

Usability and User Experience Evaluation on Extracurricular Website (SINEMA) Implementation using SUS and UEQ Methods

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ABSTRACT

The rapid integration of web-based platforms in higher education underscores the importance of usability and user experience in supporting students' extracurricular activities. This study evaluates the usability and user experience of the Student Extracurricular Information System (SINEMA) developed at Tadulako University. A total of 99 respondents were selected from 5,581 active users using Slovin's formula. Two standardized instruments were applied: the System Usability Scale (SUS) to measure overall usability and the User Experience Questionnaire (UEQ) to assess six user experience dimensions. The SUS results indicate a mean score of 76.06, corresponding to Grade B and the "Good" category, surpassing the global benchmark and confirming that SINEMA is generally usable. The UEQ results show that Perspicuity (1.94), Dependability (1.94), and Stimulation (1.93) achieved "Excellent" ratings, reflecting clarity, reliability, and engagement, while Attractiveness (1.65), Efficiency (1.58), and Novelty (1.72) were rated "Good," indicating positive perceptions yet room for improvement. Overall, the findings demonstrate that SINEMA effectively supports extracurricular management with satisfactory usability and user experience. This study extends previous works by applying a dual-method (SUS and UEQ) framework in the extracurricular context—an area rarely examined in usability research—thus providing a novel empirical contribution to digital evaluation studies in higher education. Recommendations include improving efficiency and novelty to enhance user satisfaction and system adoption.

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1. Introduction

Web-based solutions are becoming vital resources for assisting academic and extracurricular activities at higher education institutions in the digital age. Websites reduce administrative procedures, promote stakeholder contact, and allow for the effective distribution of information [1]. Since extracurricular activities foster the development of soft skills like communication, teamwork, and leadership that enhance academic performance, they are an essential part of a student's growth [2]. As a result, digital platforms that oversee extracurricular activities can greatly improve organizational management's efficiency, accessibility, and transparency [3], [4].

The development and use of websites for extracurricular activities have been the subject of much research. One study that addresses a web-based academic information system is Makkaraka et al. [5]. The effectiveness of managing academic data was the main emphasis of this study; however, the administration of extracurricular activities for students was not particularly covered. Another study by Hidayat & Rahmawati [6] produced the SIMAK program, a web-based extracurricular information system for secondary schools. Although the system has capabilities for registration, attendance, and evaluation, it is not yet able to handle the particular requirements of managing extracurricular activities in higher education, including automated report production, verification procedures, and activity conversion into credit units (SKS) [6].

Usability and user experience (UX) evaluation have become central to assessing the quality and effectiveness of digital platforms in education. The System Usability Scale (SUS) is a well-established instrument for measuring perceived usability through a simple yet reliable questionnaire that captures effectiveness, efficiency, and satisfaction [7], [8]. It has been applied widely in educational websites, administrative systems, and mobile learning applications, showing its robustness even with small sample sizes [9]. On the other hand, the User Experience Questionnaire (UEQ) complements SUS by capturing both pragmatic qualities (e.g., clarity, efficiency, dependability) and hedonic qualities (e.g., stimulation, novelty, attractiveness), offering a broader perspective on user interaction and emotional responses [10], [11]. Prior studies demonstrate the importance of combining SUS and UEQ to obtain a comprehensive picture of usability and user experience across various contexts, including academic information systems, integrated learning management systems, and e-learning platforms [12]. However, most of the existing research focuses on formal learning management systems or general-purpose academic websites, while evaluations of extracurricular information systems remain limited.

Although numerous studies have investigated usability and user experience (UX) evaluation in educational systems, research focusing specifically on web-based extracurricular management platforms in higher education remains scarce. Most previous works have concentrated on formal learning management systems, academic portals, or administrative e-services, leaving a significant gap in understanding how extracurricular information systems perform in terms of usability and user experience. To address this gap, the present study applies a combined evaluation approach using the System Usability Scale (SUS) and the User Experience Questionnaire (UEQ) within the context of the SINEMA platform. While both instruments are well-established, their integrated use in assessing an extracurricular information system offers a new and contextually relevant contribution. By merging pragmatic and hedonic dimensions, this study introduces a dual-perspective assessment framework that provides a more holistic understanding of user interaction. The findings not only establish an empirical benchmark for similar platforms in higher education but also deliver practical insights for developers and researchers seeking to enhance system design and engagement. Therefore, rather than methodological innovation, this work's novelty is found in its contextual and integrative contributions.

2. Method

2.1. Research Type and Design

This study uses a quantitative descriptive approach and cross-sectional design to evaluate the usability and user experience of the SINEMA extracurricular website using two standard instruments, namely the System Usability Scale (SUS) and the User Experience Questionnaire (UEQ). Quantitative research means the study collects numeric data amenable to statistical analysis [13]. Descriptive research aims to systematically characterize the current state of a phenomenon without manipulating variables [14]—here, it documents how users perceive SINEMA's usability and UX in real use. Cross-sectional design indicates data are collected from participants at a single point in time, providing a snapshot of user attitudes and performance after interacting with the system. Usability (effectiveness, efficiency, and satisfaction in a specified context of use) and user experience (users' perceptions, emotions, and responses during and after interaction) are the primary constructs. The SUS is a reliable 10-item Likert questionnaire that yields a single usability score (0–100) for quick benchmarking [15] and the UEQ is a multidimensional semantic-differential instrument that measures six UX dimensions (attractiveness, perspicuity, efficiency, dependability, stimulation, novelty) [11]. As a non-experimental evaluation study using standardized tools, this design enables

both a global usability assessment (SUS) and a richer, dimension-based UX profile (UEQ), supporting evidence-based recommendations for SINEMA's iterative improvement.

2.2. Research Object

The object of this study is the SINEMA extracurricular website. This system is web-based platform used by students, supervisors and administrators to manage extracurricular activities. The study treats the unit of analysis as individual user sessions and interface components: each participant's task-based interactions (e.g., finding an event, registering, uploading a form) and the corresponding screens and controls they use. Data collection focuses on the current production release of SINEMA at the time of study and includes both desktop and mobile web browsers to capture responsiveness and cross-device UX. Inclusion criteria for evaluated features prioritize those frequently used by all roles (registration, announcements, profile management) while edge-case or privileged admin-only features are excluded from primary analysis. This concrete, task-centered definition ensures that SUS and UEQ measurements map directly to real user activities and the website elements that most influence perceived usability and experience.

2.3. Population and Sample

The study's respondents are drawn from the SINEMA user population of 5,581 registered accounts and consist of active end-users who interact with the website in their roles as students, supervisors (coaches/teachers), or administrators. In sampling terms, the population is the entire set of SINEMA users ($N = 5,581$) and the sample is the subset from whom we collect SUS and UEQ data. Sample size was calculated using Slovin's formula [10], [16] to control sampling error as shown by (1)

$$n = \frac{N}{1 + Ne^2} \quad (1)$$

where e is the acceptable sampling error (0.10), N is number population, and n is the number of responden. Substituting values: $e^2 = 0.01$; $Ne^2 = 5581 \times 0.01 = 55.81$; denominator = $1 + 55.81 = 56.81$; $n = 5581/56.81 = 98.24$. To ensure adequate power, the figure is rounded up to 99 respondents.

2.4. Research Instruments

The research employed two standardized instruments to evaluate the usability and user experience of the SINEMA extracurricular website: the System Usability Scale (SUS) and the User Experience Questionnaire (UEQ). Both tools were selected due to their reliability, validity, and widespread use in assessing interactive systems. The System Usability Scale (SUS) is a ten-item Likert-type questionnaire designed to measure the overall usability of a system. The statements and the Likert-scale in the SUS questionnaire are shown in Table 1.

Table 1. Statement of SUS instruments

No	Statements	Likert Scale				
		Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
1	I think I'm using this system once more.	1	2	3	4	5
2	The system is excessively complex, in my opinion.	1	2	3	4	5
3	The system is simple to use, in my opinion.	1	2	3	4	5
4	To utilize the system, I require assistance from a technician or another individual.	1	2	3	4	5
5	The system's many features, in my opinion, operate as intended.	1	2	3	4	5
6	I think the system has far too many contradictions.	1	2	3	4	5
7	I predict that the majority of individuals will quickly become proficient with this system.	1	2	3	4	5

No	Statements	Likert Scale				
		Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
8	The system is really difficult for me to utilize.	1	2	3	4	5
9	Using the method gives me a great sense of confidence.	1	2	3	4	5
10	Before I begin, I have a lot to learn.	1	2	3	4	5

Based on Table 1, each item alternates between positive and negative statements, and responses are scored on a five-point scale ranging from Strongly Disagree (1) to Strongly Agree (5). Next, the SUS Score is calculated using the equation as shown in (2),

$$SUS\ Score = (\sum_{i=1}^{10} S_i) \times 2.5 \quad (2)$$

$$S_i\ for\ Odd = Response - 1 \quad (3)$$

$$S_i\ for\ Even = 5 - Response \quad (4)$$

Where S_i for each odd-numbered item's response is reduced by 1 (3), while each even-numbered item's score is subtracted from 5 (4). The adjusted values are summed and then multiplied by 2.5 to yield a total score between 0 and 100 (2). To obtain the final results to justify the SUS score, an average calculation is carried out on the SUS Score of all respondents. Justification of the system usability is determined based on the mean of SUS score rating as shown in Table 2.

Table 2. Grade of system usability based on mean of SUS score (μ)

Score	Grade				
	A	B	C	D	E
Mean of SUS score (μ)	$\mu \geq 80.3$	$74 \leq \mu < 80.3$	$68 \leq \mu < 74$	$51 \leq \mu < 68$	$\mu < 51$

The table presents the classification of system usability levels based on the mean SUS score (μ). It shows how the average SUS value obtained from respondents is translated into a usability grade, ranging from A (excellent) to E (poor). Specifically, a score of $\mu \geq 80.3$ corresponds to Grade A, which indicates excellent usability. Scores between $74 \leq \mu < 80.3$ fall into Grade B, meaning good usability. Scores in the range of $68 \leq \mu < 74$ are categorized as Grade C, which reflects acceptable or average usability. Meanwhile, scores between $51 \leq \mu < 68$ correspond to Grade D, indicating marginal or below-average usability. Finally, a score of $\mu < 51$ is graded as E, which denotes poor usability. Apart from using Grade, justification of system usability can also be seen from three perspectives like the range of user acceptance, grade scale, and adjective rating as seen in Figure 1.

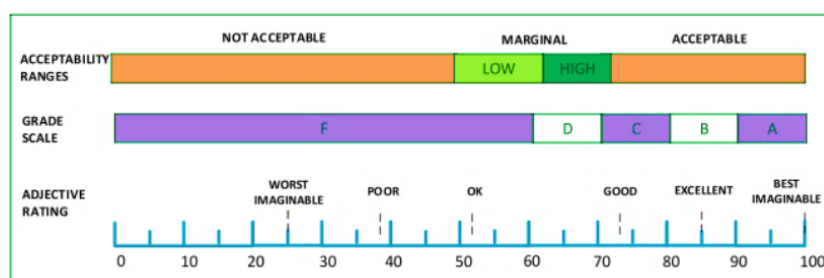


Fig. 1. Measurement of usability system based on acceptability range, grade scale, and adjective rating [9]

Figure 1 shows the SUS score interpretation framework provides three perspectives: acceptability ranges, grade scale, and adjective rating. Scores below 50 are deemed not acceptable, those between 50 and 70 fall into a marginal category (low to high), and scores above 70 are considered acceptable, indicating good usability. In the grade scale, SUS scores correspond to academic grades, from F for the lowest usability to A for excellent usability. Meanwhile, the adjective rating offers a qualitative

dimension, ranging from “Worst Imaginable” to “Best Imaginable,” with intermediate descriptors such as Poor, OK, Good, and Excellent. This combined framework allows researchers to translate numerical SUS scores into more meaningful interpretations for evaluating system usability.

The User Experience Questionnaire (UEQ) complements SUS by capturing broader dimensions of user experience beyond functional usability. UEQ uses 26 items arranged in pairs of opposite adjectives (e.g., annoying–enjoyable, complicated–easy), measured on a seven-point semantic differential scale as shown in Figure 2.

	1	2	3	4	5	6	7		
annoying	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	conservative	1
not understandable	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	understandable	2
creative	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	dull	3
easy to learn	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	difficult to learn	4
valuable	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	inferior	5
boring	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	exciting	6
not interesting	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	interesting	7
unpredictable	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	predictable	8
fast	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	slow	9
inventive	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	conventional	10
obstructive	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	supportive	11
good	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	bad	12
complicated	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	easy	13
unlikable	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	pleasing	14
usual	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	leading edge	15
unpleasant	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	pleasant	16
secure	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	not secure	17
motivating	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	demotivating	18
meets expectations	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	does not meet expectation	19
inefficient	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	efficient	20
clear	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	confusing	21
impractical	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	practical	22
organized	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	cluttered	23
attractive	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	unattractive	24
friendly	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	unfriendly	25
conservative	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	innovative	26

Fig. 2. UEQ Instruments [11]

Basen on Figure 2, the items UEQ instruments are grouped into six dimensions: Attractiveness (overall impression), Perspicuity (clarity and ease of learning), Efficiency (speed and productivity), Dependability (control and predictability), Stimulation (motivation and excitement), and Novelty (innovation and creativity). The questionnaire results containing numbers 1 to 7 were then converted to a scale of -3 to 3 with the rules 1 = -3, 2 = -2, 3 = -1, 4 = 0, 5 = 1, 6 = 2, and 7 = 3. The conversion results are then used to calculate the average score for each respondent using formula (5).

$$\mu = \frac{\text{total score}}{\text{total item}} \quad (5)$$

After obtaining the average values for all respondents, the next step was to calculate the average values for each dimension. The average values for each dimension were then compared with the UEQ data analysis tool's category table as a benchmark [10], as shown in Table 3.

Table 3. Category UEQ Data Analysis Tool

Dimension	Category				
	Excellent	Good	Above Average	Below Average	Bad
Attractiveness	$\mu > 1.75$	$\mu > 1.52$	$\mu > 1.17$	$\mu > 0.7$	$\mu \leq 0.7$
Perspicuity	$\mu > 1.9$	$\mu > 1.56$	$\mu > 1.08$	$\mu > 0.64$	$\mu \leq 0.64$
Efficiency	$\mu > 1.78$	$\mu > 1.47$	$\mu > 0.98$	$\mu > 0.54$	$\mu \leq 0.54$
Dependability	$\mu > 1.65$	$\mu > 1.48$	$\mu > 1.14$	$\mu > 0.78$	$\mu \leq 0.78$
Stimulation	$\mu > 1.55$	$\mu > 1.31$	$\mu > 0.99$	$\mu > 0.5$	$\mu \leq 0.5$
Novelty	$\mu > 1.4$	$\mu > 1.05$	$\mu > 0.71$	$\mu > 0.3$	$\mu \leq 0.3$

2.5. Research Steps

To ensure that the research is conducted in a structured and systematic manner, a series of steps were designed and implemented as outlined in the flowchart. These steps provide a clear roadmap starting from the foundation of theoretical understanding to the final conclusions drawn from the study. The research methodology integrates both qualitative and quantitative approaches, particularly focusing on system usability and user experience measurement through the SUS and UEQ methods. Tahapan penelitian ditunjukkan pada Gambar 3.

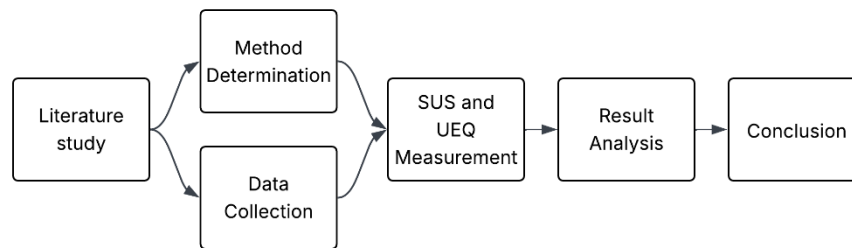


Fig. 3. Research Steps

Figure 3 shows that the research stages consist of literature study, method determination, data collection, SUS and UEQ measurements, analysis results, and conclusions. First, literature study, this step involves a comprehensive review of relevant studies, theories, and prior research related to user experience, usability testing, and the SUS and UEQ framework. The literature study provides the theoretical foundation and ensures that the research is grounded in established knowledge. It also helps to identify gaps, refine the research objectives, and support the choice of methodology. Second, the next step is to determine the appropriate research method. This includes selecting the evaluation tool (SUS and UEQ), defining the target users, and outlining the procedure for data collection. Method determination ensures that the research design aligns with the objectives and provides reliable and valid results. Third is data collection. In this step, data is gathered directly from respondents by distributing the UEQ questionnaire. Participants are asked to evaluate the system or product under study by rating bipolar items on a 7-point Likert scale. The collected data represents users' perceptions across various dimensions of user experience, such as attractiveness, efficiency, and stimulation. Fourth is SUS and UEQ measurement step. The raw data obtained from respondents is then processed using the UEQ measurement framework. This includes converting responses into numerical values, calculating mean scores for each dimension, and classifying results based on established benchmark categories. This step transforms subjective user feedback into quantifiable insights that can be analyzed systematically. Fifth is results analysis. At this step, the processed data is analyzed to interpret the findings. The final step is to summarize the findings and present conclusions based on the results of the SUS and UEQ measurement and analysis. Conclusions highlight the key takeaways, implications for future development, and possible recommendations for improvement. This step ensures that the research contributes meaningful insights to both academic literature and practical applications.

3. Results and Discussion

3.1. Implementation of SINEMA

The implementation of SINEMA represents the transition from the system design stage into a fully functional prototype that can be evaluated directly by users. At this stage, the developed system has been deployed and tested through its core features, allowing researchers and participants to interact with the interface in real-world scenarios. The implementation highlights the integration of various modules that support user interaction, data processing, and information delivery, which together demonstrate the system's ability to achieve its intended purpose. To provide a clearer understanding,

this section presents several screenshots of the SINEMA interface, showcasing its main functionalities, navigation flow, and visual design. The homepage is shown in Figure 4, the login page is shown in Figure 5, the students register page is shown in Figure 6, the admin dashboard is shown in Figure 7, and the student dashboard is shown in Figure 8. These illustrations are essential to contextualize how the system operates in practice before moving into the usability and user experience evaluations.



Fig. 4. Homepage

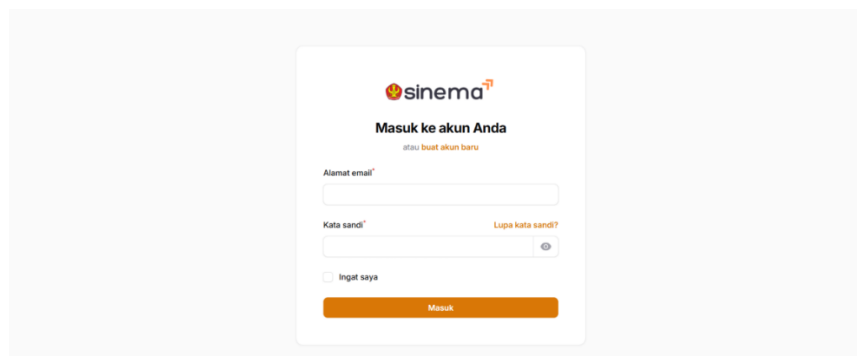


Fig. 5. Login page

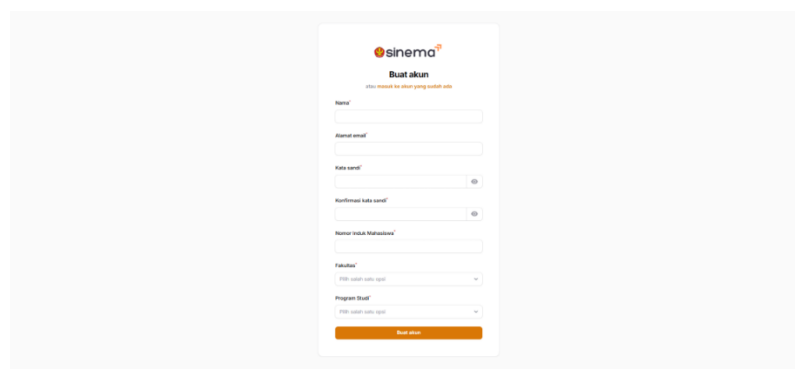


Fig. 6. Students Register page

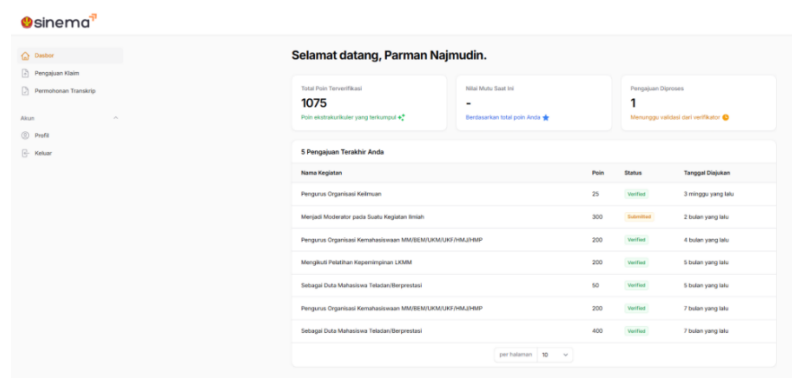
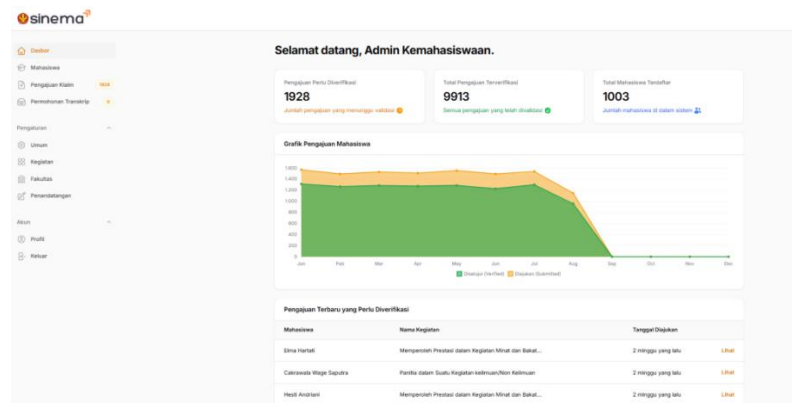


Figure 4 shows the SINEMA homepage. The homepage of SINEMA introduces the platform as an official digital service of Tadulako University. It highlights its main purpose: recording, validating, and compiling students' extracurricular activities into a valuable transcript. It features a clear call-to-action button "Register Now" and a login option at the top right. Figure 5 shows the login page, which allows users to log in using their registered email address and password. The page also provides a "Forgot Password" option and a link to create a new account for new users. The design is simple and focuses on quick access. The student registration page is used to create a new account. This page is shown in Figure 6. Students must fill in personal information such as name, email, password, student ID number, faculty, and study program before clicking the "Create Account" button. The admin dashboard, shown in Figure 7, provides an overview of the system from an administrator's perspective. It displays pending verifications, total verified applications, and the number of enrolled students. A graph displays the monthly application trend, and below it, a list of recent applications requiring verification is displayed. Important resources for managing the system are listed on the left side. Figure 8 shows the student dashboard, which provides personal information and essential resources for each student when submitting an extracurricular activity claim. The dashboard also displays the total verified points earned, the current achievement score, and the number of assignments in progress. Below, students can view their most recent completed activities, along with their points, status, and due date.

3.2. Usability evaluation based on SUS

Understanding user perceptions and experiences is essential in evaluating system usability. In this study, we applied the System Usability Scale (SUS) questionnaire to gather feedback from multiple respondents. The SUS is a widely recognized instrument designed to measure usability through ten structured items. Each participant rated the statements on a five-point Likert scale, reflecting their level of agreement or disagreement with specific usability aspects. The collected raw data served as the basis for calculations and analyses based on the SUS rules. The results of the raw data collection are shown in the graph in Figure 9. The graph illustrates these initial responses, highlighting the variation in perceptions across the ten questionnaire items.

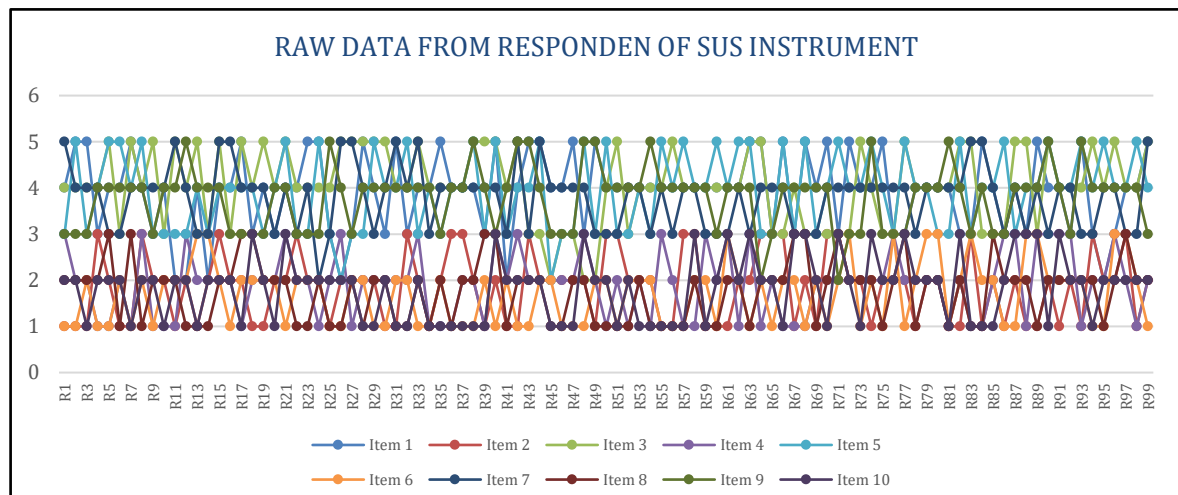


Fig. 9. Raw Data from Responden of SUS Instrument

Figure 9 presents the raw data obtained from 99 respondents through the System Usability Scale (SUS) questionnaire. Each line represents the distribution of responses across the ten items, which were rated on a five-point Likert scale ranging from strongly disagree (1) to strongly agree (5). The visualization highlights the variation in user perceptions, as some items exhibit relatively consistent ratings while others show greater fluctuations. For example, items 1, 3, 5, and 7 appear to cluster toward higher values, suggesting a more favorable evaluation of the system's usability aspects captured by those statements. Conversely, items 2, 4, 6, 8, and 10 display wider variability, reflecting mixed levels of agreement among participants. This inconsistency may indicate differing user experiences or possible ambiguities in how respondents interpreted certain items. Overall, the raw data chart emphasizes the heterogeneity of responses and underlines the importance of applying further statistical processing to normalize the data and derive a reliable usability score. Such analysis is necessary to identify broader usability trends and ensure valid interpretation of the SUS outcomes. The raw data collected from respondents was then calculated and analyzed using SUS rules. The calculation results are shown in Figure 10.

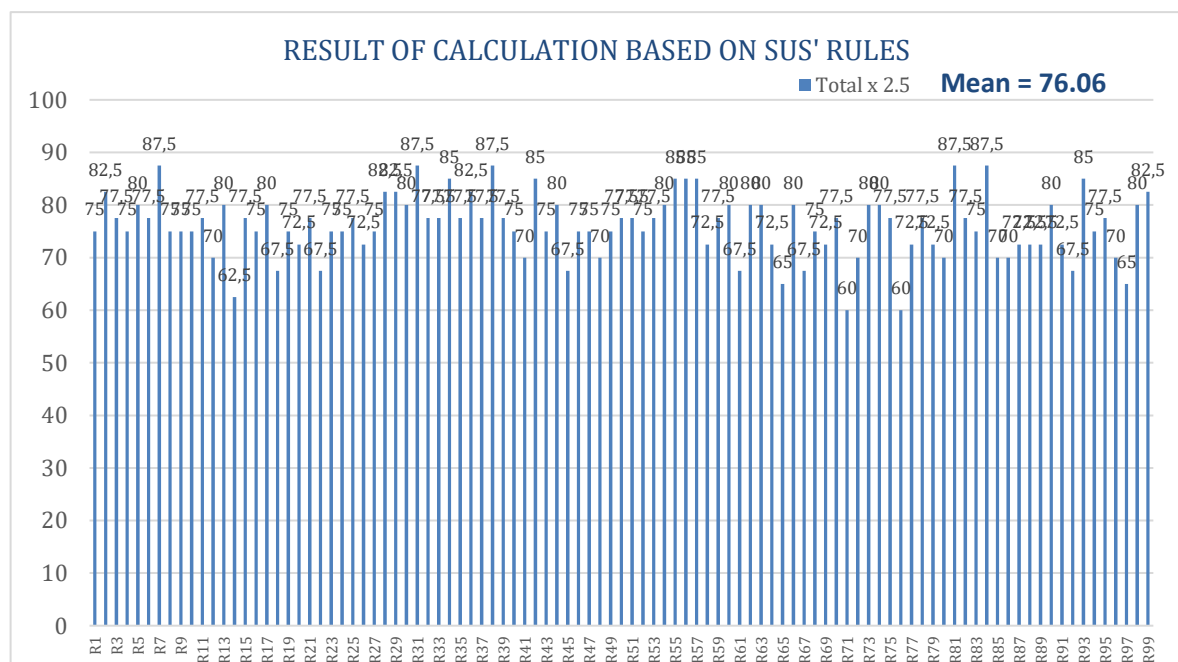


Fig. 10. Result of Calculation based on SUS' Rules

Figure 10 illustrates the calculated System Usability Scale (SUS) scores of 99 respondents after applying the standard scoring procedure, in which raw item responses were adjusted and multiplied by 2.5 to generate a normalized usability score. The results reveal a distribution of individual SUS scores ranging from 60 to 88, with the majority of values concentrated between 70 and 85. The mean score across all respondents is 76.06, which serves as the central indicator of system usability. This finding suggests that, while some respondents perceived the system less favorably, most rated it within the higher usability range. The chart further indicates that a notable proportion of respondents achieved scores above 80, which aligns with favorable usability perceptions. However, several cases scored below 70, highlighting variability in user experiences. The visualization underscores that the system is generally perceived as usable, with performance consistently meeting user expectations. Nevertheless, the variability across responses points to opportunities for refinement, as subsets of users encountered difficulties that negatively affected their evaluations. Overall, the graphical distribution provides a comprehensive overview of system usability levels and offers a solid basis for benchmarking performance against established SUS interpretative frameworks, thereby enabling a more nuanced understanding of strengths and weaknesses in user experience.

According to the SUS interpretative standards shown in Table 2 and the acceptability ranges illustrated in Figure 1, the mean score of 76.06 falls within Grade B, which corresponds to the "Good" usability category. This places the system above the global average SUS benchmark of 68, indicating that it performs reliably in terms of usability. Within the adjective rating scale, the system can be classified between "Good" and approaching "Excellent," reflecting a generally positive perception from users. The acceptability range further categorizes this score as "Acceptable," which confirms that the system meets expected usability requirements for practical application. However, the presence of scores below 70 implies that certain users experienced usability challenges that warrant attention. These insights suggest that, while the system is overall well-designed and user-friendly, targeted improvements in navigation, clarity, or task efficiency could elevate its performance from "Good" to "Excellent," thereby enhancing user satisfaction and adoption rates.

3.3. User Experiences evaluation based on UEQ

The User Experience Questionnaire (UEQ) was employed to gather insights into respondents' perceptions of the system across multiple dimensions of usability and user experience. This instrument is designed to measure key factors such as attractiveness, perspicuity, efficiency, dependability, stimulation, and novelty, providing a comprehensive view of how users interact with the system. Each respondent rated 26 items using a standardized scale, capturing both positive and critical aspects of their experience. Figure 11 presents the raw data collected from all respondents, illustrating the variations in responses for each item and serving as the foundation for further analysis.

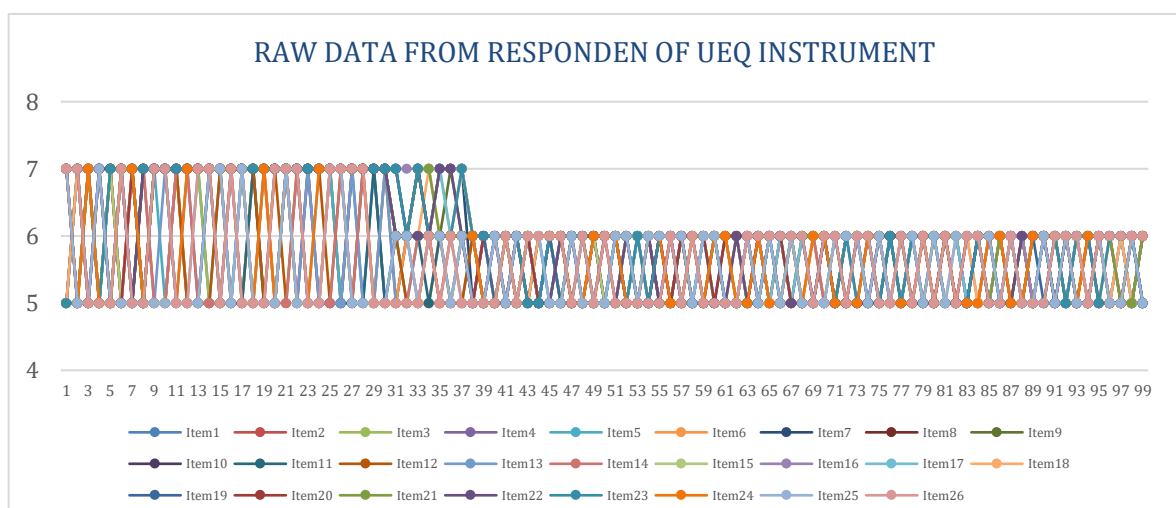


Fig. 11. Raw Data from Responden of UEQ Instrument

Figure 11 is a graph depicting raw data collected from respondents using the User Experience Questionnaire (UEQ), which consists of 26 items evaluated on a seven-point scale. The data display a dense distribution of responses, with most values clustering between points five and seven, indicating generally favorable perceptions of the system. Items consistently show recurring patterns

across respondents, suggesting relatively stable opinions regarding different aspects of the evaluated system. A notable feature of the graph is the concentration of responses at the upper end of the scale during the initial items, followed by more moderate fluctuations in subsequent responses. This trend implies that respondents initially rated their experience positively, with slight variations emerging across later items as they reflected on more specific dimensions of usability, efficiency, or stimulation. The consistent overlap of data lines indicates that responses did not diverge significantly between items, highlighting a uniformity in user perceptions. Overall, the graphical representation confirms that participants perceived the system positively, with limited evidence of extreme dissatisfaction. This visualization provides a valuable preliminary overview of the dataset, enabling deeper statistical analysis and facilitating interpretation of user satisfaction and experience trends in relation to the tested system. The raw data collected from respondents was then calculated and analyzed using UEQ rules. The calculation results are shown in Table 4.

Table 4. Result of Calculation based on UEQ' Rules

Dimensions	Items	Mean	
		Per item	Per dimension
Attractiveness	Item 1	1.66	1.65
	Item 2	1.71	
	Item 3	1.63	
	Item 4	1.72	
	Item 5	1.68	
	Item 6	1.51	
Perspicuity	Item 7	1.91	1.94
	Item 8	1.97	
	Item 9	1.99	
	Item 10	1.91	
Efficiency	Item 11	1.58	1.58
	Item 12	1.70	
	Item 13	1.53	
	Item 14	1.52	
Dependability	Item 15	1.92	1.94
	Item 16	1.97	
	Item 17	1.96	
	Item 18	1.92	
Stimulation	Item 19	1.93	1.93
	Item 20	1.93	
	Item 21	1.94	
	Item 22	1.92	
Novelty	Item 23	1.98	1.72
	Item 24	1.70	
	Item 25	1.54	
	Item 26	1.66	

The results presented in Table 4 demonstrate the mean scores of the User Experience Questionnaire (UEQ) items, grouped according to their corresponding dimensions. Attractiveness, which captures the overall impression of the system, reported mean item scores ranging from 1.51 to 1.72, with an overall mean of 1.65. Perspicuity, reflecting clarity and ease of understanding, showed consistently high values across items, ranging from 1.91 to 1.99, producing a strong average of 1.94. Efficiency, which relates to the speed and practicality of achieving tasks, recorded a relatively lower mean of 1.58, indicating adequate but less outstanding performance. Dependability, which measures

perceived control and predictability, scored strongly with a mean of 1.94, suggesting users felt confident in the system's reliability. Stimulation, emphasizing excitement and motivation, obtained a robust score of 1.93, while Novelty, representing innovation and creativity, achieved a moderate mean of 1.72.

According to the categorization criteria outlined in Table 3, these scores are classified as follows: Attractiveness falls into the "Good" category ($\mu > 1.52$), Perspicuity, Dependability, and Stimulation reach the "Excellent" threshold ($\mu > 1.9$, $\mu > 1.65$, and $\mu > 1.55$ respectively), Efficiency is categorized as "Good" ($\mu > 1.47$), and Novelty falls within the "Good" range ($\mu > 1.05$). These results indicate that the system is generally perceived positively, excelling in aspects of clarity, reliability, and engagement, while maintaining satisfactory performance in efficiency, attractiveness, and innovation.

From the UEQ perspective, the dimensions of Perspicuity, Dependability, and Stimulation achieved "Excellent" ratings, aligning with prior studies by Henim and Sari [10] and Devy et al. [12], where clarity and engagement emerged as dominant strengths in educational platforms. However, the dimensions of Efficiency and Novelty achieved only "Good" ratings. This result may be attributed to two factors: first, certain navigation paths still require multiple clicks to complete common tasks, which affects perceived efficiency; and second, the system interface adopts a conventional academic layout with limited visual innovation, influencing the novelty dimension. These findings suggest that while the system design meets functional expectations, enhancements in interface responsiveness, task automation, and modern visual design could further improve user perception and elevate SINEMA's overall UX performance.

4. Conclusion

This study aimed to evaluate the usability and user experience of the Student Extracurricular Information System (SINEMA) using the System Usability Scale (SUS) and User Experience Questionnaire (UEQ). The evaluation involved 99 respondents representing students, supervisors, and administrators actively engaged with the system. Findings from the SUS revealed a mean score of 76.06, categorized as Grade B and "Good" usability. This indicates that SINEMA is generally effective and acceptable for practical use, surpassing the global SUS benchmark. Nonetheless, some respondents reported lower scores, suggesting that specific aspects of navigation and task efficiency require refinement to further enhance usability. The UEQ analysis provided additional insights by capturing multidimensional user perceptions. Perspicuity, Dependability, and Stimulation scored within the "Excellent" range, affirming that the system is clear, reliable, and engaging. Attractiveness, Efficiency, and Novelty achieved the "Good" category, reflecting favorable user impressions but highlighting opportunities for improvement, particularly in optimizing task speed and fostering greater innovation in features and design. Collectively, these results confirm that SINEMA successfully fulfills its role as a digital platform for extracurricular activity management at Tadulako University. The integration of SUS and UEQ in this research provides a holistic evaluation framework that not only validates technical adequacy but also captures user-centered perspectives. The contribution of this study lies in its empirical evidence on usability and user experience in the higher education extracurricular context. Based on the results, future improvements should focus on enhancing efficiency by streamlining frequently used processes, such as registration and activity verification, to reduce user task time. To strengthen novelty, the development team could introduce interactive dashboards, adaptive interfaces, and integration with institutional mobile apps to foster a more innovative and engaging experience. For future researchers, this study provides a benchmark for combining SUS and UEQ in the evaluation of extracurricular systems, which can be extended to other digital learning platforms to validate the robustness of this dual-method framework.

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References

- [1] N. Khoirunnisa, H. Haryati, E. Jubaedah, and T. Rostiawati, "Designing Website-Based Administration Management Information System," *CoreID Journal*, vol. 1, no. 1, pp. 21–32, Mar. 2023, doi: 10.60005/coreid.v1i1.6.
 - [2] N. Bryzhak, I. Bopko, K. Chałas, O. Dubinina, and O. Tsybanyuk, "Effectiveness of Extra-curricular Activities in the Self-Development of Primary School Students," *International Journal of Education and Information Technologies*, vol. 18, pp. 64–74, Sep. 2024, doi: 10.46300/9109.2024.18.7.
 - [3] M. Tawakkal, M. Z. A. Nawas, and S. Sanusi, "Empowering Students: Innovative Management of Extracurricular Activities for Greater Achievement," *International Journal of Asian Education*, vol. 6, no. 1, pp. 113–126, Mar. 2025, doi: 10.46966/ijae.v6i1.452.
 - [4] S. A. A. Shiadeh, "The Role of Technology in Enhancing Transparency in Government Resource Allocation," *Journal of Resource Management and Decision Engineering*, vol. 2, no. 3, pp. 4–10, 2023.
 - [5] A. M. R. B. Makkaraka, Akbar Iskandar, and Wang Yang, "Design of Web-Based Student Academic Information System," *Ceddi Journal of Education*, vol. 3, no. 2, pp. 9–15, Dec. 2024, doi: 10.56134/cje.v3i2.102.
 - [6] F. F. Hidayat and Y. Rahmawati, "Web-Based System Enhances Extracurricular Management Efficiency in Educational Institutions," *Indonesian Journal of Law and Economics Review*, vol. 19, no. 4, Oct. 2024, doi: 10.21070/ijler.v19i4.1167.
 - [7] E. Kurniawan, N. Nofriadi, and A. Nata, "PENERAPAN SYSTEM USABILITY SCALE (SUS) DALAM PENGUKURAN KEBERGUNAAN WEBSITE PROGRAM STUDI DI STMIK ROYAL," *JOURNAL OF SCIENCE AND SOCIAL RESEARCH*, vol. 5, no. 1, p. 43, Feb. 2022, doi: 10.54314/jssr.v5i1.817.
 - [8] A. W. Illahi, N. Suarna, A. I. Purnamasari, and N. Rahaningsih, "Sistem Informasi Administrasi Kependudukan Berbasis Web Dengan Pengujian System Usability Scale Untuk Meningkatkan Pelayanan Pada Masyarakat," *Jurnal Janitra Informatika dan Sistem Informasi*, vol. 2, no. 2, pp. 107–115, Oct. 2022, doi: 10.25008/janitra.v2i2.147.
 - [9] A. Saputra, "Penerapan Usability pada Aplikasi PENTAS Dengan Menggunakan Metode System Usability Scale (SUS)," *JTIM : Jurnal Teknologi Informasi dan Multimedia*, vol. 1, no. 3, pp. 206–212, Nov. 2019, doi: 10.35746/jtim.v1i3.50.
 - [10] S. R. Henim and R. P. Sari, "Evaluasi User Experience Sistem Informasi Akademik Mahasiswa pada Perguruan Tinggi Menggunakan User Experience Questionnaire," *Jurnal Komputer Terapan*, vol. 6, no. 1, pp. 69–78, May 2020, doi: 10.35143/jkt.v6i1.3582.
 - [11] A. Pratama, A. Farqi, and E. P. Mandyartha, "Evaluation of User Experience in Integrated Learning Information Systems Using User Experience Questionnaire (UEQ)," *Journal of Information Systems and Informatics*, vol. 4, no. 4, pp. 1019–1029, Nov. 2022, doi: 10.51519/journalisi.v4i4.394.
 - [12] N. P. I. R. Devy, S. Wibirama, and P. I. Santosa, "Evaluating user experience of english learning interface using User Experience Questionnaire and System Usability Scale," in *2017 1st International Conference on Informatics and Computational Sciences (ICICoS)*, IEEE, Nov. 2017, pp. 101–106. doi: 10.1109/ICICoS.2017.8276345.
 - [13] G. Kotronoulas *et al.*, "An Overview of the Fundamentals of Data Management, Analysis, and Interpretation in Quantitative Research," *Semin Oncol Nurs*, vol. 39, no. 2, p. 151398, Apr. 2023, doi: 10.1016/j.soncn.2023.151398.
 - [14] A. Ghanad, "An Overview of Quantitative Research Methods," *INTERNATIONAL JOURNAL OF MULTIDISCIPLINARY RESEARCH AND ANALYSIS*, vol. 06, no. 08, Aug. 2023, doi: 10.47191/ijmra/v6-i8-52.
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- [15] Dede Trie Kurniawan and S. Maryanti, "Usability Testing of the Web-Based Learning Resource Center Kumatalibi.com Using the System Usability Scale (SUS) Among Preservice Biology Teachers," *International Journal of Learning Media on Natural Science (IJLENS)*, vol. 2, no. 1, pp. 1–7, Feb. 2025, doi: 10.60005/ijlens.v2i1.102.
- [16] Y. N. Kumajas, "The Effects of Human Resources Quality, Infrastructure, Leadership, and Communication on E-Government Implementation: A Case of Indonesia Local Government," *Budapest International Research and Critics Institute (BIRCI-Journal): Humanities and Social Sciences*, vol. 4, no. 1, pp. 597–612, Jan. 2021, doi: 10.33258/birci.v4i1.1643.