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Analysis of the UI/UX of the Skylar Topup Website Information System Using the Usability Scale (SUS) System Method

Ronaldo Julian PK[1], Karnadi[2], Zulhipni Reno Saputra Elsi[3]
[1,3]Department of Information Technology, University of Muhammadiyah Palembang, South Sumatra
[2]Information Technology Study Program, Faculty of Engineering

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ABSTRACT

Technological developments in the field of information systems have brought significant changes in the way we conduct transactions, communicate, and access services. One of the aspects that is focused on in the development of a website-based information system is the design of the user interface (UI) and user experience (UX). With technological advancements and wider adoption, intuitive, accessible, and user-friendly UI/UX design has become essential to ensure that information systems can meet users' needs efficiently and effectively. This study aims to evaluate user experience focusing on the ease of use and effectiveness of the user interface (UI) on the SkylarTopup information system. This process involves identifying challenges faced by users in interacting with the website, such as difficulties in navigation, slow response times, and design aspects that can be improved. Through SUS-based analysis, it is hoped that recommendations can be generated to improve the quality of UI/UX, so that SkylarTopup's information system can be more optimal, efficient, and better meet user needs. The results of the SUS score obtained show that although this system can be used quite well, there is potential for a significant improvement in terms of *usability*.

Corresponding authors:

Ronaldo Julian PK
Department of Information Technology
University of Muhammadiyah Palembang
South Sumatra, Indonesia
Email: ronal050ppa@gmail.com

1. Introduction

Technological developments have changed almost every aspect of human life, from revolutionary inventions such as wheels and steam engines in the Industrial Revolution to modern digital innovations such as the internet, artificial intelligence (AI), and autonomous vehicles[1]. Technology is not only affecting the way we work and communicate, but it is also changing important sectors such as health, transportation, education, and energy. Personal computers, smartphones, and the internet have connected the world globally, while AI and machine learning are now impacting everything from medical diagnosis to market analysis. Renewable energy technologies such as solar panels and electric vehicles also provide hope for a greener future.

More importantly, they allow students and teachers to participate and they work more effectively and interestingly with peers, even across cultures[2]. Ride-hailing apps like Gojek and Grab have changed

the way people transport, while digital wallets and mobile banking are accelerating financial inclusion across all walks of life. The Indonesian government is also actively encouraging digital transformation through various initiatives such as Smart City and 100 Startups, which aim to expand the adoption of technology in various regions. Despite this, challenges such as the digital divide and infrastructure problems in remote areas still need to be addressed, but the great potential of technology in Indonesia is increasingly visible, bringing opportunities for broader economic growth and innovation.

Technological developments in the field of information systems have brought significant changes in the way we conduct transactions, communicate, and access services. One of the aspects that is the focus of the development of a website-based information system is the design of the user interface (UI) and user experience (UX) [3]. With technological advancements and wider adoption, intuitive, accessible, and user-friendly UI/UX design has become essential to ensure that information systems can meet users' needs efficiently and effectively. A well-designed website can improve user comfort, make navigation easier, and ensure a satisfying experience in every interaction [4].

The use of technology in website development is not only limited to the e-commerce sector or digital business, but also covers various other fields, such as public services, education, and even top-up-based service platforms such as Skylar Topup. These platforms require special attention in terms of UI/UX design to ensure that users can easily access and use the services. This is important considering that user comfort and satisfaction are the main factors in the success of an information system [5].

For example, Skylar Topup is a platform that provides online top-up services, which requires a website-based information system with an adequate design. In this case, the convenience and ease of use factors are a priority, as users must be able to make recharge transactions quickly and without difficulty. Therefore, UI/UX design that is responsive and in accordance with user needs is very important to improve the effectiveness and efficiency of services.

To evaluate the extent to which the UI/UX design of the Skylar Topup website can meet user expectations, the System Usability Scale (SUS) method can be used. SUS is a measurement tool that is often used to assess the quality of system use based on user perception of ease and comfort of use. By using SUS, we can get objective data on aspects such as navigation, speed of access, and accuracy of functionality on the website. This assessment is an important step in identifying the strengths and weaknesses of existing UI/UX designs, as well as providing a solid foundation for further improvement.

With the SUS (*System Usability Scale*) method, the study entitled "UI/UX Analysis of SkylarTopup Website Information System Using the SUS (*System Usability Scale*) Method" aims to evaluate user experience focusing on the ease of use and effectiveness of the user interface (UI) in the SkylarTopup information system. This process involves identifying challenges faced by users in interacting with the website, such as difficulties in navigation, slow response times, and design aspects that can be improved. Through SUS-based analysis, it is hoped that recommendations can be generated to improve the quality of UI/UX, so that SkylarTopup's information system can be more optimal, efficient, and better meet user needs.

2. Research Methods

This study uses the *System Usability Scale* (SUS) to analyze the level of usability (ease of use) on the SkylarTopup website information system. SUS is a quantitative evaluation method used to measure user experience based on their perception of the system being tested[15]. The scale consists of ten statements that are rated by users on a Likert scale, where the results will be converted into an overall score that reflects the system's usability level. This research process consists of several main stages, namely:

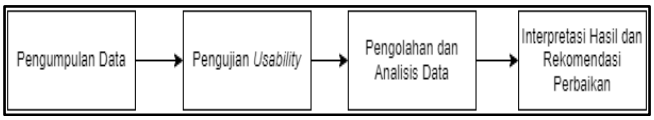

Image 1. System Usability Scale (SUS) Method Modeling Stage*)*

The following is an explanation of the stages of the *System Usability Scale* (SUS) method in analyzing the system, which generally consists of 4 main stages: Data Collection, *Usability Testing*, Data Processing and Analysis, and Interpretation of Results and Improvement Recommendations.

2.1 Data Collection

At this stage, respondents consisting of SkylarTopup website users will be selected to participate in the usability evaluation. These respondents can come from a variety of backgrounds with different levels of

experience in using the system. Data is collected through surveys and direct observation of user interactions with the SkylarTopup website.

2.2 Usability Testing with SUS

After users interact with the SkylarTopup website, they are asked to fill out a SUS questionnaire consisting of ten statements. This statement covers various aspects of usability, such as ease of navigation, efficiency in completing tasks, clarity of appearance, and comfort of use. Answers are given on a 5-point Likert scale (from "Strongly Disagree" to "Strongly Agree").

2.3 Data Processing and Analysis

The results of the SUS questionnaire are calculated using the standard SUS formula to obtain a system usability score. This score ranges from 0 to 100, where higher values indicate better usability. Next, the SUS score will be compared with an interpretation scale to determine whether the SkylarTopup website has good usability, adequate, or needs further improvement.

Formula for calculating the final SUS score:

$$SUS = \frac{T}{40} \times 100\% \quad (1)$$

Description:

YOUR SUS = The final score that indicates the level of usability of the system.

T = Total score after all statements are converted.

40 = Maximum total score.

100% = Normalization factor so that the results are on a scale of 0-100.

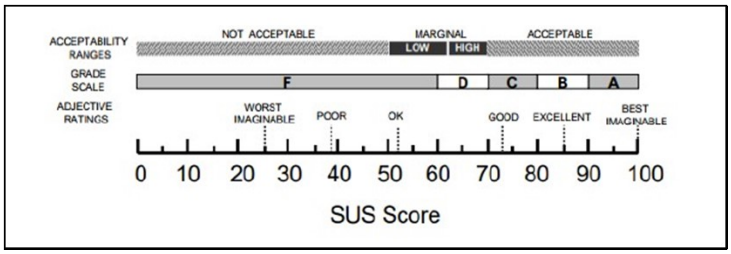

Image 2. *Score* on SUS

2.4 Data Processing and Analysis

Based on the results of the SUS score analysis, this study will identify the strengths and weaknesses of UI/UX on the SkylarTopup website. If the usability score shows suboptimal results, then improvement recommendations will be given to improve the user experience. These recommendations can include improvements to interface design, simplification of navigation, improved access speeds, as well as other aspects that affect user comfort.

2.5 Data Collection Methods

Data collection methods are methods or techniques used to collect information relevant to the research objectives[16]. This information can be in the form of quantitative (numerical) or qualitative (description) data that is the basis for analysis, interpretation, and conclusion making in a study. Data collection is an important stage in research because the quality of the data collected will affect the validity and reliability of the research results. The data collection method was chosen based on the type of research, the problem being researched, and the data source used.

1. Observations are carried out by directly observing how users interact with the Skylar Topup website. Some of the aspects observed include:
    a. Ease of navigation and information search.
    b. The time it takes for the user to complete a specific task.
    c. Obstacles experienced when using the system.
2. The SUS questionnaire is used to measure the usability level of the Skylar Topup website based on user experience.
    a. The questionnaire consisted of 10 statements filled in by respondents on a Likert scale of 1 (Strongly Disagree) to 5 (Strongly Agree).
    b. The data obtained will be processed using the SUS formula to obtain a system usability score.

With this data collection method, the research can obtain valid and reliable data to analyze the UI/UX of the Skylar Topup website and provide recommendations for improvement.

3. Results and Discussion

3.1 Data Collection Results

This stage includes the results of data obtained through the methods described earlier, namely observation, interviews, and the dissemination of the System Usability Scale (SUS) questionnaire. The data collected comes from users who have used the SkylarTopup website. Respondents were given a number of questions that focused on the aspects of ease of use, convenience, and effectiveness of interaction with the website.

The results of the questionnaire show that the majority of users rate the system to be quite easy to use, but some aspects still need improvement, especially related to navigation, response speed, and consistency of interface design.

3.2 UI/UX analysis

Based on the data obtained, an analysis was carried out on the User Interface (UI) and User Experience (UX) on the SkylarTopup website. Some of the aspects that are of major concern in this analysis include:

- Navigation: Some users have difficulty finding the features or information they need. The structure of the menu and navigation buttons needs to be improved to make it more intuitive.
- Interface Design: The colors, icons, and layout of elements on web pages need to be improved to make them more consistent and easy for users to understand.
- Response Speed: A long page loading time is one of the obstacles found in this study. System performance optimization needs to be done.
- Ease of Use: Some users state that they still need time to adapt to the layout and features of the website

3.3 SUS Score Interpretation and Usability Evaluation

The results of the analysis using the SUS method show that the SkylarTopup website has a fairly good usability score, but there is still room for improvement. Here are the results of the SUS score calculation:

- Total SUS score: 72.5 (category: quite good, but still needs improvement)
- Usability indicators:

1. Ease of navigation: 3.5/5
2. Response rate: 3.2/5
3. Overall user satisfaction: 3.8/5

Based on these results, it can be concluded that although the website is good enough to provide a user experience, some aspects need to be improved to improve overall user satisfaction.

3.4 Discussion and Improvement Recommendations

Based on the results of the usability evaluation and SUS score obtained, here are some recommendations for improvement to improve the quality of UI/UX on the SkylarTopup website:

a. Navigation Improvements:
   Simplify the menu structure and ensure that all key features are easily accessible.
b. Added a search feature to make it easier for users to find the information they need.
c. Website Speed Optimization:
d. Optimize the source code and images to make pages load faster.
e. Use caching and data compression techniques to reduce loading times.
f. Improved Design Consistency:
g. Ensure UI elements such as buttons, icons, and colors have a uniform design and do not confuse users.
h. Use a more intuitive layout and conform to usability standards.
i. Advanced Evaluation and Testing:
j. Conduct further testing with a wider group of users.
k. Collect user feedback on a regular basis to ensure that improvements are made to meet their needs.

4. Conclusion

Based on the analysis conducted on the UI/UX of Pertamina's Skylar Topup website information

system using the System Usability Scale (SUS) method, it was found that users tend to give a fairly good assessment of the level of usability and comfort of using this website. However, some aspects, such as navigation and system response speed, still need to be improved to improve the overall user experience. The results of the SUS score obtained show that although this system can be used quite well, there is potential for a significant improvement in terms of *usability*.

Acknowledgments

Based on the results of the analysis conducted, there are several areas that can be improved to improve the quality of UI/UX on Pertamina's SkylarTopup website information system. Therefore, some of the following suggestions can be considered to improve the user experience and ensure the system can be used more optimally:

1. It is recommended to evaluate and improve the navigation structure so that users can easily find the features or information they need without confusion.
2. Given the complaints that arise related to the speed of website response, it is necessary to optimize from the server side or develop the interface so that the website is accessed faster.
3. Some elements of the interface design may feel overwhelming. The suggestion to improve the design is to introduce a simpler and more intuitive interface, with a focus on ease of access and consistency of elements.

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