: Moderated Regression Analysis (MRA) to test the existence of the moderation effect, and subgroup regression analysis to interpret the patterns of differences between groups.

The MRA results showed that the entire interaction rate between the EUCS dimension and the user category was significant (all sig. < 0.001), so H6 to H10 were accepted. Thus, the user category is proven to moderate the entire relationship between the EUCS dimension and SIKADEK user satisfaction. However, because user categories are nominal variables with three categories, the interaction coefficient in MRA is only used to ensure moderation, not to interpret the direction of the difference. The direction and pattern of differences in influence between groups were interpreted through subgroup analysis, which presented a comparison of the regression coefficient (B) of each dimension of the EUCS in each user group as presented in Table 4.28.

Theoretically, this role of moderation is explained by Task-Technology Fit (Goodhue & Thompson, 1995). The three groups of SIKADEK users have fundamentally different task profiles. Cadets use the system for routine academic information consumption such as filling out KRS, monitoring schedules, and viewing grades. Lecturers use systems for academic

management and decision-making such as grade input, lecture management, and reporting. Education personnel use the system for complex and large-volume institutional administrative processing. This difference in task profile causes the dimensions of the EUCS that most determine the suitability of technology to each group's tasks to be different, so that each group's sensitivity to each dimension is not uniform.

The strength of the regression model in each subgroup shows significant differences. In the Cadet/i group (n = 128), the model explained 84.7% satisfaction variance ($R^2 = 0.847$), the highest among the three groups. In the Education Personnel group (n = 17), the $R^2$ value reached 0.844, while in the Lecturer group (n = 22) the model explained 68.5% of the variance ($R^2 = 0.685$). A comparison of the unstandardized B coefficients per dimension of the EUCS for each group is presented in Table 4.28.

**Table 9. Comparison of Coefficient B Subgroup Regression User Group**

| EUCS Dimensions | Cadet (n=128) | Lecturer (n=22) | Tendon (n=17) | Strongest on |
|---|---|---|---|---|
| Content (X1) | 0,292* | **0,680*** | 0.101 ns | Lecturer |
| Accuracy (X2) | **0,182*** | 0.100 ns | 0.071 ns | Hang |
| Format (X3) | **0,170*** | 0.040 ns | 0.063 ns | Hang |
| Ease of Use (X4) | **0,250*** | 0,128 ns | **0.351 ns** | Tendik (descriptive) |
| Timeliness (X5) | **0,246*** | 0.196 ns | **0.261 ns** | Tendik (descriptive) |
| Remarks: * = significant p < 0.05; ns = insignificant; bold = the largest coefficient on the line | | | | |

Source: Primary data processed by the authors (2025)

Based on the table above, there are clearly different patterns between user groups regarding which dimensions of EUCS have the most powerful influence on satisfaction, and these patterns are consistent with each group's task profile.

**First, the Content dimension (X1).** Content influences show the most striking differences among the five dimensions. In the Lecturer group, the B Content coefficient reached 0.680 and was significant (p = 0.028), the highest value among all coefficients per group. This shows that for lecturers, the completeness and relevance of information is the main determinant of satisfaction, in line with the task of academic decision-making which demands complete and accurate information. In Cadets, the content coefficient was 0.292 (p = 0.001), while in Education Personnel it was only 0.101 and insignificant (p = 0.675), which may be due to the limitation of the sample size (n = 17) and not the mere absence of influence.

**Second, the Accuracy dimension (X2).** The effect of Accuracy was only shown to be significant in the Cadet/i group (B = 0.182, p = 0.002). In Lecturers and Education Personnel, the coefficients were 0.100 (p = 0.556) and 0.071 (p = 0.549), respectively, both of which were insignificant. This pattern indicates that cadets feel the impact of data accuracy on daily satisfaction, for example in checking grades, schedules, and personal academic data, in line with the intensity of their routine use.

**Third, the Format dimension (X3).** Similar to Accuracy, the influence of Format was only significant on Cadets/i (B = 0.170, p = 0.002). In lecturers, the coefficient is 0.040 (p = 0.800) and in education personnel it is 0.063 (p = 0.822), both of which are not significant. This shows that the interface and readability have a greater impact on the satisfaction of Cadets,

who access SIKADEK more often including through mobile devices, so they are more sensitive to the quality of the display.

**Fourth, the Ease of Use (X4) dimension.** In Cadets, Ease of Use had a significant effect (B = 0.250, p < 0.001). Descriptively, the coefficient in Education Personnel was actually larger, at 0.351, although it was not significant (p = 0.116) due to the limitations of the sample size. This pattern indicates that ease of use has the potential to be very critical for Education Personnel who use SIKADEK for complex administrative tasks. In lecturers, the coefficient was 0.128 (p = 0.522), the lowest among the three groups.

**Fifth, the Timeliness dimension (X5).** The effect of Timeliness was only significant on Cadets (B = 0.246, p < 0.001). In Education Personnel, the coefficient of 0.261 was the highest descriptively among the three groups, although it was not significant (p = 0.144). In lecturers, the coefficient is 0.196 (p = 0.578). This pattern is in line with the nature of the work of Education Personnel who require a responsive system to support the processing of large volumes of data and deadlines.

The pattern of significance between subgroups needs to be interpreted carefully due to the inequality of group size. The Cadet/i group (n = 128) has much greater statistical power than Lecturers (n = 22) and Education Personnel (n = 17). As a result, some dimensions appear to be "only significant in Cadets" partly due to the limited testing power in small groups, not simply the absence of influence. The clearest indication can be seen in Ease of Use and Timeliness, whose coefficients in Education Personnel are descriptively high but not significant due to the small sample size. Therefore, the interpretation of moderation in this study is based on the magnitude of the coefficient and the logic of Task-Technology Fit, not on the significance of the subgroup alone, as stated in Subchapter 3.7.4. Follow-up research with a more proportional sample between groups is recommended to obtain more conclusive results.

The findings also reveal important differences between levels of perception and sensitivity. For example, lecturers perceived Ease of Use as the lowest (average of 3.61), but their strongest satisfaction driver was Content (B = 0.680); on the other hand, for education staff, Ease of Use and Timeliness were the strongest drivers despite moderate average scores. Thus, a low-rated dimension is not always the most satisfying dimension that determines the fit of the dimension with the group task profile.

Theoretically, these moderation findings contribute to the DeLone & McLean IS Success Model. The D&M Model generally places the relationship between system quality and information quality and user satisfaction uniformly across users. The findings of this study show that the relationship is contingent on user characteristics, as predicted by Task-Technology Fit. The integration of D&M and TTF thus results in a richer understanding: the success of academic information systems is determined not only by the quality of the system in general, but by the suitability of those qualities to the needs of the tasks of each user group.

**Resolusi Objective-Subjective Quality Gap**

One of the findings that requires special theoretical discussion is the gap between the objective technical quality of SIKADEK and the subjective perception of its users, which in this study is called the objective-subjective quality gap.

Objectively, technical measurements show that there is room for improvement in several aspects of the system. GTmetrix testing showed a full page load time of 4.9 seconds with a page size of 2.66 MB, well above the ideal threshold for web performance. In addition, a number of unresolved helpdesk tickets were identified as well as one broken link on the system scan. These indicators show that SIKADEK is not technically in optimal condition.

However, subjectively, users actually perceive SIKADEK very positively. Overall satisfaction scores averaged 4.21 on a scale of 5 (the highly satisfied category), and all dimensions of EUCS were rated high including the Timeliness dimension that is directly related to system speed. There is a seemingly paradoxical discrepancy: the aspect that objectively shows the greatest room for improvement, that is, speed, is perceived as good and even the strongest driver of satisfaction.

This gap can be explained theoretically through Expectation-Confirmation Theory. According to ECT, satisfaction is not formed from absolute objective performance, but rather from confirmation between perceived performance and the initial expectations of the user (Oliver, 1980; Bhattacherjee, 2001). Users do not evaluate SIKADEK against external ideal technical benchmarks such as web load time standards, but rather against their own expectations formed from functional needs and contextual experience. As long as the system meets the core needs of users, namely accessing and managing academic information and cadets functionally, perceived performance confirms their expectations, resulting in satisfaction, even though there is room for technical improvement according to objective standards.

This mechanism explains why a load time of 4.9 seconds does not lower the perception of Timeliness. The user's expectations of system speed are calibrated by the context of their use; As long as the system is responsive enough to complete academic and administrative tasks, those expectations are confirmed and satisfaction remains high. In other words, "fast enough" according to user expectations does not have to be equivalent to "fast" according to ideal technical benchmarks.

This resolution answers the apparent contradiction between the indication of technical problems and the level of satisfaction: the two do not contradict each other, but measure different constructs. Objective technical quality is a property of the system, while satisfaction is a subjective evaluative response relative to user expectations. Theoretically, these findings contribute by showing empirically that objective system quality and user satisfaction are two divergent constructs, and ECT provides a theoretical bridge to understanding these divergences.

Nonetheless, high satisfaction does not mean that the technical aspects can be ignored. Objective indicators still show real optimization opportunities, especially in system load times and ticket completion, which if improved has the potential to further increase satisfaction, especially considering that Timeliness is the most influential dimension to satisfaction.

**Practical Implications of Research**

The findings of this study provide several practical implications for the development and management of academic information systems, especially in cadet-based vocational education institutions.

First, the EUCS model within the framework of DeLone & McLean proved to be relevant and reliable as an instrument for evaluating user satisfaction in this context, with the ability to explain 81.5% of satisfaction variance ($R^2 = 0.815$). In practical terms, the five dimensions of EUCS can be used as a structured and measurable system evaluation framework, so that managers have a systematic basis not just an intuitive assessment to monitor user satisfaction on a regular basis.

Second, Timeliness and Ease of Use are the most dominant determinants of satisfaction. In practical terms, these findings provide a priority principle for developers: in conditions of limited resources, increased system responsiveness and ease of use have the greatest impact on satisfaction, compared to the presentation (Format) aspect that plays a secondary role. This principle helps managers allocate development efforts on an evidence-based basis.

Third, the moderation findings confirm that the drivers of satisfaction are contingent on the user category, according to the Task-Technology Fit principle. By practical implication, a uniform system development approach for all users is theoretically inadequate; Evaluation and system development need to consider user segmentation so that each group gets a value that matches its task profile.

Fourth, the existence of an objective-subjective quality gap implies that high satisfaction should not be a reason to ignore technical improvements. According to the logic of Expectation-Confirmation Theory, satisfaction is relative to user expectations. Therefore, managers need to balance two things: optimizing the technical aspects that still have room for improvement (especially system load time) and managing user expectations through communication and service transparency. Performing technical optimization before user expectations increase will keep satisfaction high on an ongoing basis.

**Managerial Implications of Research**

Based on the results of the study showing that all dimensions of EUCS have a significant effect on user satisfaction with Timeliness and Ease of Use as the most dominant factors as well as the differences in the influence of the EUCS dimension between user groups (Cadets, Lecturers, and Education Personnel), there are several managerial implications that can be strategic considerations for institutions in the management and development of SIKADEK. The differences between these groups, which are theoretically explained by Task-Technology Fit (Goodhue & Thompson, 1995), are the basis for the preparation of segmented recommendations so that they are more targeted and can be implemented effectively.

**First**, prioritize system content development to increase lecturer satisfaction. The results of the subgroup analysis showed that the Content dimension had the highest influence coefficient in the Lecturer group ($B = 0.680$; $p = 0.028$), far exceeding the other groups. This is in line with the task profile of lecturers who demand complete information for academic decision-making, so that their satisfaction is largely determined by the completeness, relevance, and ease of understanding information in SIKADEK. The managerial implication is that system managers need to prioritize the development of content features that support the academic needs of lecturers, such as: (1) the provision of complete and easily exportable grade recapitulation data; (2) integration of lecture schedule information, student data, and academic history in one view; and (3) the provision of automatic notifications related to the deadline for

filling in grades and lecture administration. Investing in content quality will have the most significant impact on the satisfaction of the lecturer group.

**Second**, improved data accuracy and display quality for the Cadets group. The Cadets group was the only group in which all five dimensions of EUCS were shown to be statistically significant, including Accuracy (B = 0.182) and Format (B = 0.170). Considering that Taruna/i is the largest user (76.6% of the total respondents), improvements in these two dimensions will have a wide impact on overall satisfaction. Operationally, management needs to ensure: (1) consistency and validation of academic data such as grades, attendance, and schedules so that there are no data differences between features; (2) improvement of the interface display on mobile devices considering that Cadets tend to access the system through smartphones; and (3) simplifying menu and navigation structures so that the most frequently accessed information, such as values and schedules, is easy to find without many clicks.

**Third**, optimizing the ease of use and speed of the system for Education Personnel. Although the coefficients of Ease of Use (B = 0.351) and Timeliness (B = 0.261) in the Education Personnel group were not statistically significant due to the limitations of the sample size (n = 17), the magnitude of the descriptive coefficients of both was the highest among all groups for the two dimensions. This pattern is in line with the job profile of Education Personnel who demand an easy-to-use and responsive system to complete high-volume administrative tasks. The recommended managerial implications include: (1) simplifying administrative workflows in the system such as the process of uploading documents, attendance recaps, and making academic reports; (2) increased server capacity and optimization of digital assets such as images and fonts to speed up page load times; and (3) periodic training to Education Personnel on SIKADEK features relevant to their duties so that work productivity increases.

**Fourth**, the determination of priorities for the development of the system as a whole. Based on the results of the overall model regression, the dimensions of Timeliness (B = 0.276) and Ease of Use (B = 0.262) were the two factors with the most dominant influence on the satisfaction of all SIKADEK users. Therefore, management needs to prioritize budget and development resources on improving technical performance and ease of use as the main foundation. This can be realized through the preparation of short-term development roadmaps (0–6 months: server optimization and mobile UI improvement), medium-term (6–12 months: feature integration and administrative workflow simplification), and long-term (1–2 years: feature development based on user feedback and comprehensive system evaluation).

**Fifth**, strengthening data governance and periodic system evaluation. Given that the Accuracy dimension has a relatively lower average value than other dimensions, a more structured data governance policy is needed, including the establishment of data validation standards, a mechanism for updating academic data periodically, and the appointment of a clear person in charge for each system module. In addition, management needs to establish a periodic user satisfaction evaluation policy, ideally once per semester, that involves representation of all three user groups so that each group's specific needs can be identified and accommodated in the next system development cycle.

## CONCLUSION

Based on the results of the study, it can be concluded that the five dimensions of End-User Computing Satisfaction (EUCS), namely content, accuracy, format, ease of use, and timeliness, have proven to have a positive and significant effect on the satisfaction of users of the Academic and Cadet Information System (SIKADEK) at the Jembrana Marine and Fisheries Polytechnic, with the timeliness dimension as the most dominant factor. In addition, the user category (Cadets, Lecturers, and Education Personnel) has been proven to moderate the relationship between the EUCS dimension and user satisfaction, so that each group has different satisfaction factors according to the characteristics of their needs. These findings confirm that the EUCS model is relevant for measuring user satisfaction of cadet-based academic information systems as well as strengthening integration with the DeLone & McLean IS Success Model theory, Task-Technology Fit, and Expectation-Confirmation Theory. However, this study has limitations, including the use of convenience sampling, the object of research limited to one institution, cross-sectional design, and the inequality in the number of respondents in each user group. Therefore, SIKADEK managers are advised to improve system performance, especially in the aspects of access speed, ease of use, content quality, data accuracy, and interface display, while further research is expected to use more representative samples and add other contextual variables to be able to provide a more comprehensive understanding of the satisfaction of users of academic information systems.

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