Analysis of User Acceptance Learning Management System as Acceleration of Driving School Digitalization

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Abstract. The school acceleration program is an initiative by the Ministry of Education, Culture, Research, and Technology aimed at realizing an independent, sovereign, and distinctive Indonesia through the values of Pancasila. The benefits of the school acceleration program include improving the quality of education within three academic years, accelerating the achievement of the Pancasila student profile, promoting school digitalization, and enhancing literacy by fostering students' interest in reading. SD Negeri 6 Singakerta was designated as a driving school in 2023 in Gianyar Regency as part of Batch 3 of the Ministry's program. Based on observations and interviews with the principal of SD Negeri 6 Singakerta, obstacles were identified in the aspect of digitalization, as digital learning media have not been fully utilized in the learning process. A Learning Management System (LMS) is a digital learning solution designed for the teaching and learning process in driving schools. The LMS implemented at the driving school requires user acceptance testing, analyzed through a questionnaire that evaluates appearance, quality, information quality, and functionality as test variables. Purposive sampling was used to select 21 teachers as respondents. The results of the analysis show variable values for appearance, quality, information quality, and functionality of the LMS. These results can be used as recommendations for further LMS development.

Keywords: SD 6 Singakerta, Learning Management System, User Acceptance Testing

1 Introduction

One of the Ministry of Education, Culture, Research, and Technology's initiatives is the school acceleration program, aimed at realizing the vision of Indonesian education: a sovereign, independent, and distinctive Indonesia through the creation of Pancasila values (Kemendikbud, 2024; Patilima, 2022). The focus of the school acceleration program is to develop student learning outcomes holistically, encompassing literacy, numeracy, and character development, starting with strengthening human resources, such as principals and teachers (Kemendikbud, 2024; Qolbiyah et al., 2022). School acceleration is an improvement of the previous school transformation program. There are 14,237 accelerated schools in Indonesia, spread across 34 provinces and 509 districts/cities, consisting of PAUD, SD, SMP, SMA, and SLB schools.

The benefits of the school acceleration program for schools include improving the quality of education within three academic years, accelerating the achievement of the Pancasila student profile, serving as a catalyst for changes in other educational units, obtaining additional budget allocations for book procurement to support holistic competency development, accelerating school digitalization, and receiving intensive assistance for educational transformation. The Pancasila student profile requires implementation in literacy, particularly in fostering reading and writing interest among students, especially in the lower grades (Santoso et al., 2024). Interventions of the school acceleration program include consultative and asymmetric assistance, human resource strengthening, training under a new paradigm, data-based planning, and school digitalization (Sakdiah et al., 2023; Putra et al., 2022).

The independent curriculum structure in the school acceleration program, according to the Decree of the Minister of Education, Culture, Research, and Technology No. 162 of 2021, is divided into three phases: Phase A for Classes I and II, Phase B for Classes III and IV, and Phase C for Classes V and VI. Phase A focuses on developing and strengthening basic literacy and numeracy skills (Patilima, 2022).

SDN 6 Singakerta is one of the driving schools in Gianyar Regency, selected in 2023. It is part of Batch 3 of the Ministry's driving school initiative. Based on observations and interviews with the principal of SDN 6 Singakerta, several challenges have been identified in the implementation of the school acceleration program, including achieving the Pancasila student profile, low literacy rates, and limited media to support digital literacy. Another challenge is the slow pace of school digitalization, as learning has not fully utilized digital learning media.

To address these issues, a Learning Management System (LMS) was developed. The LMS must also undergo User Acceptance Testing (UAT). Research by (Sutopo & Sulkhan, 2022) states that UAT, through questionnaires given to users, assesses user satisfaction with a program or application. (Chamida et al., 2021) also highlight that UAT focuses on measuring user comfort and solving user problems. Additionally, research by (Bastari & Rakhmadani, 2022) indicates that UAT ensures that the system's solutions work effectively for users through direct user testing. Research conducted by (Anisah, 2021) on a Customer Relationship Management System (CRMS) found that 59% of users strongly agreed that the BPRS Al-Salaam system met their needs, with the remaining 41% agreeing. Similarly, (Rahayu et al., 2022) conducted UAT for the Subang Regency Communication and Informatics Service job-filling Information System, achieving a user acceptance rate of 76%, indicating it was well-received by users.

Based on these challenges and previous research, this study conducted user acceptance testing focused on four variables: system appearance, system quality, information quality, and system functionality. These variables were broken down into several questions, compiled into a questionnaire, and distributed to respondents. The goal is for the LMS implementation to be well-received by users through this testing process.

2 Methodology

The research methodology generally consists of six stages: literature review, instrument preparation, data collection, analysis, and concluding, as illustrated in Figure 1.
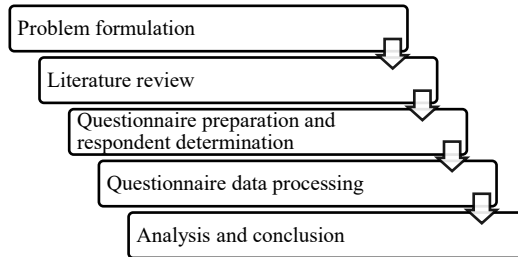

Figure 1. Methodology

Figure 1 illustrates the stages of the research, which are explained as follows: Problem Formulation: This initial stage involves identifying the problem, specifically assessing the acceptance and usefulness of the virtual tour of tourist villages from the user's perspective; Literature Review: This stage involves gathering references related to the use of User Acceptance Testing (UAT); Preparation of Questionnaires and Determination of Respondents: This stage involves developing the research instruments in the form of questionnaires and selecting the respondents; Questionnaire Processing: This stage involves collecting data by distributing questionnaires to tourists randomly. Once the data is collected, it is processed to ensure completeness for each object and variable studied; Analysis and Conclusion: This stage focuses on analyzing the questionnaire data using Microsoft Excel and drawing conclusions from the analysis.

3 Result and Disscussion

3.1 Respondent Demography

This system analysis was conducted using survey research methods, including variable application, data collection, data presentation, and analysis. The results of the questionnaire analysis identified the highest and lowest percentage criteria values for each aspect. The questionnaire was completed with the assistance of researchers. The survey involved 21 respondents who were LMS training participants from several schools, as shown in Table 1.

Table 1. Responden details

No	Name	Gender	Age	School origin
1	I Putu Eka Purnawan, S. Pd.	Male	34	SD Negeri 6 Singakerta
2	Ketut Suwastari,S.Pd	Female	38	SD No.1 Baha
3	Gusti Ayu Putu Sri Adiyani, S. Pd	Female	34	SD Negeri 6 Singakerta

4	Ni Wayan Aniek Ferdiantini, S. Pd, M. Pd	Female	36	SD Negeri 6 Singakerta
5	Ida Bagus Putu Suserama Dika, S.Pd.H	Male	32	SDN 6 Singakerta
6	I Gusti Made Sri Anggreni, S.Pd	Female	34	SD Negeri 6 Singakerta
7	Ni Wayan Nuryati,S.Pd	Female	33	SDN 6 Singakerta
8	I Gusti Ayu Rai Puspayanti, S.Pd	Female	33	SD Negeri 6 Singakerta
9	I Nyoman Parek, S.Ag	Male	56	SD No. 1 Baha
10	Ni Putu Cempaka Ria Irmayani,S.Pd.	Female	35	SD Negeri 29 Pemecutan
11	Gusti Ayu Putu Santhi Ardani, S.Pd.	Female	35	SD Negeri 6 Singakerta
12	Ni Made Widiastuti, S.Pd	Female	24	SD Bali Kiddy
13	I Dewa Gede Putra Kisawa, S.Pd.	Male	30	SD Bali Kiddy
14	I Gusti Putu Adnyana, S.Pd	Male	60	SD negeri 6 Singakerta
15	Ni Made Sriyani,S.Pd.SD.,M.Pd	Female	48	SD No 4 Ungasan
16	Ni Wayan Apriani, S.Pd.	Female	43	SD Negeri 6 Singakerta
17	Ni Kadek Ika Rahayu Tisna Yanthi	Female	40	SD No. 4 Sading
18	Ni Made Parmiati,S.Pd.SD	Female	54	SD Negeri 29 Pemecutan
19	Kadek Agus Suryanatha, S.Pd	Male	30	SD No 4 Ungasan
20	Julietta Febby	Female	24	Bali Kiddy School
21	Dwiky Mahendra Arjana	Male	25	SD No.4 Ungasan

3.2   Variable Criteria

Questionnaire testing uses several variables studied, namely the system display aspect (user interface), system quality aspect, information quality aspect and system functionality aspect.

System Display Aspect (User Interface). The system display aspect (user interface) is used to determine the percentage of the system display value from the user's perspective. Questions to assess the system display aspect (user interface) are as follows: The menu and button name are simple to know; The user interface is attractive and interesting.

System Quality Aspect. The system quality aspect is used to determine the percentage of the system quality value according to the user. Questions to assess the quality of the system are as follows: The system is simple to use; The system is user-friendly.

Information Quality Aspect. The information quality aspect is used to determine the percentage of the information quality value generated by the system according to the user. Questions to assess the information quality aspect are as follows: The system gives information as the user needs; The clear information given by the system.

Functionality Aspect. The functionality aspect is used to determine the percentage of the accuracy value of the functions in the system from the user's perspective. Questions

to assess the functional aspects are as follows: The menus and features well functioning; The system helped users

3.3 Questionnaire Data Processing Process

Questionnaire data processing is carried out using a Likert scale to convert quantitative questionnaire data to qualitative. The process of processing questionnaire data with a Likert scale begins by determining the weight value of each answer category. The explanation of the weight of each answer category is as follows: Strongly Disagree (SD)= score 1; Disagree (D)= score 2; Undecided (Un)= score 3; Agree (A)= score 4; Strongly Agree (SA)= score 5.

The next step is to determine the interval used to interpret the respondent's assessment of the system so that conclusions can be drawn. How to determine the interval as follows. How to determine the interval as follows: Interval (I)= 100/number of answer categories; Interval (I) = 100/5; Interval (I) = 20.

Likert score assessment index based on the interval calculation results as follows: Strongly Disagree: 0% - 19.99%; Disagree: 20% - 39.99%; Undecided: 40% - 59.99%; Agree: 60% - 79.99%; Strongly Agree: 80% - 100%.

3.4 Calculate Score Likert

The next process is to calculate the total score likert for each question and aspect. The calculation of the total score for each question and aspect will be explained as follows.

System Display Aspect (User Interface): The assessment of this aspect is intended to determine the user's assessment of the system interface and the naming of buttons and menus whether they are attractive and easy to understand. The system display aspect was assessed through 21 LMS training participant respondents from several schools based on Table 2.

Table 2. Respondents' assessment of system interface aspects

No	Questions	SD	D	Un	A	SA
1	Menu and button name is simple to known	-	-	-	19	17
2	The user interface attractive and interesting	-	-	-	2	4

Table 2 shows the details of respondents' assessments of the system interface aspect from two questions. The Likert scale calculation process for question number 1, namely the naming of menus and buttons, is easy to understand in the system interface aspect as follows.

Table 3. Likert score system appearance aspect (Question 1)

No	Questions	SD	D	Un	A	SA
1	The menu and button name are simple to known	-	-	-	19	2
Total		0	0	0	19	2
Likert score		0	0		76	10
(number of respondents*weight of answer value)				0		
Score Likert Total (Likert Score SD+D+Un+A+SA)				86		

Table 3 displays the Likert score and total Likert score for question number 1 on the system display aspect, where the total Likert score is 86. To obtain the interpretation results, the highest (X) and the lowest r (Y) for the testing item must first be known with the following equation.

X = number of respondents × highest value weight
X = 21 × 5 = 105
Y = number of respondents × lowest value weight
Y = 21 × 1 = 21

How to calculate the percentage Index (%) to determine the interval of the testing aspect as follows.

Index (%) = (total Likert score / X) × 100%
Index (%) = (86 / 105) × 100%
Index (%) = 81.90%

The percentage index result is 81.90% which is included in the strongly agree, so it can be concluded that respondents strongly agree that the menu and button name is simple to know.

Table 4. Likert score system appearance aspect

No	Questions	SD	D	Un	A	SA
1	The menu and button name are simple to known	-	-	-	19	2
2	The user interface is attractive and interesting	-	-	-	17	4
Total		0	0	0	36	6
Likert score		0	0		144	30
(number of respondents × weight of answer value)				0		
Score Likert Total (Likert Score SD+D+Un+A+SA)	174					

Table 4 displays the Likert score and total Likert score for the overall system display aspect, where the total Likert score is 174. The percentage index result is 82.86% which included the strongly agree, so it can be concluded that the menu and button name is simple to know and the user interface attractive and interesting.

System Quality Aspect. The assessment in this aspect is intended to determine the user's assessment of the system quality. The system quality aspect was assessed through 21 LMS training participant respondents from several schools based on Table 5.

Table 5. Likert score of system quality aspects

No	Questions	SD	D	Un	A	SA
1	The system is simple to use	-	-	1	18	2
2	The system is user-friendly	-	-	1	19	1
	Total	0	0	2	37	3
	Likert score	0	0		148	15
	(number of respondents × weight of answer value)			6		
	Score Likert Total	169				
	(Likert Score SD+D+Un+A+SA)					

Table 5 displays the score and total Likert Score for the overall system quality aspect, where the total Likert score is 169. The percentage index result is 80.48% which is included in the strongly agree, so it can be concluded that respondents strongly agree that the system is simple to use and user friendly.

Information Quality Aspect. The assessment in this aspect is intended to determine the user's assessment of the system quality. The system information quality aspect was assessed through 21 LMS training participant respondents from several schools based on Table 6.

Table 6. Likert score of system information quality aspects

No	Questions	SD	D	Un	A	SA
1	The system give information as user needs	-	-	0	18	3
2	The clear information given by sistem	-	-	0	18	3
	Total	0	0	0	36	6
	Likert score	0	0		144	30
	(number of respondents × weight of answer value)			0		
	Score Likert Total	174				
	(Likert Score SD+D+Un+A+SA)					

Table 6 displays the score and total Likert score for the overall information quality aspect, where the total Likert score is 174. The percentage index result is 82.86% which included the strongly agree, so it can be concluded that respondents strongly agree that the system gives information as user needs and clear information given by the system.

Functionality System Aspect. The assessment in this aspect is intended to determine the user's assessment of the system quality. The functionality system aspect was assessed through 21 LMS training participant respondents from several schools based on Table 7.

Table 7. Likert score of system information quality aspects

No	Questions	SD	D	Un	A	SA
1	The menus and features well functioning	-	-	0	17	4
2	The system helped users	-	-	0	18	3
Total		0	0	0	35	7
Likert score		0	0		140	35
(number of respondents × weight of answer value)				0		
Score Likert Total (Likert Score SD+D+Un+A+SA)	175					

Table 7 displays the score and total Likert score for the overall information quality aspect, where the total Likert score is 175. The percentage index result is 83.33% which is included in the strongly agree, so it can be concluded that respondents strongly agree that the menus and features are well functioning and the system helped users.

Based on the UAT testing using four variables—system display (user interface), system quality, information quality, and system functionality—all variables scored above 80%. This indicates that the LMS system generally functions well and meets user expectations.

System Display (User Interface). The high score in this category suggests that the system's interface is intuitive and visually appealing, which contributes positively to user experience.

System Quality. The positive feedback in this aspect indicates that the system is easy to use and user-friendly. However, there is still room for improvement, as indicated by the slightly lower score compared to other variables.

Information Quality. Despite a strong overall score, respondents noted that the quality of information provided by the system needs enhancement. Users have indicated that the system should better meet their informational needs and provide clearer, more relevant content.

System Functionality. The high score in this category confirms that the system's features and menus function effectively, supporting users efficiently in their tasks.

In summary, while the LMS performs well across all tested aspects, there are areas for improvement, particularly in enhancing the quality of information provided. Feedback from respondents suggests that addressing these issues will further improve user satisfaction and system effectiveness.

4   Conclusion

UAT testing for the LMS uses four test variables: interface, system quality, information quality, and system functionality. Based on the test results: The interface variable received a percentage value of 82.86%, which falls into the "strongly agree" category. This indicates that the menu and button names are easy to understand, and the user interface is attractive and engaging. The system quality variable had a result of 80.48%, also in the "strongly agree" category. This suggests that respondents find the system easy to use and user-friendly. The information quality variable scored 82.86%, within the "strongly agree" range. This means respondents believe the system provides information that meets user needs and delivers clear information. The system functionality variable received a score of 83.33%, classified as "strongly agree." This indicates that respondents feel the menus and features function well and that the system effectively supports users.

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