



User Satisfaction Evaluation of the Academic Information System at AMIK Medicom Campus Using the EUCS Method

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Abstract

Academic Information Systems play a crucial role in supporting students by providing access to various academic services and information. At AMIK Medicom, the Learning Management System (LMS) serves as the primary platform for accessing academic services, including tuition payment information, grades, attendance records, academic advising, and course-related announcements. To ensure that the system effectively meets users' needs and expectations, a comprehensive evaluation of its performance is required. One widely adopted approach for assessing user satisfaction is the End-User Computing Satisfaction (EUCS) method, which evaluates users' satisfaction by comparing their expectations with the actual performance of the system. The findings indicate that the system quality dimensions, namely content, format, accuracy, timeliness, and ease of use, collectively explain 84.7% of user satisfaction. These results suggest that students are generally highly satisfied with the quality of the LMS implemented at AMIK Medicom. Furthermore, the results of the partial (t-test) analysis reveal that ease of use does not have a statistically significant effect on user satisfaction. In contrast, the dimensions of content, format, accuracy, and timeliness have a significant positive influence on students' satisfaction with the academic information system.

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1. Introduction

The rapid advancement of information technology has transformed various aspects of human life, including the higher education sector. The adoption of information technology enables institutions to provide faster, more accurate, and easily accessible information, thereby improving the effectiveness of academic processes and supporting decision-making within higher education institutions (Marcelino & Verbruggen, 2016). Consequently, higher education institutions in Indonesia are encouraged to implement information systems that support the academic activities of students, lecturers, administrative staff, and other stakeholders (Sidharta & Suzanto, 2015).

In addition to serving as a medium for information dissemination, information technology has become a strategic component in supporting institutional planning, management, and sustainable

development. The availability of a reliable information system enhances the efficiency of academic services while strengthening the overall governance of higher education institutions.

One of the implementations of information technology in higher education is the Learning Management System (LMS), which functions as the academic information system at AMIK Medicom. Through the LMS, students can access various academic services, including tuition payment information, course registration (KRS), academic transcripts (KHS), attendance records, class schedules, academic advising, grade transcripts, and academic announcements. The implementation of this system is expected to improve the efficiency of academic administrative services while providing greater convenience for all users (Subiyakto et al., 2016).

The rapid development of internet technology has also encouraged educational institutions to provide academic services that are accessible anytime and anywhere. The digitalization of academic services has become an essential strategy for improving service quality and enhancing the competitiveness of higher education institutions (Septiani et al., 2020). Therefore, implementing an academic information system is intended not only to accelerate information delivery but also to improve the overall efficiency of academic administrative processes (Kamaluddin & Suyatno, 2020).

The academic information system at AMIK Medicom has been implemented since 2018 and is utilized by three primary user groups: students, lecturers, and the Academic Administration Office (BAAK). The system provides several features, including student data management, course registration (KRS), academic results (KHS), grade transcripts, password management, and financial transaction history. At the time this study was conducted, the system was actively used by 284 students.

Although the system has been widely adopted, observations, interviews with the Head of the Academic Administration Office (BAAK), and a preliminary survey involving 30 students revealed several issues affecting user experience. From the content perspective, users perceived the information presentation to be less appealing due to the use of simple typography, layout, and limited graphical elements. Regarding accuracy, students reported problems when completing lecturer evaluation questionnaires, as the system occasionally required repeated submissions even after the questionnaire had been successfully completed.

Additional issues were identified in the format dimension, where the user interface was considered visually unattractive and the menu structure was not sufficiently intuitive, making it difficult for users to locate the required services. This condition is closely related to the ease of use dimension, as users experienced difficulties navigating and operating the system. Furthermore, from the timeliness perspective, data processing occasionally required excessive processing time and sometimes resulted in system errors, thereby reducing user convenience when accessing academic services.

To date, no comprehensive evaluation has been conducted to assess user satisfaction with the academic information system at AMIK Medicom. Consequently, the institution lacks empirical evidence regarding users' perceptions of the quality of services provided by the system. Previous studies have suggested that a high-quality information system positively influences user satisfaction (Fadlan et al., 2020). Therefore, measuring user satisfaction is essential for identifying the strengths and weaknesses of the existing system and providing valuable insights for future system development and service improvement (Saputra & Kurniadi, 2019).

This study employs the End-User Computing Satisfaction (EUCS) model to evaluate user satisfaction with the academic information system. The EUCS model was selected because it measures user satisfaction based on direct user experience across five key dimensions: content, accuracy, format, ease of use, and timeliness (Suzanto & Sidharta, 2019). These dimensions are considered appropriate for assessing information system quality from the end-user perspective and are well aligned with the issues identified in the AMIK Medicom LMS (Perdana et al., 2021).

Several previous studies have demonstrated the effectiveness of the EUCS model in evaluating information systems. For instance, Suwanti, Yudhana, and Herman (2022) applied the EUCS method to evaluate a library information system and reported a very high level of user satisfaction, with satisfaction scores ranging from 76% to 78% across all evaluated dimensions. These findings

indicate that the EUCS model provides a comprehensive framework for assessing users' perceptions of information system quality.

Based on the aforementioned background, this study aims to analyze users' satisfaction with the academic information system at AMIK Medicom using the End-User Computing Satisfaction (EUCS) model. The findings are expected to identify the system dimensions that have met users' expectations as well as those requiring further improvement. Ultimately, the results of this study are expected to provide practical recommendations for enhancing the quality and sustainability of academic information system services at AMIK Medicom.

2. Research Methodology

2.1 Research Object

The object of this study is the Learning Management System (LMS), which serves as the academic information system at AMIK Medicom and is utilized by students to access various academic services. This study employed a quantitative descriptive research design. Descriptive analysis was used to describe the characteristics of the research object and to draw conclusions based on the collected data. A quantitative approach was adopted because it enables the objective measurement of respondents' perceptions regarding the quality of the academic information system through numerical data.

The study utilized both primary and secondary data sources. Primary data were collected through questionnaires distributed to students selected using the simple random sampling technique, ensuring that each member of the population had an equal opportunity to participate as a respondent. The research instrument consisted of a structured questionnaire using a five-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree) to measure respondents' perceptions of each statement. Secondary data were obtained from books, scientific articles, journals, and other relevant literature related to the research topic.

2.2 Data Analysis Technique

Data analysis was performed using several statistical techniques to evaluate the quality of the research instrument and test the proposed hypotheses. The analytical procedures included the validity test, reliability test, multiple linear regression analysis, coefficient of determination (R^2), partial significance test (t-test), and simultaneous significance test (F-test).

a. Validity Test

The validity test was conducted to determine whether each questionnaire item accurately measured the intended research construct. An item was considered valid if it demonstrated an adequate level of correlation with the corresponding research variable.

b. Reliability Test

The reliability test was performed to assess the internal consistency of the research instrument. Reliability was evaluated using Cronbach's Alpha coefficient, which determines whether the questionnaire consistently produces reliable measurements under similar conditions.

c. Multiple Linear Regression Analysis

Multiple linear regression analysis was employed to examine the relationship between the independent variables and the dependent variable. Prior to hypothesis testing, the dataset was evaluated to ensure that it satisfied the required statistical assumptions. Subsequently, the **F-test** was conducted to examine the simultaneous effect of all independent variables on user satisfaction, whereas the **t-test** was applied to assess the individual effect of each independent variable on the dependent variable.

2.3 Research Hypotheses

This study adopted the End-User Computing Satisfaction (EUCS) model to evaluate user satisfaction with the academic information system implemented through the LMS at AMIK Medicom. The conceptual framework was adapted from the Information Systems Success Model proposed by DeLone and McLean (2003). The research hypotheses were formulated to examine whether the five

dimensions of the EUCS model—content, accuracy, format, ease of use, and timeliness—significantly influence user satisfaction with the academic information system.

3. Results And Discussions

This study is an applied research that investigates the influence of academic information system quality on user satisfaction using the End-User Computing Satisfaction (EUCS) model. The study population consisted of all active students using the LMS at AMIK Medicom during the Odd Semester of the 2022/2023 Academic Year, comprising a total of 987 students.

Data were collected online using Google Forms. Respondents were selected through a probability sampling approach using the simple random sampling technique, providing each member of the population with an equal chance of being selected. The sample size was determined using the Slovin formula with a 5% margin of error.

The research instrument employed a five-point Likert scale, consisting of Strongly Agree (SA), Agree (A), Neutral (N), Disagree (D), and Strongly Disagree (SD). This scale was used to measure respondents' perceptions of the quality of the academic information system based on the five dimensions of the EUCS model.

Table 1. EUCS Dimensions and Questionnaire Design

No	Dimensi EUCS	Code	Questionnaire Statement
1	Content	C1	The information provided by the LMS meets students' academic information needs.
		C2	The information provided by the LMS is easy to understand.
		C3	The information provided by the LMS is complete.
		C4	The information provided by the LMS is clear and understandable.
		C5	The information provided by the LMS is regularly updated.
2	Accuracy	A1	The LMS consistently provides accurate and reliable information.
		A2	Every link selected in the LMS directs users to the appropriate page.
		A3	The LMS provides an adequate level of security for its users.
		A4	The LMS rarely experiences errors during operation.
3	Format	F1	The LMS interface has an attractive color scheme.
		F2	The layout of the LMS interface facilitates user interaction.
		F3	The menu structure and navigation links in the LMS are easy to understand.
		F4	The fonts used in the LMS interface are clear and easy to read.
		F5	The language used in the LMS interface is easy for users to understand.
4	Ease of Use	E1	The LMS is convenient and easy to use.
		E2	The LMS can be accessed easily anytime and anywhere.
		E3	The LMS provides warning messages when users make input errors.
5	Timeliness	T1	The LMS displays information promptly after users access the system.
		T2	The academic information required by users can be obtained quickly through the LMS.

Data Preparation and Instrument Testing

The data collected from the questionnaire responses were initially examined to ensure that all questionnaire items had been completed by the respondents. Following the data screening process, the research instrument was evaluated to assess its measurement quality. The evaluation consisted of validity and reliability tests. The validity test was conducted to determine whether each questionnaire item accurately represented the research variables, while the reliability test was performed to assess the consistency of the instrument in producing dependable and consistent results.

3.1 Validity Test

The validity of the research instrument was assessed using IBM SPSS Statistics version 23. The analysis revealed that all questionnaire items satisfied the validity criteria, as indicated by item correlation

coefficients greater than 0.30. Therefore, all questionnaire items were considered valid and appropriate for subsequent statistical analyses. A summary of the validity test results is presented in Table 2.

Table 2. Validity Test Results

Content			
Variabel	Pearson Correlation	Threshold Value	Conclusion
Question 1	0.876	0.3	Valid
Question 2	0.786	0.3	Valid
Question 3	0.765	0.3	Valid
Question 4	0.879	0.3	Valid
Question 5	0.765	0.3	Valid
Accuracy		0.3	Valid
Variabel	Pearson Correlation	Threshold Value	Conclusion
Question 1	0.876	0.3	Valid
Question 2	0.712	0.3	Valid
Question 3	0.723	0.3	Valid
Question 4	0.832	0.3	Valid
Question 5	0.710	0.3	Valid
Format		0.3	Valid
Variabel	Pearson Correlation	Threshold Value	Conclusion
Question 1	0.820	0.3	Valid
Question 2	0.783	0.3	Valid
Question 3	0.743	0.3	Valid
Question 4	0.831	0.3	Valid
Question 5	0.733	0.3	Valid
Ease of use		0.3	Valid
Variabel	Pearson Correlation	Threshold Value	Conclusion
Question 1	0.732	0.3	Valid
Question 2	0.876	0.3	Valid
Question 3	0.840	0.3	Valid
Question 4	0.821	0.3	Valid
Question 5	0.783	0.3	Valid
Timeliness		0.3	Valid
Variabel	Pearson Correlation	Threshold Value	Conclusion
Question 1	0.829	0.3	Valid
Question 2	0.730	0.3	Valid
Question 3	0.865	0.3	Valid
Question 4	0.750	0.3	Valid
Question 5	0.877	0.3	Valid
Satisfaction		0.3	Valid
Variabel	Pearson Correlation	Threshold Value	Conclusion
Question 1	0.723	0.3	Valid
Question 2	0.810	0.3	Valid
Question 3	0.822	0.3	Valid
Question 4	0.765	0.3	Valid
Question 5	0.845	0.3	Valid

3.2 Reliability Test

The reliability of the research instrument was evaluated using Cronbach's Alpha. An instrument is considered reliable when its Cronbach's Alpha coefficient exceeds the minimum threshold of 0.60. The reliability analysis was performed using IBM SPSS Statistics. The results indicated that all research variables achieved Cronbach's Alpha values greater than 0.60, demonstrating satisfactory internal consistency. Therefore, all questionnaire items were considered reliable and suitable for use in subsequent statistical analyses.

3.3 Multiple Linear Regression Analysis

a. Correlation Coefficient (R) and Coefficient of Determination (R^2)

The multiple linear regression analysis produced a correlation coefficient (R) of 0.920, indicating a strong positive relationship between the independent variables—content (X_1), accuracy (X_2), format (X_3), ease of use (X_4), and timeliness (X_5)—and the dependent variable, user satisfaction (Y).

Furthermore, the coefficient of determination (R^2) was 0.847, indicating that 84.7% of the variance in user satisfaction can be explained by the five independent variables included in the EUCS model. The remaining 15.3% of the variance is attributable to other factors that were not examined in this study.

b. Simultaneous Significance Test (F-test)

The F-test was conducted to determine whether the independent variables collectively influence user satisfaction. The analysis yielded a significance value of 0.000, which is lower than the significance level of 0.05. Therefore, it can be concluded that content, accuracy, format, ease of use, and timeliness simultaneously have a statistically significant effect on user satisfaction with the academic information system.

c. Partial Significance Test (t-test)

The results of the t-test indicate the individual contribution of each independent variable to user satisfaction, as summarized below.

1. Content (X_1) demonstrated a significance value of 0.022, which is below the 0.05 significance level. Therefore, content has a significant positive effect on user satisfaction.
2. Accuracy (X_2) produced a significance value of 0.016 (< 0.05), indicating that accuracy significantly influences user satisfaction.
3. Format (X_3) yielded a significance value of 0.000, confirming that format has a statistically significant positive effect on user satisfaction.
4. Ease of Use (X_4) obtained a significance value of 0.782, which exceeds the significance threshold of 0.05. Accordingly, ease of use does not have a statistically significant effect on user satisfaction.
5. Timeliness (X_5) produced a significance value of 0.000, indicating that timeliness has a significant positive influence on user satisfaction with the academic information system.

4. Conclusion

4.1 Conclusion

Based on the results of the analysis of the influence of academic information system quality on user satisfaction using the End-User Computing Satisfaction (EUCS) model, several conclusions can be drawn.

1. The coefficient of determination (R^2) indicates that the five dimensions of the EUCS model—content, accuracy, format, ease of use, and timeliness—collectively explain 84.7% of the variance in user satisfaction. The remaining 15.3% is influenced by other factors beyond the scope of this study. These findings suggest that the proposed model has strong explanatory power in evaluating user satisfaction with the academic information system.
2. The results of the F-Test demonstrate that the five EUCS dimensions simultaneously have a statistically significant effect on user satisfaction with the academic information system. This finding confirms that overall system quality plays an important role in determining users' satisfaction.
3. The t-test results reveal that four dimensions—content, accuracy, format, and timeliness—have a significant positive effect on user satisfaction. In contrast, the ease of use dimension does not have a statistically significant influence on user satisfaction.
4. Although the overall quality of the academic information system has been positively evaluated, the ease of use dimension requires further improvement. Therefore, system administrators are encouraged to enhance the user interface by simplifying the navigation structure, providing more informative error notifications, and improving system response time to ensure a more efficient and user-friendly experience.

These improvements are expected to enhance the overall quality of academic services provided through the LMS.

4.2 Recommendations

Future research is recommended to extend the analytical framework by incorporating additional variables that may influence user satisfaction, such as service quality, information quality, user trust, and continuance intention. Furthermore, comparative studies employing alternative information system evaluation models, including the DeLone and McLean Information Systems Success Model, the Technology Acceptance Model (TAM), and the Unified Theory of Acceptance and Use of Technology (UTAUT), are recommended. Such comparisons would provide a more comprehensive understanding of the factors influencing the successful implementation of academic information systems and contribute to the development of more effective evaluation frameworks.

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