



Evaluation of the System Usability Scale (SUS) in Measuring the Use of the Durian Website at SMA Negeri 1 Long Iram

Danu Pratomo^{1*}, Darus Winanten Piandani², Ramadiani³

Master of Educational Management Department, Mulawarman University

Corresponding Author: Danu Pratomo danupratomo20@gmail.com

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ABSTRACT

This study aims to evaluate the usability level of the Durian website belonging to SMA Negeri 1 Long Iram using the System Usability Scale (SUS) method. The assessment was conducted on 50 respondents consisting of students, teachers, and administrative staff. The evaluation results showed an average SUS score of 83.3, which is included in the A (excellent) category, indicating that the Durian website is considered very good in terms of ease of use, access speed, and user satisfaction. However, several inputs were found, especially related to responsiveness when accessed via mobile devices. This study provides recommendations for conducting regular evaluations and continuous development to ensure the website is increasingly responsive and meets the needs of all its users.

INTRODUCTION

In today's digital era, the use of information technology in education has become an unavoidable necessity. One way to utilize this technology is through the development of school websites, which serve as a medium for information, communication, and promotion. School websites serve as the digital face of educational institutions, containing various important content such as school profiles, curricula, academic information, announcements, and online administrative services. Therefore, a functional, user-friendly, and informative website is crucial to supporting transparent and efficient educational management processes.

The development of information technology has brought major changes in the world of education, including in the provision of digital-based services (Preece, Rogers, & Sharp, 2015). One form of utilization of this technology is the development of a school website that functions as a medium of information and communication between the school, students, parents, and the general public. SMA Negeri 1 Long Iram, as an educational institution that is adaptive to technological developments, has developed a website called "Durian" Superior Competitiveness Religious Intellect Arif Critical Reasoning, as a digital tool to support teaching and learning activities and information delivery.

However, not all school websites meet user expectations. A website's success is measured not only by its functionality or visual appearance, but also by its usability (Nielsen, 2012). Many school websites lack an attractive appearance, offer confusing navigation, or lack regular updates. This can hinder interaction between schools and students, parents, and the general public. Therefore, an evaluation instrument is needed to measure the usability of a school website. One widely used instrument for evaluating system usability is the System Usability Scale (SUS).

The System Usability Scale (SUS) is a simple yet effective quantitative measurement method for determining user perceptions of a system's ease of use. Using a Likert scale, the SUS provides a numerical score that reflects the level of usability from the user's perspective. To determine the extent to which the Durian website meets the needs and expectations of its users, a systematic and objective evaluation is required. One effective method for measuring this usability aspect is the System Usability Scale (SUS), a measuring tool that has been proven valid and reliable in assessing user experience with a system or application (Brooke, 1996).

This study aims to obtain an objective overview of the interface quality and usability of the Durian website, based on the experiences of users such as teachers, students, and administrative staff. Furthermore, it aims to evaluate the extent to which the Durian website provides convenience, efficiency, and satisfaction to its users, particularly within the Long Iram 1 State Senior High School environment. The results of this evaluation are expected to serve as a basis for further improvements and development of the website to maximize its benefits for all school stakeholders. This study also provides strategic input and recommendations for developing a more responsive school website to meet

user needs. This will enable schools to continuously improve digital-based services that are effective and relevant to technological developments.

LITERATURE REVIEW

School Websites in the Context of Education

A school website is a communication and information tool that supports transparency and efficiency in education management. School websites typically contain important information such as the school profile, class schedules, announcements, and digital service features like registration and grade entry. According to Nurhadi (2021), school websites play a strategic role in increasing parental and community engagement and serving as a promotional tool for educational institutions. An effective website can bolster the school's image and expedite the flow of information to all stakeholders.

Usability Concept in System Evaluation

Usability or system usefulness is a measure of the extent to which a product can be used easily, efficiently, and pleasantly by users. According to ISO 9241-11 (2018), usability includes three main components: effectiveness, efficiency, and user satisfaction. In the context of websites, usability aspects are crucial to ensure that users can access information quickly, understand navigation well, and feel comfortable while using the system. Usability evaluation plays a crucial role in the process of developing user-centered web-based systems.

System Usability Scale (SUS)

The System Usability Scale (SUS) is an evaluation instrument used to measure user perceptions of the usability of a system, whether software or a website. Developed by John Brooke (1986), the SUS consists of 10 statements with a 5-point Likert scale answered by respondents. The final SUS score ranges from 0 to 100 and can be interpreted to assess the quality of system usability. According to Bangor et al. (2009), a SUS score above 68 is considered the minimum standard for a usable system. The advantages of the SUS are its simplicity, flexibility across various system contexts, and high validity.

Research Related to Educational Website Evaluation

Various previous studies have used SUS to evaluate educational websites. For example, research by Kartika and Supriyadi (2022) showed that using SUS to evaluate e-learning portals can identify navigation aspects that need improvement. Meanwhile, a study by Andini (2021) on elementary school websites showed that usability is significantly influenced by visual design and content freshness. This reinforces the importance of regular usability evaluations to ensure the optimal quality of schools' digital services.

METHODOLOGY

This study uses a descriptive quantitative approach with the aim of evaluating the level of usability of the Durian website of SMA Negeri 1 Long Iram based on user perceptions (Creswell, 2014). The instrument used in data collection is the System Usability Scale (SUS) questionnaire, which is a standard measuring tool consisting of 10 statements with a five-point Likert scale,

ranging from "strongly disagree" to "strongly agree" (Brooke, 1996). This method was chosen because of its simplicity and reliability in measuring the perception of usability of various types of systems or applications (Lewis, 2018). The initial display and login of the Durian website are seen as in Figures 1 and 2 as shown below.



Figure 1. Initial View of the Durian Website

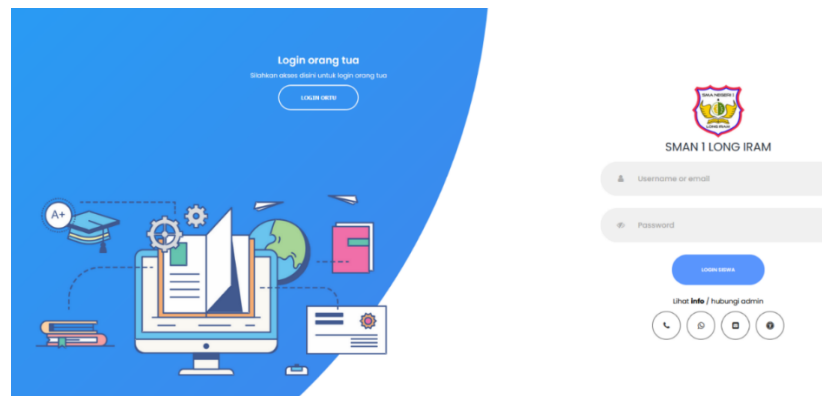


Figure 2. Durian Website Login Menu Display

The population in this study was all users of the Durian website, including students, teachers, and school administrative staff. The sample was selected purposively, considering users' active involvement in accessing the site (Etikan, Musa, & Alkassim, 2016). A total of 50 respondents were selected to complete the questionnaire, ensuring sufficient data for quantitative analysis. The questionnaire was distributed online using Google Forms to facilitate respondents' responses.

The collected data were analyzed using the standard calculation formula in the SUS, where the scores from each respondent were summed and converted into a scale value of 0–100 (Bangor, Kortum, & Miller, 2008). The average SUS score from all respondents was then used as the main indicator in assessing the usability of the Durian website. Interpretation of the results refers to the usability level categories commonly used in usability research, such as a score above 68 is considered an indicator of good usability (Brooke, 1996).

Interviewees play a crucial role in the evaluation, as they will interpret the investigation and determine who will be interviewed during the research and the total number of participants. After the questionnaire is developed, it will undergo reliability and validation testing to determine whether the questions are equivalent for use. Data obtained from the digital interviews distributed to users will then be processed (Firmansyah & Christian, 2023).

Website usability, information quality, service interaction quality, and visual quality all have a positive and significant influence on user satisfaction (Islami & Kusumahadi, 2023). If the content variable has a neutral value, it will influence user satisfaction (Marwati & Krisbiantoro, 2023).

The questionnaire used in the System Usability Scale consists of 10 questions on a scale of 1 to 5.

Table 1. System Usability Scale Questions

No	Question	Scale
1	Durian website provides fast response when opened	1 - 5
2	I don't always use the Durian website often	1 - 5
3	The Durian website is always updated regularly so that the information provided is always new (updated)	1 - 5
4	I feel unsafe when using the services on the Durian website.	1 - 5
5	The features provided on the Durian site work well and consistently.	1 - 5
6	Durian website services are not yet integrated with various school need	1 - 5
7	The information I got from the Durian website is useful for me.	1 - 5
8	This Durian website is less trustworthy and provides the information services I need.	1 - 5
9	I am satisfied with the interaction I experienced using the Durian website	1 - 5
10	I need to get used to it before using the Durian website	1 - 5

Of the 10 questions, each question consists of 5 answer choices ranging from Strongly Agree, Agree, Undecided, Disagree, and Strongly Disagree. With scores in order of 5 (Strongly Agree), 4 (Agree), 3 (Undecided), 2 (Disagree) and 1 (Strongly Disagree).

Table 2. Skor System Usability Scale

No	Answer	Score
1	Strongly agree	5
2	Agree	4
3	Doubt	3
4	Don't agree	2
5	Strongly Disagree	1

Of the 10 questions, they are divided into 2 categories. Questions with positive sentences are numbered 1, 3, 5, 7, and 9, while questions with negative sentences are numbered 2, 4, 6, 8, and 10. The total SUS score is calculated by subtracting 1 from the scale of each item for odd-numbered questions, while for even-numbered questions, subtracting 5 from the scale position of each item. To obtain the usability system score, the total SUS score is then multiplied by 2.5, then added and divided by the number of respondents, which is 30.

Respondent scores can be calculated using the following method:

$$\text{Skor responden} = ((P1 - 1) + (5 - P2) + (P3 - 1) + (5 - P4) + (P5 - 1) + (5 - P6) + (P7 - 1) + (5 - P8) + (P9 - 1) + (5 - P10)) * 2.5$$

Next, calculate the SUS score by finding the average for each respondent.

$$\bar{x} = \frac{\sum x}{n}$$

\bar{x} = rate-rate skor

$\sum x$ = total score

n = number of respondents

The next step is to categorize the scores in the range of 0-100 using the following table guide.

Table 3. Categorize the Scores in the Range of 0-100

Mark	Category	Information
> 81	A	Excellent
68 - 81	B	Good
68	C	Ok/Fair
51 - 67	D	Poor
< 51	E	Worst

The table shows that the higher the SUS score, the better the usability quality of the Durian website.

RESULTS AND DISCUSSION

A usability evaluation of the Durian website using the SUS (System Usability Scale) method was conducted on 30 user respondents consisting of teachers, educational staff, and students at SMA N 1 Long Iram using a Google Form questionnaire. The results of the questionnaire were then processed and produced an output that summarized the level of user evaluation of the Durian website system.

Respondent Description

This study involved 50 respondents, consisting of students, teachers, and administrative staff at SMA Negeri 1 Long Iram who actively use the Durian website. Respondents were selected purposively to ensure they had direct experience using the system.

SUS Questionnaire Calculation Results

In the usability analysis of the data obtained using the questionnaire, the Durian website usability score was calculated, with each statement having its own contribution between 0 and 4. Each respondent provided an assessment of 10 statement items on a Likert scale of 1-5. The scores were then processed using the standard SUS calculation (Brooke, 1996), namely:

- For odd-numbered items: (Score - 1)
- For even-numbered items: (5 - Score)
- The results of all items are added up and multiplied by 2.5 to obtain each respondent's final score in the range 0-100.

The following are the results of the questionnaire for 50 respondents at SMA N 1 Long Iram after calculations were carried out.

Table 4. Results of SUS Method Calculation

Respondent	Total *2.5	Respondent	Total *2.5
R1	100	R26	90
R2	75	R27	75

R3	90	R28	92,5
R4	77,5	R29	85
R5	77,5	R30	80
R6	92,5	R31	90
R7	82,5	R32	80
R8	72,5	R33	75
R9	87,5	R34	75
R10	100	R35	75
R11	65	R36	70
R12	77,5	R37	85
R13	87,5	R38	90
R14	77,5	R39	82,5
R15	90	R40	80
R16	90	R41	72,5
R17	75	R42	95
R18	97,5	R43	62,5
R19	87,5	R44	97,5
R20	77,5	R45	72,5
R21	100	R46	82,5
R22	85	R47	82,5
R23	90	R48	75
R24	80	R49	95
R25	85	R50	85
Average score			83,3

SUS Average Score

Based on calculations from 50 respondents, the average SUS score was 83.3. This value is above the threshold of 68, which, according to Brooke (1996) and Bangor et al. (2008), indicates a good level of usability.

Table 5. Descriptive Statistics

Descriptive Statistics	Mark
Number of Respondents	50
Highest SUS Score	100
Lowest SUS Score	62,5
Rate UP	83,3

Interpretation of Results

Based on the results of the Durian website usability evaluation, using the SUS method on 50 respondents, several important points can be taken, namely:

1. The average SUS score obtained was 83.3
2. The highest score from respondents was 100, while the lowest score was 62.5.
3. Based on Table 3, the average score of 83.3 is in category A with excellent criteria.
4. The Durian website was rated as having excellent usability according to SUS standards, as evidenced by a high level of user satisfaction and a wide

range of usefulness and usability. However, there was still feedback regarding responsiveness when accessed via mobile devices.

Based on the results of the usability evaluation of the Durian website using the System Usability Scale (SUS) method, an average score of 83.3 was obtained from 50 respondents, this indicates that the majority of users feel very satisfied with the experience of using the website, both in terms of ease of navigation, clarity of display, to speed of access to information. The highest score of 100 and the lowest score of 62.5 indicate variations in the level of user satisfaction, but still within the range that can be said to be good to very good. These results indicate that, in general, the Durian website has met the basic principles of good usability in the context of educational services.

However, these findings also suggest that there is still room for improvement. The lowest score of 62.5 indicates that some users may be experiencing certain challenges, both technically and in terms of user experience. This is important for website administrators to examine further, particularly by conducting further evaluations of elements deemed less than optimal, such as interface responsiveness, the availability of necessary information, or ease of access on mobile devices. Therefore, while the Durian website has achieved an overall excellent level of usability, continuous improvement is needed to make the site more inclusive and responsive to the needs of all users at SMA Negeri 1 Long Iram.

CONCLUSIONS AND RECOMMENDATIONS

Based on the analysis, the Durian website belonging to SMA Negeri 1 Long Iram has a good level of usability according to user perception with an average SUS score of 83.3. This reflects that users are generally satisfied with the ease, speed, and convenience of accessing the site. Furthermore, it indicates that the site is sufficiently effective and efficient for use by students, teachers, and staff. However, some minor improvements are still needed, particularly in content presentation and device compatibility. The minimum score of 62.5 indicates a variation in perception among users, indicating that certain aspects still need to be improved to ensure an optimal user experience across the board.

To maintain and improve the usability of the Durian website, administrators are advised to conduct regular evaluations using the SUS method or other usability assessment methods to capture changes in user perceptions and needs. Furthermore, it is important to identify specific aspects that pose challenges for some users with low scores, such as interface design, accessibility across devices, and content readability. Training or outreach activities on-site usage can also be a supporting strategy to increase user experience, especially for students or teachers who are less familiar with digital technology. Continuous improvement efforts will make the Durian website a more inclusive and efficient educational information resource.

FURTHER STUDY

This study has several limitations. First, the number of respondents used in the usability evaluation was only 50 people, although sufficient for initial analysis, not fully representative of the entire population of Durian website users, especially when viewed from the diversity of backgrounds, ages, digital literacy levels, and frequency of site use. Second, the method used is limited to the System Usability Scale (SUS), which is quantitative and does not explore qualitative aspects in depth, such as subjective reasons behind user satisfaction or dissatisfaction.

Furthermore, the context of website use was only reviewed within the scope of SMA Negeri 1 Long Iram without comparing it with similar sites in other schools, so the evaluation does not reflect broad benchmarking. Another limitation is the failure to group data based on user roles (e.g., students, teachers, staff), who potentially have different experiences and needs regarding the website. Therefore, further research is needed using mixed methods (quantitative and qualitative), a larger and more diverse number of respondents, and an in-depth analysis of the factors influencing usability perceptions to obtain more comprehensive and applicable results.

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