Usability Analysis of The Bos Reporting Web Application Using The Sus Method

Ikrar Nusa Bhakti*, Sucipto, Muhammad Najibulloh Muzaki
Universitas Nusantara PGRI Kediri, Jl. KH. Achmad Dahlan No. 76, 64112, Indonesia
e-mail: ikrarbhakti543@gmail.com, sucipto@unpkediri.ac.id, m.n.muzaki@gmail.com

Abstract: *The e-BOS application is a web-based reporting system for managing School Operational Assistance (BOS) funds used by school operators to digitally report financial data. However, during implementation, various issues related to navigation, clarity of workflow, and reporting efficiency were reported by operators in Kertosono, Patianrowo, Baron, and Ngronggot Districts. These problems indicate that the application's usability may not be optimal, thus requiring a systematic evaluation to assess user acceptance and application effectiveness. This study aims to evaluate the usability level of the e-BOS web-based reporting system managed by the Education Office of Nganjuk Regency. The research focuses on user experience among BOS operators in four districts using the System Usability Scale (SUS) method. A questionnaire consisting of 10 statements was distributed to 100 respondents. The collected data were analyzed using SUS scoring calculation, standard score interpretation, usability acceptability classification, and Net Promoter Score (NPS) categorization. The results show that the e-BOS application achieved an average SUS score of 56.8, categorized as Grade F (Worst Imaginable) and classified as Not Acceptable. Based on NPS, the score falls into the Detractor category, indicating that most users are unwilling to recommend the application to others. The study concludes that the e-BOS system has not met an adequate usability level and requires significant improvement, particularly in interface design, workflow simplification, and user guidance resources. This research is limited to four districts; thus, future studies are recommended to expand the sample coverage and compare usability performance after system improvements.*

Key Words*:* Usability; System Usability Scale; e-BOS; User Experience; Local Government

Introduction

Schools are required to manage the School Operational Assistance (BOS) funds in a professional and accountable manner to support the implementation of high-quality learning activities. Proper BOS fund management involves systematic processes of planning, implementation, evaluation, and financial accountability that adhere to the principles of efficiency, effectiveness, fairness, and transparency. Along with the rapid development of information technology, the management and reporting of BOS funds have gradually shifted toward digital, application-based systems aimed at improving accuracy, timeliness, and transparency of financial information. However, the successful implementation of digital systems does not solely depend on technological sophistication, but also on the level of usability experienced by end users (Hidayat & Tolla, 2022). Therefore, usability evaluation or user acceptability assessment of information system applications becomes a crucial aspect to ensure that the developed technology truly provides practical benefits and ease of use for stakeholders. Several previous studies have demonstrated that the System Usability Scale (SUS) method can be effectively applied to measure perceived ease of use and user

satisfaction across various information systems, including financial and school management applications (Sukmono et al., 2025).

Various previous studies in Indonesia have demonstrated that the System Usability Scale (SUS) method is effective for evaluating the usability of a wide range of information systems and digital applications, both web-based and mobile-based. A usability evaluation of the Polrestabes Palembang website using SUS provided objective data on website usability from the users' perspective, thereby supporting interface improvements and informed design decision-making (W. A. Pratama et al., 2023). Furthermore, a usability evaluation of the JaSuDa.net website using SUS revealed that usability scores can be used to identify aspects of user experience that require improvement, particularly in the context of public information websites (Herawati & Azahra, 2024). Usability testing of the iJateng application using SUS showed that the resulting scores could be interpreted using conventional SUS categories and provided insights into the relationship between user perceptions, SUS grades, and Net Promoter Score (NPS) in the context of digital service applications (M. R. Pratama et al., 2024). In addition, a usability evaluation of a database e-module using the SUS approach demonstrated that this measurement is effective in ensuring efficiency and user satisfaction within digital learning systems (Made et al., 2024). Moreover, the evaluation of the PeduliLindungi application using SUS illustrated that this method is capable of capturing the usability level of complex public service applications from the perspective of everyday user experience (Husaen & Widodo, n.d.). These findings indicate that SUS has been widely applied in Indonesia as a reliable instrument for assessing the usability of various types of applications, providing an important empirical foundation and a comparative framework for this study, which evaluates the usability of the e-BOS reporting application.

Although many studies have applied the System Usability Scale (SUS) to evaluate the usability of information systems and digital applications in Indonesia, most of these studies have focused on specific domains such as digital libraries, online learning platforms, or campus service systems. Comprehensive evaluations of web-based operational fund reporting applications for schools remain limited. For example, a study on the iJateng application using SUS reported relatively low usability scores, yet provided important insights into users' perceptions of system features and usage processes (M. R. Pratama et al., 2024). An evaluation of the digital voting system e-Polvot using SUS demonstrated how this metric can guide system improvements based on user experience (Anam et al., 2025). In addition, research evaluating a database e-module using SUS showed that the method is effective in measuring user satisfaction and efficiency within the context of digital education (Made et al., 2024). Another study on a student service information system revealed that combining SUS with other evaluation methods can identify usability issues that may not be detected through descriptive analysis alone (Laila & Lapatta, 2025). However, studies analyzing web-based BOS fund reporting systems remain scarce, particularly those employing SUS to assess user acceptance and experience in educational service applications. This limitation indicates the need for empirical research that evaluates the implementation of e-BOS across different school service areas. Therefore, this article aims to address this research gap by conducting a valid usability analysis that can be compared with previous studies.

This article seeks to assess how easy and effective the e-BOS web application is to use, which is managed by the Department of Education in Nganjuk Regency. The evaluation will be done using the System Usability Scale (SUS) method. The feedback will come from users who actively use the e-BOS system in different school service areas. The purpose is to get a clear understanding of how well the system is accepted by its users. The findings from this study should help in making suggestions for improving the system, especially in making it easier to use, making report processes more efficient, and improving the overall experience for users.

Method

Research Design

This study employs a quantitative descriptive research design with a survey approach to measure the usability level of the web-based e-BOS application owned by the Nganjuk Regency Education Office. This design was selected because the primary objective of the study is to objectively describe users' perceptions based on numerical data collected through a standardized questionnaire instrument. A quantitative approach enables systematic measurement of users' perceptions regarding ease of use, efficiency, and overall user experience, allowing the results to be generalized to the population of active e-BOS users. Previous usability studies have demonstrated that quantitative measurement using the System Usability Scale (SUS) provides an objective overview of user experience in digital applications, such as the evaluation of the Paasaar.com application using SUS (Rifqy et al., 2022). The usability evaluation in this study adopts the System Usability Scale (SUS), a questionnaire-based instrument consisting of ten statements measured on a five-point Likert scale, which has been widely applied in usability research to assess user experience in information systems and digital platforms in Indonesia (Luh et al., 2023). Furthermore, descriptive statistical analysis is used to interpret the collected data, enabling the formulation of valid and reliable recommendations for system improvement based on empirical findings from previous studies (Budiman, 2025).

Research Subject

The subjects of this study consist of active users of the web-based e-BOS application from four sub-districts in Nganjuk Regency, namely Kertosono, Patianrowo, Baron, and Ngronggot. These users were selected because they are directly involved in the process of reporting School Operational Assistance (BOS) funds and have real, hands-on experience using the system. The involvement of active users is essential to ensure that the data collected accurately reflects users' actual perceptions of usability and system quality. Similar approaches have been applied in previous usability studies of government and educational websites, where active users were involved to obtain objective SUS scores, such as in the usability evaluation of the Riau Provincial Education Office website (Aisyah et al., 2021). In addition, usability evaluation of Indonesian educational portals using SUS has shown that involving real users provides valid insights into comfort, effectiveness, and efficiency of digital education systems (Azizah Ramadhanti1, Muji Rahayu2, Ramadiani, S.Pd., M.Si., M.Kom.,

2025). Studies on academic e-payment systems also indicate that engaging active users enables researchers to identify specific interface and functionality issues based on real user experience (Manajemen et al., 2023). By involving 100 active respondents from the selected service areas, this study is considered representative in describing the level of user acceptance of the e-BOS application, and the findings can serve as a realistic and contextual basis for system improvement recommendations.

Instruments

The research tool used in this article is the System Usability Scale (SUS) questionnaire, which consists of 10 standard statements to measure the usability of an information system. Each statement is rated on a five-point Likert scale, ranging from "strongly disagree" (1) to "strongly agree" (5). The SUS statements alternate between positive and negative phrasing to reduce response bias and provide an objective view of users' perceptions regarding the ease of use, clarity of navigation, efficiency, and comfort of the e-BOS application. The questionnaire was distributed to active users of the e-BOS application who have direct experience with the BOS reporting process. The SUS instrument was chosen because it is simple, valid, reliable, and widely used in usability evaluation studies of information systems, allowing the measurement results to be compared with similar research.

Table 1. System Usability Scale (SUS) Questionnaire Items

No	Questionnarie Items	Item Type
1	I think I will use this system again.	Positive
2	I found the system complicated to use.	Negative
3	I found the system easy to use.	Positive
4	I needed help from another person or technician to use this system.	Negative
5	I felt the system's features worked as they should.	Positive
6	I felt there were many inconsistencies (mismatches) in this system.	Negative
7	I felt others would quickly understand how to use this system.	Positive
8	I found the system confusing.	Negative
9	I felt there were no obstacles to using this system.	Positive
10	I need to get used to it before using this system.	Negative

Table 2. Likert scale information

Score	Information
1	Strongly Disagree
2	Disagree
3	Netural
4	Agree
5	Strongly Agree

Data Collection Procedures

Data collection in this research was conducted using a survey method with a questionnaire based on the System Usability Scale (SUS). The questionnaire was created as

an online form using Google Forms and distributed to active users of the e-BOS application. The respondents were school operators who had used the e-BOS application for BOS fund reporting activities. They came from the areas of Kertosono, Patianrowo, Baron, and Ngronggot in Nganjuk Regency. The selection of respondents was based on their direct experience using the system, so they were expected to provide objective evaluations of the application's usability. The questionnaire consisted of 10 statements adapted from the standard SUS statements, with wording adjusted to fit the context of the e-BOS application. The responses were rated on a five-point Likert scale, ranging from 1 (Strongly Disagree) to 5 (Strongly Agree). Data collection took place during the research period until 100 respondents who met the criteria were gathered. All the collected data were then downloaded and processed to obtain the SUS scores for each respondent, as well as the overall average score, which served as the basis for evaluating the usability of the e-BOS application.

Data Analysis

The data analysis was carried out using the System Usability Scale (SUS) method. Rephrase Each respondent's answer on a five-point Likert scale was converted according to SUS rules. For items with odd numbers (negative statements), the score was calculated using the formula 5 minus the score. For items with even numbers (positive statements), the score was calculated using the formula score minus 1. All item scores were summed up and multiplied by a factor of 2.5 to get the SUS score, which ranges from 0 to 100. The obtained SUS score was then interpreted using three approaches: grade scale, acceptability range, and classification based on Net Promoter Score (NPS), providing a comprehensive view of the usability and acceptability of the e-BOS application from the users' perspective.

Table 3. SUS interpretation table

SCORE	**56,8**
GRADE	F (WORST IMAGINABLE)
ACCEPTABILITY	NOT ACCEPTABLE
NPS	DETRACTOR

Results and Discussion

SUS Score Results

The SUS questionnaire consists of ten items answered by respondents using a five-point Likert scale. To obtain the SUS score, each response was converted into a contribution score based on the standard SUS scoring rules.

For odd-numbered statements (Q1, Q3, Q5, Q7, and Q9), the score was calculated using the following formula:

$$\textbf{Score} = \textbf{Response Value} - 1$$

Meanwhile, for even-numbered statements (Q2, Q4, Q6, Q8, and Q10), the score was calculated using the formula:

Score = 5 − Response Value

Each item produces a score ranging from 0 to 4. The total SUS score for each respondent was obtained by summing all item scores and multiplying the result by 2.5, producing a final SUS score on a scale from 0 to 100.

Based on data collected from 100 respondents, the calculation results show that the average SUS score of the e-BOS application is 56.8. This value represents the overall usability perception of users toward the e-BOS web-based reporting system.

Table 4. Summary of System Usability Scale (SUS) Results

Item	Number of Respondents	Average SUS Score
10	100	56,8

Usability Interpretation and Discussion

Table 5. Interpretation Criteria of System Usability Scale (SUS) Scores

SUS Score	Grade	Adjective	Acceptability	NPS
84.1 – 100	A	Best Imaginable	Acceptable	Promoter
80.8 – 84.0	A-	Excellent	Acceptable	Promoter
78.9 – 80.7	B+	Good	Acceptable	Promoter
77.2 – 78.8	B	Good	Acceptable	Promoter
74.1 – 77.1	B-	Good	Acceptable	Passive
72.6 – 74.0	C+	OK	Marginal	Passive
70.1 – 72.5	C	OK	Marginal	Passive
65.0 – 70.0	C-	OK	Marginal	Passive
60.0 – 64.9	D	Poor	Marginal	Detractor
0 – 59.9	F	Worst Imaginable	Not Acceptable	Detractor

The average SUS score of 56.8 was analyzed using standard SUS guidelines. According to the SUS grading scale, this score is in Grade F, which is described as “Worst Imaginable.” This means that users find the e-BOS application very hard to use. When it comes to acceptability, a SUS score under 60 is considered Not Acceptable. This shows that the system hasn’t reached the basic usability standards that users expect. It suggests that users are having trouble using the app, which could make it harder to complete tasks and lower overall efficiency. Also, using the Net Promoter Score (NPS) adapted for SUS interpretation, a score of 56.8 is classified as Detractor. This means most users are unlikely to recommend the e-BOS application. This reflects negative experiences, like confusing navigation, unclear instructions, complicated reporting processes, and inconsistent system behavior. All together, these results show that the current version of the e-BOS web-based reporting system isn’t delivering a good user experience. The findings highlight the need for major improvements, such as making reporting easier, making the interface clearer, and offering better guidance

on how to use the system. Fixing these issues is important to improve usability and gain more user acceptance in future evaluations.

Conclusion

This study shows that the e-BOS web app used by school managers in Nganjuk Regency has poor usability. The average SUS score is 56.8, which is in the Grade F category and considered Not Acceptable and Detractor. This means the app isn't working well for its main purpose, which is helping users complete monthly BOS fund reports on their own and quickly. The low score shows users find it hard to understand how to report, move through different steps in the process, and enter financial data without help. Things like complicated steps, unclear instructions, and mixed-up screen designs are making it hard for users to use the system smoothly and on time. Because of this, the system isn't doing what it's supposed to do help schools report financial information more easily and efficiently. The study has some limits, it only looked at users from certain areas and used one way to check usability. Future work should include more users from different places and use more ways to evaluate how well the system works. These steps could help improve the e-BOS system so it's simpler, clearer, and more helpful for monthly financial reporting.

References

Aisyah, S., Saputra, E., Evrilyan Rozanda, N., & Khairil Ahsyar, T. (2021). Evaluasi Usability Website Dinas Pendidikan Provinsi Riau Menggunakan Metode System Usability Scale. *Jurnal Ilmiah Rekayasa Dan Manajemen Sistem Informasi*, *7*(2), 125–132.

Anam, M. K., Zoromi, F., & Sari, A. K. (2025). *Evaluation of An Existing System Using The System Usability Scale (SUS) as A Guideline for System Improvement*. *18*(1), 122–132.

Azizah Ramadhanti1, Muji Rahayu2, Ramadiani, S.Pd., M.Si., M.Kom., P. D. (2025). *EVALUASI USABILITY PORTAL PENDIDIKAN INDONESIA (PORTALDIK) OLEH GURU DI SMA NEGERI 4 BALIKPAPAN MENGGUNAKAN METODE SYSTEM USABILITY SCALE*. *10*(September).

Budiman, Y. U. (2025). *Evaluasi Usability Aplikasi Linkterasi Menggunakan Metode System Usability Scale (SUS)*. *4*(3), 5983–5988.

Herawati, I. M., & Azahra, D. (2024). *Evaluasi usability*. *9*(2), 994–1000.

Hidayat, F., & Tolla, I. (2022). Transparansi Dan Akuntabilitas Penggunaan Dana Bantuan Operasional Sekolah (Bos). *Jurnal Administrasi, Kebijakan, Dan Kepemimpinan Pendidikan (JAK2P)*, *3*(1), 66. https://doi.org/10.26858/jak2p.v3i1.16167

Husaen, Z. F., & Widodo, S. (n.d.). *Analisis Usability Aplikasi PeduliLindungi versi 4 Menggunakan Metode System Usability Scale*. *17*(1), 1–7.

Laila, R., & Lapatta, N. T. (2025). *Usability Analysis of The Student Service Information System at The Faculty of Engineering Tadulako University Using Heuristic Evolution and The System Usability Scale (SUS)*. *18*(1), 66–79.

Luh, N., Lilis, P., Setiawati, S., Ayu, D., Dewi, S., Made, N., & Utami, C. (2023). *EVALUASI USABILITY APLIKASI WEBEX MEETINGS MENGGUNAKAN SYSTEM USABILITY SCALE (SUS)*. *10*(2), 157–163. https://doi.org/10.30656/jsii.v10i2.8227

Made, D., Utami, D., Kusuma, A. S., Willdahlia, A. G., & Nita, N. K. (2024). *Evaluasi Usability E-Modul Basis Data Menggunakan Metode System Usability Scale (SUS)*. *5*(2), 1800–1809.

Manajemen, J., Informasi, S., Nika, N., & Rofi, I. (2023). *Analisis Usability Pada Website E-Payment Universitas Dinamika Bangsa Menggunakan Metode System Usability Scale (*

SUS) Jurnal Manajemen Teknologi dan Sistem Informasi (JMS). *3*(September), 554–562.

Pratama, M. R., Umam, J., & Yakok, R. (2024). *Usability Testing pada Aplikasi iJateng Menggunakan Metode System Usability Scale*. *2*(1), 15–23.

Pratama, W. A., Supratman, E., & Oktarina, T. (2023). *Evaluasi Usability Website Polrestabes Palembang Menggunakan System Usability Scale (SUS) yang diberikan kepada masyarakat . Banyak pendekatan yang bisa dilakukan dalam*. *9*(2), 704–715.

Rifqy, M., Jati, R., Erika, W., & Amelia, A. (2022). *USABILITY ANALYSIS IN PAASAAR . COM APPLICATION USING THE SYSTEM USABILITY SCALE (SUS) APPROACH*. *2022*(1), 291–300.

Sukmono, R., Wibawa, D. A., Amrullah, M., & Gautama, G. S. (2025). *Evaluasi Aplikasi Gajiweb Kementerian Keuangan dengan Menggunakan Metode System Usability Scale (SUS)*. *7*(2), 1171–1180.