

## ANALYSIS OF USER SATISFACTION LEVEL IN F-LEARN USING THE EUCS METHOD

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### ABSTRACT

*The changes in various aspects of life have led to the rapid development of information technology, enabling it to encompass all fields of knowledge in the education world and support the teaching and learning process. E-Learning is an integrated system developed through a holistic approach to ensure the effectiveness and interconnectedness of learning. It directly connects learners with relevant learning-teaching resources, facilitating active interaction and in-depth exploration. Flexible-Learning (F-Learn) is a distance learning platform at Satya Wacana Christian University (UKSW) that supports academic activities. The End User Computing Satisfaction (EUCS) method is used as an evaluation tool to measure user satisfaction with the application system by comparing their expectations with their actual user experience. The research aims to measure and evaluate students' satisfaction level with the use of F-Learn as a benchmark for the quality of services provided. Based on the conducted analysis, the content rating score is 3.9775, accuracy is 3.485, format is 3.31, usability is 3.82, and timeliness is 4.115.*

**Keyword: E-Learning, End User Computing Satisfaction, EUCS, User Satisfaction.**

### INTRODUCTION

The changes in various aspects of life have led to the rapid development of information technology, enabling it to encompass all fields of knowledge in the education world and support the teaching and learning process. The application of internet technology in education can be done through the E-Learning method, which supports teaching and learning activities. E-Learning is a technology-based distance learning that can be adapted to the learning conditions and support traditional learning (Wijaya & Suwastika, 2017).

Information technology enables organizations or administrators to effectively manage all administrative activities, allowing data to be collected, processed, and electronically presented in various formats to become useful information for users. Additionally, information technology also allows users to access information, interact, and collaborate with others (Jati, 2015).

Flexible-Learning (F-Learn) is a distance learning platform at Satya Wacana Christian University (UKSW) that supports academic activities. In providing IT services such as computer networking, information systems, supporting applications, and technical support for the entire university community, the BTSI (Bureau of Systems and Information Technology) takes the lead in developing these systems. F-Learn UKSW is an educational platform for

distance learning that helps actively involve students in the learning process to enhance its effectiveness within the scope of UKSW. On the other hand, teachers and students can use F-Learn to facilitate the learning process. F-Learn aims to assist instructors in saving time in explaining the topics being taught (Kevin et al., 2017).

Learning media is a crucial aspect for every educational institution to support the teaching and learning process. With E-Learning, students can access learning materials anytime and anywhere. Through E-Learning, students can access the curriculum, learning resources, exchange ideas and quizzes, submit assignments, and engage in in-depth discussions with fellow students and instructors. The emergence of E-Learning can also impact student satisfaction in accessing these services. Therefore, content, accuracy, format, usability, and schedule are essential aspects.

Based on the background mentioned, the research was conducted with the aim of analyzing student satisfaction in utilizing F-Learn (technology-based flexible learning). This study employed the end-user computing satisfaction method among students in the Informatics Engineering program. The objective of this research is to measure and evaluate the level of student satisfaction with the use of F-Learn as a benchmark for the quality of services provided. It is hoped that the findings of this research can be used as

a guide for valuable actions in the development and improvement of services provided to students, enhancing service quality, addressing existing shortcomings, and refining F-Learn as a more effective and satisfying learning platform.

## **LITERATURE REVIEW**

In the previous study titled "Analysis of End-User Computing Satisfaction (EUCS) and WebQual 4.0 on User Satisfaction," as explained in the research, the objective was to measure the End-User Computing Satisfaction (EUCS) and evaluate the effectiveness of the WebQual 4.0 model, which encompasses the aspects of usage, information quality, and service interaction that contribute to user satisfaction. Specifically, this study determined and measured these aspects on the website of ABC College. The analysis results revealed that while EUCS plays a significant role in improving user satisfaction, the WebQual 4.0 model also significantly contributes to enhancing user satisfaction with the website through usability and service interaction aspects (Husain & Budiyantra, 2018).

In the previous study titled "Evaluating The Library Website Of The Indonesian Ministry Of Education And Culture Through The End-User Computing Satisfaction (EUCS) Model," the research explains how the EUCS model is utilized to assess the usage level of the Ministry of Education and Culture's library website. The analysis shows that users are satisfied with the utilization of the Kemendikbud library website, with average ratings for each item being 3.14 for content, 3.07 for accuracy, 3.17 for format, 3.21 for ease of use, 3.05 for timeliness, and 3.04 for satisfaction. These ratings fall within the range of 2.52 to 3.27, indicating that the Kemendikbud library website is considered satisfactory by its users. However, the study recommends enhancing the timeliness dimension to provide users with quicker and more accurate information (Azwar et al., 2020).

In the previous study titled "The Contribution of End-User Computing Satisfaction to User Satisfaction of the Academic Portal Website in the Smart Campus System of Universitas Negeri Padang," the research aimed to determine the contribution of service satisfaction to users of the UNP Academic Portal website, obtained from the End User Computing Satisfaction (EUCS). Data analysis concluded that the variables of content, accuracy, format, usability, and timeliness collectively contribute 92.70% to user satisfaction with the UNP academic portal website (Dahlia et al., 2018).

In the previous study titled "End User Computing Satisfaction and Its Key Dimensions: An Exploratory Study," the research explains how to measure end user satisfaction with data processing (EUCS) by considering service quality satisfaction as one of the main determinants of EUCS. The authors developed a measurement of EUCS by combining EUCS measurements from Doll and Tokzadeh (1988) and IS-Adapted SERVQUAL adapted from Kettinger and Lee (1997) for a more comprehensive measurement. The results of the analysis show that this combined measure has good convergence, discriminative power, and related validity. Additionally, this new instrument demonstrates sufficient reliability (Cai et al., 2007).

Based on previous research on EUCS and E-Learning, it is known that this study aims to enhance user satisfaction with the portal website service. Therefore, a research study was conducted through several dimensions of End User Computing Satisfaction on F-Learn UKSW, with a case study involving students from the Faculty of Information Technology (FTI), specifically the Informatics Engineering program. Through this case study, various aspects of end-user computing satisfaction were explored. The method used in this research involves assessing end users' perceptions of the E-Learning system. User satisfaction in utilizing the system or application is measured based on factors that influence their satisfaction.

E-learning is an integrated system developed through a holistic approach to ensure the effectiveness and interconnectedness of learning. It directly connects learners with relevant learning-teaching resources, facilitating active interaction and in-depth exploration. The process of implementing E-Learning involves utilizing existing learning resources to achieve learning objectives. It is available in various forms and formats, such as books, libraries, information technology, and practical experiences, providing diverse opportunities for learners to expand their knowledge and understanding. The continuous utilization of technology in the learning process allows for the adoption of more interactive methods, wider accessibility to educational resources, and the selection of engaging learning tools to enhance learner engagement. The key characteristics of E-Learning include appropriate division between teachers and students in an effective learning environment that can be achieved through consistent educational efforts. Nowadays, most learning processes involve the use of technology as an integral tool. Education serves as a

link between teachers and students, complementing each other in the learning process. Effective course content delivery involves the use of innovative teaching strategies, such as interactive multimedia, group discussions, or collaborative projects. Additionally, synchronous communication among the involved parties enables rapid information exchange, direct question answering, and constructive feedback, all of which contribute to a comprehensive and impactful learning experience. Various forms of synchronous communication among students and the ability to provide materials to students are key features of E-Learning. It provides greater control in distance learning with teachers (Churton, 2016).

E-learning has characteristics that differentiate it from traditional learning. One of these characteristics is higher interactivity, with the availability of various communication channels. This can occur through direct communication channels such as chat or messenger, enabling real-time interaction between instructors and learners, as well as indirect communication channels. In the context of communication, forums, mailing lists, and guestbooks serve as means for indirect communication. The flexibility of time, location, instructors, and learning materials in E-Learning provides advantages for students to learn according to their individual preferences. This results in a learning approach that focuses more on the central role of students. The distribution of the internet provides wider reach and easier access to various learning resources compared to the distribution of learning materials in traditional learning. Through the implementation of information technology, including the use of video streaming, simulations, and animations, learning activities, lecture presentations, and training can be widely accessible (Pebriyanti, 2020).

The End User Computing Satisfaction (EUCS) method is used as an evaluation tool to measure user satisfaction with an application system by comparing their expectations with the user experience they have when using the information system. This method aims to assess the extent to which the application system meets user expectations and provides a satisfying experience in terms of functionality, performance, user interface, reliability, and other aspects. EUCS, as defined for information systems, is a comprehensive rating based on user experience in using the system (Saputri & Alvin, 2020).

## RESEARCH METHODS

This research was conducted at the Faculty of Information Technology, UKSW, using a quantitative

method in the initial stage of data collection, which involved distributing questionnaires to the 2021 batch of IT students. After successfully gathering the data, the next step was to proceed with data processing procedures. In this stage, the collected data would be processed to obtain relevant information and analyzed to generate useful insights. Data processing involves a series of steps, such as data cleaning, transformation, integration, aggregation, and statistical analysis. Data processing was carried out using Microsoft Excel and imported into the SPSS application for analyzing the End User Computing Satisfaction (EUCS). The research process stages are illustrated in Figure 1.

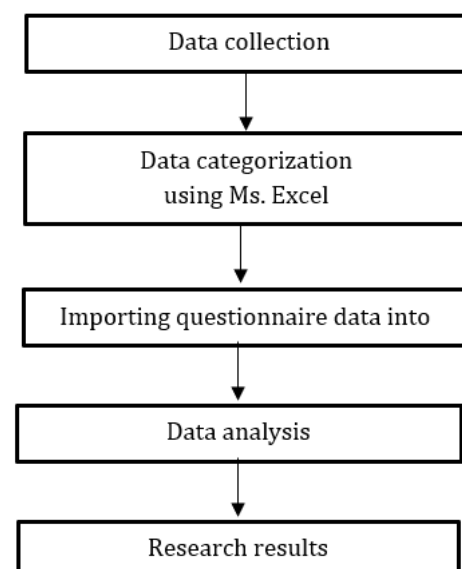


Figure 1. Research Stages

The process in the research stages shown in Figure 1 can be explained in detail as follows. The research stage begins with identifying the problem or research objectives to be achieved. Next, a literature review is conducted to gather relevant information and knowledge using existing data sources. The data collection process involves sending questionnaires via email to IT students and collecting responses through Google forms. Once the data is collected, it is organized using Microsoft Excel to facilitate data analysis. The data is grouped based on each question and linked in Microsoft Excel. The analysis of the data is then carried out using the SPSS application. This phase involves identifying issues to be analyzed and worked on. After obtaining the results regarding the End User Computing Satisfaction (EUCS), conclusions can be drawn, and recommendations can be provided based on the analysis stage to improve the F-Learn service.

**RESULTS AND DISCUSSION**

Before conducting hypothesis testing, the research instrument must undergo an evaluation process regarding validity and reliability. The evaluation of validity and reliability can be done using statistical analysis tools such as SPSS. The evaluation of validity is conducted by applying Bivariate correlation using the Pearson correlation coefficient.

Based on the validity evaluation results in Table 1, all elements of the research instrument demonstrate an adequate level of validity. This can be concluded from the r values exceeding the table value of 0.1968. These findings indicate that all measured variables in the research instrument have a significant relationship and can be included in correlation analysis.

Next, the reliability testing was conducted using the Cronbach's Alpha value as an indicator. This measurement aims to assess the internal consistency of the research instrument. If the Cronbach's Alpha value is high, it can be concluded that the research instrument has a better level of reliability. This reliability testing is performed to ensure that the research instrument can produce consistent results when used on various samples.

By going through the process of validity and reliability testing, the research instrument can be considered valid and reliable for use in hypothesis testing. This is important to ensure that the collected data is dependable and produces accurate and trustworthy research results.

**Table 1.** Validity Test Results

Variabel	Pearson Correlation
IS1	0.346
IS2	0.315
IS3	0.655
IS4	0.131
AK1	0.839
AK2	0.881
TL1	0.871
TL2	0.846
TL3	0.759
MD1	0.964
MD2	0.926
WT1	0.733
WT2	0.701

**Table 2.** Reability Test Results

Cronbach's Alpha	N of Items
0.724	13

The value obtained from the reliability testing using Cronbach's Alpha method is 0.724. If the Cronbach's Alpha value exceeds 0.6, the reliability can be categorized as good. Therefore, it can be interpreted that all items in the research instrument exhibit high reliability.

Next, satisfaction ratings were generated using the SPSS application based on five satisfaction factors, namely content, accuracy, format, usability, and timeliness, which were evaluated using descriptive statistical analysis. Information regarding the evaluation results for each question item and index can be found in Tables 3 and 4.

The testing results generated satisfaction indexes recorded in Table 5. This mapping indicates the level of satisfaction for each indicator included in the End User Computing Satisfaction (EUCS) approach.

Thus, through statistical analysis and evaluation, conclusions can be drawn regarding the level of reliability of the research instrument and the level of user satisfaction with the studied application system. This information can serve as a guide for researchers in understanding the effectiveness and user acceptance of the researched application system.

**Table 3** Descriptive Statistical Test Results of Question Items

	N	Missing	Mean
IS1	71	0	4.08
IS2	71	0	4.04
IS3	71	0	3.83
IS4	71	0	3.96
AK1	71	0	4.11
AK2	71	0	2.86
TL1	71	0	3.52
TL2	71	0	3.06
TL3	71	0	3.35
MD1	71	0	3.34
MD2	71	0	4.31
WT1	71	0	3.92
WT2	71	0	3.80
<b>Valid N</b>	<b>71</b>		

**Table 4** Descriptive Test Results of Indicators

	N	Mean
IS	71	3.9775
AK	71	3.485
TL	71	3.31
MD	71	3.825
WT	71	4.115
<b>Valid N</b>	<b>71</b>	

**Table 5** Range of Satisfaction Level Scores

Value Range	Satisfaction Level
0 - 1	Very Dissatisfied
1,1 – 2	Dissatisfied
2,1 – 3	Satisfied Enough
3,1 – 4	Satisfied
4,1 – 5	Very Satisfied

**Table 6** Results of Satisfaction Level Evaluation

Indicator	Value	Description
Content	3.9775	Satisfied
Accuracy	3.485	Satisfied
Format	3.31	Satisfied
Ease of Use	3.825	Satisfied
Timeliness	4.115	Very Satisfied

The testing results generated satisfaction indexes recorded in Table 5. This mapping indicates the level of satisfaction for each indicator included in the End User Computing Satisfaction (EUCS) approach.

## CONCLUSION

Based on the analysis conducted, the content rating score is 3.9775, accuracy is 3.485, format is 3.31, usability is 3.82, and timeliness is 4.115. Based on an overall assessment, it can be concluded that all evaluation scores for these five indicators have values >3. Therefore, it can be inferred that students are satisfied with F-Learn. According to user reviews, it is known that users are less satisfied with the quality and completeness in terms of accuracy and format, such as mismatched webpage displays and navigation structure. Hence, there is a need to improve the accuracy and format to make F-Learn more beneficial and useful for its users. It is important to enhance accuracy and format to ensure that F-Learn is more user-friendly, aligning the website display and navigation structure.

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