

System Usability Scale (SUS)–Based Evaluation of the PQX Study Program Archival System

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Abstract

Digital transformation has encouraged higher education institutions to implement archival information systems in order to improve the efficiency and effectiveness of records management. The PQX Study Program plans to utilize a digital archival information system as the primary medium for archival services; however, technical constraints and indications of low system usability have been identified. To assess the archival information system in the PQX Study Program, this study utilizes the SUS (System Usability Scale) as its primary evaluation tool. The technical development is guided by the Waterfall model, a traditional yet robust System Development Life Cycle (SDLC) methodology, to ensure all requirements are met through sequential stages. System testing was conducted through black box testing to verify system functionality, while usability evaluation was carried out using the SUS based on user perceptions. The results of the black box testing indicate that the application's functional aspects are valid and operate as expected. Meanwhile, the SUS evaluation involving 10 respondents produced an average score of 60.25, which is below the SUS benchmark score of 98 and falls into category D. These findings suggest that the levels of effectiveness, efficiency, and user satisfaction remain suboptimal, indicating the need for improvements in interface design, process flow, and system usability support.

Keywords: Digital Archive, System Usability Scale, Black Box Testing,

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1. Introduction

In line with the rapid advancement of technology and the increasing demands for the implementation of digital government, the digitalization of records management has become an unavoidable necessity. Efforts to enhance efficiency in both academic and non-academic operational processes are highly dependent on the selection of appropriate solutions, one of which is the adoption of archival information systems within higher education institutions. Several universities perceive that the implementation of information systems can significantly improve the effectiveness of institutional administrative management [1].

In modern higher education institutions, the amount of academic and administrative documentation is increasing at a rapid pace. For instance, in the PQX Study Program, part of a public university, internal records indicate that between October 2024 and December 2025, there were over 5,500 digital files and approximately 1,200 printed documents. During the even semester of 2024/2025, the program's documentation covered a wide range of areas, including management of annual report data, activity reports, teaching and learning materials, official

correspondence, alumni data, research summaries, and community service reports.

The system entails a certain level of complexity due to the diverse characteristics of its users, who differ in age, educational background, length of service, occupational responsibilities, and digital literacy levels. The system's users are categorized into five primary roles: (1) administrative staff, responsible for archive management, (2) lecturers as end users of the system, (3) the Secretary of the Study Program, (4) the Head of the Study Program acting as both decision-maker and user of archival reports, and (5) the Super Admin.

The administrative staff and Super Admin are within the 30–35 age range, possess diploma qualifications, have accumulated more than five years of professional experience, and display a high level of digital literacy. The Head of the Study Program, aged 45, holds a master's degree and has more than 10 years of experience, accompanied by strong digital proficiency. The Secretary of the Study Program, aged 35, also holds a master's degree (S2), has five years of professional experience, and demonstrates good digital literacy skills.

The lecturer group comprises 25 individuals aged 30 to 65 years, with academic qualifications at the master's and doctoral levels, and professional experience ranging from 4 to 40 years. Their digital literacy varies considerably. These differences are largely influenced by generational factors in technology adoption, with senior lecturers generally more accustomed to traditional archival approaches, while younger lecturers tend to adapt more readily to digital platforms. Moreover, variations in daily exposure to technological tools and the intensity of administrative software usage affect the speed at which users understand and integrate new system features. Such diverse user characteristics serve as a primary challenge that justifies the need for a comprehensive usability assessment via the System Usability Scale (SUS).

Considering the scope of the business processes, an integrated archival information system has been created for the PQX Study Program through user needs analysis, a user-centered design approach, and the development of an initial prototype. Consequently, evaluating this prototype is necessary prior to full implementation to ensure that the system adequately fulfills user requirements and enhances overall performance and quality.

The implementation of digital archival information systems is considered highly effective, as it accelerates data storage and retrieval processes while minimizing the risk of information loss [2]. The adoption of archival information systems in educational environments has demonstrated various benefits accompanied by several challenges. The implementation of electronic archiving at SMK Gelora Jaya Nusantara Medan proved effective in streamlining operations. Beyond increasing security and accessibility, the system successfully minimized the financial burden of maintaining physical archives. However, challenges such as the need for staff training and ongoing system maintenance must be addressed to ensure the sustainability and effectiveness of the system [2].

Similarly, the implementation of an archival information system in an office environment, such as the Indonesian State Electricity Company (PLN), Regional Office of Maluku and North Maluku branches proved effective in optimizing administrative workflows. Beyond enhancing document protection, the shift to digital records successfully minimized the financial overhead of maintaining traditional physical archives [3]. Human resource readiness, particularly in terms of staff training requirements and system maintenance, was identified as a critical factor that must be considered to ensure the sustainability and effectiveness of system implementation [3].

The implementation of a dynamic archival information system within the Information Technology Division of

the central office of Perum BULOG was found to enhance work efficiency, accelerate correspondence processes, and support the digitalization of archival management. Nevertheless, the system implementation faced several constraints, including low employee awareness in utilizing the system, technical issues, and operational barriers that hindered optimal system performance [4].

Previous studies have examined the implementation of electronic archives in local government institutions, concluded that the primary challenges lie in regulatory readiness, integration among national-level systems, and human resource competency [5]. The long-term success of digital archival systems depends heavily on well-defined digital SOPs and the technical skills of the staff. Without continuous training and a sustainable technical framework, these systems often fail to reach their full potential [6]. Beside, metadata standards, system interoperability, and legal frameworks are key components that are frequently overlooked during implementation [7].

Nevertheless, several empirical studies indicate that digital archival management practices continue to face significant gaps. Many educational institutions still rely on paper-based or semi-digital archiving systems that are not fully integrated into the academic environment [8]. Consequently, although policy frameworks are in place, practical implementation at archival management units, such as study programs, often lags behind in terms of technical infrastructure, business processes, and user adoption [9].

Research findings further indicate that although archival systems have been widely implemented, optimal levels of usability and user comfort have not yet been fully achieved. Therefore, a more comprehensive analysis of the existing systems is required. Based on these conditions, it is necessary to assess and analyze the usability of archival information systems using the System Usability Scale (SUS) method.

The System Usability Scale (SUS) and Black Box Testing have been applied to evaluate the archival correspondence information system at State Senior High School 2 Sukoharjo, with the objective of assessing both functional quality and overall system usability. The testing results revealed an average SUS score of 83.5, indicating that the system demonstrates a relatively high level of usability from both user and functional perspectives [10].

A previous undergraduate study on the development of a digital archival system at the Centini Village Office evaluated the system using two approaches: Black Box Testing to verify core system functionality and the System Usability Scale (SUS) to measure users' perceived comfort and ease of use. The results indicated that all main system functions operated as

intended, while the SUS score reached 82.19, which falls into the *Excellent* category for usability from the users' perspective. These findings suggest that the website achieved a high level of user acceptance and comfort [11].

However, several empirical studies demonstrate that the application of the System Usability Scale (SUS) in information system evaluations often reveals usability issues that require improvement. Research measuring the Riau Provincial Education Office's online platform via the System Usability Scale (SUS) resulted in an average of 51.87. This performance is categorized as 'Grade F,' reflecting marginal-low acceptability despite receiving a descriptive 'OK' rating [12]. This indicates that although the website remains basically acceptable, user acceptance and comfort levels are relatively low, highlighting the need for improvements in usability and interface design.

Similarly, a study on the iJateng digital library application reported a SUS score of approximately 64.73, which is considered marginal within the acceptability ranges and categorized as grade C on the SUS scale. Although the score does not indicate poor usability, it remains below the commonly accepted SUS benchmark of approximately 68, suggesting that the user experience has not yet reached a satisfactory level [13]. Such findings imply that users still encounter certain usability constraints, particularly related to perceived ease of use and user comfort. Low SUS scores signal that even when a system functions correctly from a technical standpoint, the overall user experience may still be suboptimal, underscoring the importance of user-centered evaluation in information system development.

Preliminary observations indicate that some users continue to experience technical issues, including feature disruptions and interface designs that are not fully user-friendly, leading to operational difficulties. Moreover, there is currently no empirical evidence regarding the usability level of the archival information system in the PQX Study Program based on user perceptions, despite its planned role as the primary platform for archival management services. Therefore, a systematic usability evaluation is essential to ensure that the system effectively supports user needs and institutional workflows.

Based on the preceding discussion, this study focuses on a comprehensive user-centered evaluation stage, specifically usability testing of the archival information system prototype. This focus is driven by the need for further assessment of the archival information system implemented in the PQX Study Program to ensure that it adequately supports user needs and operational requirements. The System Usability Scale (SUS) evaluation was carried out during the system testing phase prior to full-scale implementation, with the objective of assessing the

system's usability and identifying potential areas for improvement before widespread adoption.

This study aims to refine the interface and enhance system features by employing the System Usability Scale (SUS) as its evaluative groundwork. This approach ensures that the archival workflow in the PQX Study Program aligns with user expectations. The expected contribution of this research lies in providing a contextual usability evaluation of an archival information system model tailored to study program-level implementation within higher education institutions. Furthermore, this study offers a methodological template that can be adopted by similar institutions. Consequently, this research not only contributes to the fields of archival management and information systems but also provides practical guidance for educational institutions in implementing comprehensive digital archival transformation.

2. Methods

This study adopts a software engineering research approach, focusing on the analysis and testing of a digital archival information system within the PQX Study Program environment. The research employs a descriptive-qualitative and applied experimental approach, as it not only describes the existing system conditions but also produces a functional prototype that can be systematically tested [14][15]. The system development method applied in this study follows the System Development Life Cycle (SDLC) using the Waterfall model, which consists of four stages: (1) requirements analysis, (2) system design, (3) prototype implementation, and (4) evaluation.

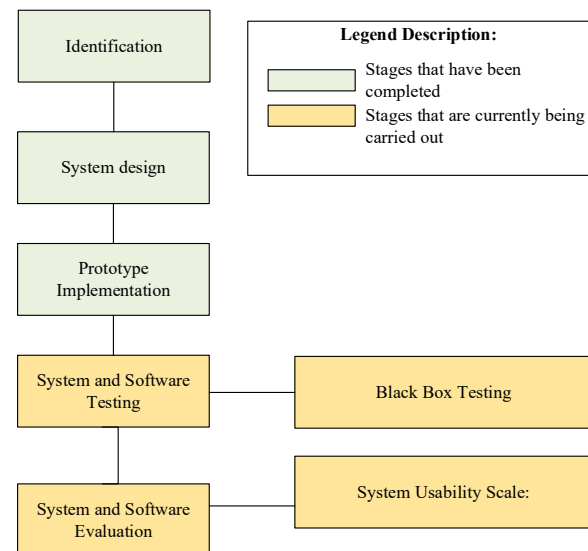


Fig. 1. Research Methodology Stages [16]

Two testing approaches are employed in this study: Black Box Testing and the System Usability Scale (SUS). Black Box Testing is used to verify that all system functions operate in accordance with the predefined requirements. Meanwhile, SUS is applied

as a system evaluation method to assess usability based on user perceptions, encompassing effectiveness, efficiency, and user satisfaction.

The usability evaluation of the PQX Study Program’s archival information system is conducted using the System Usability Scale (SUS), which has been widely utilized for system and software evaluation [16]. The Waterfall model is selected because it provides a structured and systematic development framework that is well suited for projects with clearly defined requirements [17].

2.1 Respondents

This study involved 10 respondents, a number considered sufficient for the prototype implementation and initial evaluation phase before full system deployment. The selection of respondents included all actors who interact directly with the system, consisting of: (1) administrative staff members responsible for archive management, (2) lecturers, (3) the Secretary of the Study Program, (4) the Head of the Study Program as the policymaker and user of archive reports, and (5) the Super Admin. The participation of these 10 respondents is deemed adequate to identify interface issues as they represent the entire user profile (actors).

As Malterud et al. (2016) argue, even a modest sample can effectively represent a population if the participants are chosen for their specific, relevant roles [18]. This shift from quantity to 'information power' is a cornerstone of UX research, where the depth of insight carries more weight than absolute headcounts [19]. By involving 10 respondents who span the entire spectrum of system actors, this study achieves a robust level of representation. Ultimately, the priority here is not to pursue broad statistical scaling, but to pinpoint deep-seated usability obstacles through a group that genuinely reflects the functional ecosystem of the system [20].

Furthermore, based on Nielsen’s principles, 10 respondents are considered more than sufficient to identify interface issues [21]. While Nielsen and Landauer (1993) suggest that 5 participants can uncover approximately 85% of usability problems, employing 10 participants places the evaluation on a statistically robust part of the curve, potentially identifying 95% to 100% of major usability issues.

Beside that, the respondents considered to meet the population representation requirements for the System Usability Scale (SUS) assessment during the early development phase. Given that the research is in its initial stages, this limited number of respondents is sufficient to identify major issues, gather preliminary feedback, and implement improvements before further development.

2.2 System and Software Testing

The application testing stage employed two methods: Black Box Testing and the System Usability Scale (SUS).

2.3 Black Box Testing

Black box testing is a software testing approach that focuses on evaluating system functionality without examining the internal structure or source code of the application [22].

Table 1. System Functional Assessment (Black Box)

No	Indicator	Scenario
BBT01	Homepage	The user can access the application.
BBT02	Login	A registered user can log in to the system dashboard.
BBT03	Upload Data	The system displays the document upload page and stores the data in the database.
BBT04	Edit Data	The user can modify previously uploaded data.
BBT05	View Data	The user can view uploaded data.
BBT06	Delete Data	The user can delete uploaded data.
BBT07	Search Data	The user can search for data.
BBT08	Download Data	The user can download data.
BBT09	Print out	The user can print data.
BBT10	Log out	A registered user can log out of the system dashboard.

2.4 System Usability Scale (SUS)

The System Usability Scale (SUS) is used to measure the levels of effectiveness, efficiency, and user satisfaction of a system [16]. SUS follows a structured procedure for assessing system usability. The initial stage involves the development of a questionnaire consisting of ten statements, each rated using five response options based on a level of agreement scale. After the instrument is prepared, the questionnaire is distributed to respondents. In this study, a total of 10 respondents participated in the usability evaluation.

The System Usability Scale (SUS) is a questionnaire-based usability measurement method consisting of ten statements rated on a five-point Likert scale ranging from “strongly disagree” to “strongly agree.” This method is widely used due to its simplicity, rapid administration, and ability to produce a quantitative usability score from the users’ perspective.

The testing instrument applied in this study was adapted from the standard SUS statements to ensure clarity and ease of understanding for respondents. Each statement represents a single questionnaire item. An example of the mapping between the adapted SUS instrument and questionnaire items is presented in Table 2 [1].

Table 2. Instrument for Assessing Usability (System Usability Scale)

Indicator	Survey Statement (Instrument)
SUS01	I would like to use this application on a regular basis.
SUS02	I found the system to be unnecessarily complicated.
SUS03	I believe the application is straightforward and easy

Indicator	Survey Statement (Instrument)
SUS04	I would likely need help from a technician to use this system.
SUS05	I found the various functions in this system were well integrated.
SUS06	I thought there was too much inconsistency throughout the app.
SUS07	I would imagine that most people would learn to use this very quickly.
SUS08	I found the system very awkward or cumbersome to operate.
SUS09	I felt very confident and capable when using the application.
SUS10	I needed to learn many things before I could start using the system.

All ten statements are answered by respondents, namely employees who will use the application, using a five-point Likert scale. The response options range from *strongly disagree* (1) to *strongly agree* (5), which are subsequently converted into numerical values from 1 to 5.

This procedure constitutes an essential component of quantitative data collection, which is then processed in accordance with the scoring rules of the System Usability Scale (SUS) method.

Table 3. Likert Scale

Likert-Scale Description	Skala
Strongly Disagree	1
Disagree	2
Neutral	3
Agree	4
Strongly Agree	5

3. Results and Discussions

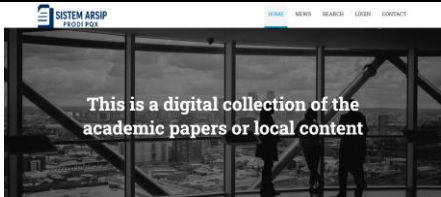
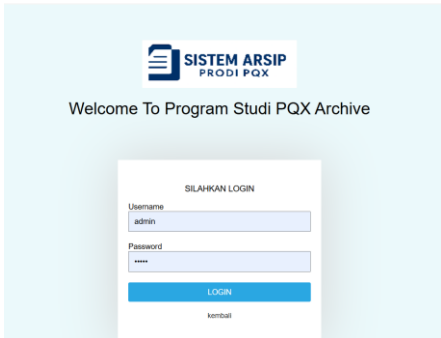
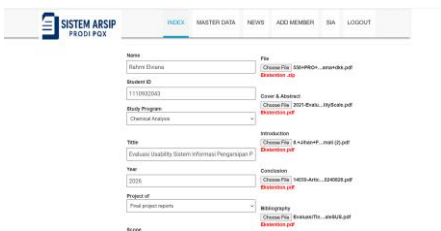
To ensure a comprehensive assessment, the system was validated through functional Black Box Testing followed by a usability evaluation using the SUS framework

3.1 System Functional Assessment (Black Box)

In Black Box Testing, the evaluation was conducted by inputting test data into the application and subsequently examining the generated outputs by comparing them with the predefined functional requirement specifications. If the outputs matched the expected system functions, the system was considered to have met the functional requirements. Conversely, any discrepancies indicated the presence of system errors that required corrective action.

This testing and refinement process was performed iteratively until all system functions operated optimally and complied with the established specifications [22].

Table 4. Black Box Testing Results

No	Indicator	Expected Results	Test Results	Status
BBT01	Homepage	The user can access the application.		Valid
BBT02	Login	A registered user can log in to the system dashboard.		Valid
BBT03	Upload Data	The system displays the document upload page and stores the data in the database.		Valid

No	Indicator	Expected Results	Test Results	Status
BBT04	Edit Data	The user can modify previously uploaded data.		Valid
BBT05	View Data	The user can view uploaded data.		Valid
BBT06	Delete Data	The user can delete uploaded data.		Valid
BBT07	Search Data	The user can search for data.		Valid
BBT08	Download Data	The user can download data.		Valid
BBT09	Print out	The user can print data.		Valid
BBT10	Log out	A registered user can log out of the system dashboard.		Valid

Based on the table above, it can be concluded that the expected aspects of the application have been achieved as intended. All features operate in accordance with the specified requirements, the input and output processes are valid, and no errors were encountered during functional execution. Furthermore, the established

menu structure aligns with the system's functional requirements as defined during the requirements analysis stage.

3.2 System Usability Scale (SUS)

At this stage, the calculation process was conducted using the System Usability Scale (SUS) method. The data presented in the following table represent the questionnaire results collected from 10 respondents, each of whom completed the ten SUS statements using a five-point Likert scale (1–5). The table presents the distribution of respondents' ratings for each statement, which serves as the basis for processing and analyzing the level of user satisfaction.

Table 5. Summary of Respondents' Questionnaire

Respondents	SUS									
	1	2	3	4	5	6	7	8	9	10
01	5	2	5	1	5	2	5	1	5	2
02	4	2	4	4	4	4	4	1	4	1
03	5	4	4	5	4	4	5	5	4	5
04	5	5	5	5	5	5	5	5	5	5
05	5	4	5	4	5	5	5	4	5	5
06	5	4	4	4	5	4	4	4	4	5
07	4	4	4	4	5	4	3	3	4	4
08	5	4	3	5	5	5	3	5	5	5
09	4	5	4	5	5	5	5	4	4	4
10	5	1	5	2	5	1	5	2	5	1

The final SUS score was determined using the standard calculation method. For odd-numbered questions, 1 was subtracted from the user's response. For even-numbered questions, the user's response was subtracted from 5.

Table 6. SUS Score Calculation

R	SUS									
	1	2	3	4	5	6	7	8	9	10
01	4	3	4	4	4	3	4	4	4	4
02	3	3	3	1	3	1	3	4	3	3
03	4	1	3	0	3	1	4	0	3	0
04	4	0	4	0	4	0	4	0	4	0
05	4	1	4	1	4	0	4	1	4	0
06	4	1	3	1	3	0	3	1	3	0
07	3	1	3	1	4	1	2	2	3	0
08	4	1	2	0	4	0	2	0	4	0
09	3	0	3	0	4	0	4	1	3	0
10	4	4	4	3	4	4	4	3	4	0
Score	92,5	37,5	82,5	27,5	92,5	25	85	40	87,5	37,5
Total					602,5					
Score Average					60,25					

Based on the results of the SUS evaluation conducted by distributing questionnaires to 10 system users, the average SUS score obtained was 60.25. According to the SUS scale, a score of 60.25 falls into grade D, indicating relatively low levels of effectiveness, efficiency, and user satisfaction.

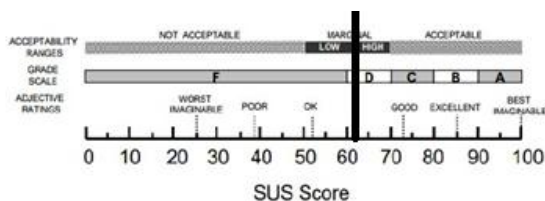


Fig. 2. SUS Score [23]

The results of the usability evaluation of the archival information system using the System Usability Scale (SUS) indicate an average score of 60.25 based on assessments from 10 user respondents. This score is below the SUS benchmark value of 68 [24], suggesting that the system's usability level has not yet reached an optimal standard.

According to the SUS classification, a score of 60.25 falls into grade D, reflecting low to moderate levels of effectiveness, efficiency, and user satisfaction. The analysis of individual questionnaire items indicates that positive statements such as SUS01 (intention to use the application frequently), SUS03 (perceived ease of use), SUS05 (proper functioning of system features), and SUS09 (user confidence when using the application) generally received higher scores. These results suggest that users perceive the system as functionally reliable and capable of supporting their primary tasks.

However, several negatively worded items, including SUS02 (system complexity) with value 37.5, SUS04 (need for assistance from others) with value 27.5, SUS06 (system inconsistency) with value 25, SUS08 (cumbersome usage) with a score of 40, and SUS10 (need for prior learning) with a score of 32.5, exhibited notable variability across respondents. This finding indicates that users experienced inconsistencies in interaction, particularly in terms of interface clarity, workflow structure, and learnability.

3.2.1 SUS02 – System Complexity

Concerning SUS02 (system complexity), respondents reported that the application was challenging to use. This challenge appears to stem from the extensive number of steps involved in certain processes—especially the data upload procedure—which frequently requires filling out numerous fields, sometimes exceeding twelve entries.

Fig. 3. System Complexity

To resolve these usability challenges, multiple design enhancements are suggested. In particular, to minimize system complexity, the long data forms will be redesigned with a stepper interface that divides the upload process into simpler, sequential stages. Furthermore, incorporating auto-fill functionality and concealing optional fields behind toggles will simplify the interface, making it cleaner and lowering the cognitive effort required from users.

3.2.2 SUS04 – Need For Technical Assistance

For SUS04 (need for technical assistance), respondents reported needing help from others to complete tasks, mainly because the system’s workflow and menu functions were not sufficiently clear. To assist users who find certain menus confusing, small help icons with tooltips will be added alongside complex labels. This provides immediate guidance, reducing the need to repeatedly consult the manual.

3.2.3 SUS06 – System Inconsistency

Additionally, for SUS06 (system inconsistency), users reported inconsistencies across different sections of the interface. A clear example is the lack of a return button in some modules; for instance, after entering the search window, users must click the homepage logo or use the taskbar menu to navigate back, instead of having a straightforward back option.

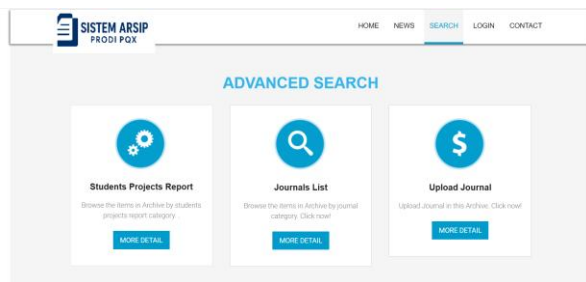


Fig. 4. System Inconsistency

To improve navigation (SUS06), the system should enhance consistency. Implementing breadcrumbs at the top of each page (e.g., Home > Journal > Search) will provide users with a clear way to retrace their steps without having to start over from the homepage

3.2.4 SUS08 – Cumbersome Usage

For SUS08 (cumbersome usage), respondents indicated that the application felt slow and burdensome due to overly complicated procedures. A notable example was the decline in system performance during high-volume data uploads, such as in the journal upload section, which contributed to perceptions of inefficiency and technical lag.

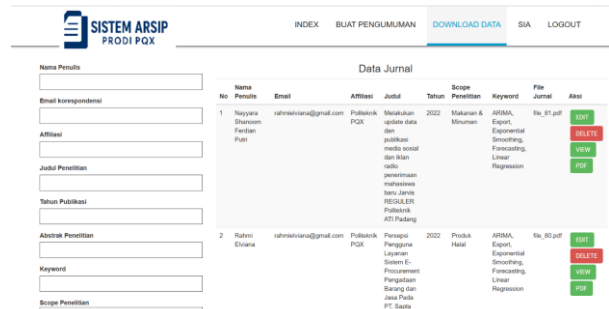


Fig. 5. Cumbersome Usage

To improve processes considered cumbersome, particularly during large data uploads, both backend and frontend enhancements are needed. Implementing asynchronous processing would prevent the user interface from freezing, allowing users to continue working while data is processed in the background. This should be complemented with a real-time progress bar displaying percentage completion, providing clear visual feedback that reduces user frustration and the impression of system delays.

3.2.5 SUS10 – Need for Prior Learning

For SUS10 (need for prior learning), respondents reported that effective use of the application requires prior training or orientation. Without guidance, navigating new features is challenging, as the current manual alone is insufficient for fully understanding and utilizing the system’s technical functions.



Fig. 6. Need for Prior Learning

Furthermore, to reduce the learning curve (SUS10), the static manual should be substituted with an interactive guided tour and a searchable in-app knowledge base. These digital support features help make new functionalities more accessible and comprehensible, facilitating a smoother onboarding process for all users.

Furthermore, the SUS scores varied considerably among respondents, ranging from a minimum score of 42.5 to a maximum score of 95. This wide range reflects differing user experiences and suggests that usability perceptions are not yet uniform across all users. While some users found the system highly usable, others encountered difficulties that negatively affected their overall experience.

Overall, the average SUS score of 60.25 indicates that the system has achieved an acceptable level of

usability; however, improvements are still required, particularly in enhancing simplicity, interface consistency, and ease of learning. Addressing these aspects is expected to improve user satisfaction and elevate the system's usability to a higher category.

3.3 Comparison Between Black Box Testing and System Usability Scale (SUS)

Black Box Testing focuses on verifying whether system functionalities operate according to specified requirements, whereas the System Usability Scale (SUS) evaluates users' perceived usability and overall user experience.

The Black Box Testing results show that all system functions operate in accordance with the designed specifications. However, the usability evaluation using the System Usability Scale (SUS) yielded a score of 60.25, indicating that although the system functions correctly, the levels of user comfort and ease of use still require improvement. This finding demonstrates that functional system success does not necessarily correspond to high user satisfaction.

For example, in SUS item number 2, respondents perceived the application as complex to use. This perception may be attributed to the excessive number of steps required for a single process, such as uploading journal data, which demands the input of multiple data fields. Additionally, users require a learning period to become familiar with the system, even though a user manual is available on the initial login page. Consequently, while such issues may not be detected through Black Box Testing, they are strongly perceived by users during the SUS evaluation.

Based on these findings, further evaluation and refinement of the archival information system in the PQX Study Program are necessary to support the development of a system that is genuinely user-oriented and aligned with user needs.

4. Conclusions

Based on the results and discussion of this study, it can be concluded that the implementation of a digital archival information system in the PQX Study Program represents a strategic initiative in supporting the digital transformation of archival management within higher education institutions. Functional testing using the Black Box Testing method demonstrated that all major system features—including login, document management, search, download, printing, and logout processes—operated properly and in accordance with the functional requirements defined during the system requirements analysis stage. The System Usability Scale (SUS) evaluation was carried out during the system testing phase prior to full-scale implementation, with the objective of assessing the system's usability and identifying potential areas for improvement before widespread adoption.

Furthermore, the usability evaluation conducted using the System Usability Scale (SUS), involving 10 user respondents, produced an average score of 60.25. This score is below the SUS benchmark value of 68 and falls within grade D, indicating that the levels of effectiveness, efficiency, and user satisfaction with the archival information system are not yet optimal. These findings suggest that although the system functions correctly from a technical perspective, users still encounter difficulties in understanding the system workflow and do not yet feel fully comfortable operating the system.

The system's interface requires several focused improvements to evolve from a complex prototype into a more user-friendly platform. A key enhancement is replacing long, single-page forms with a stepper layout, which reduces the cognitive load during data entry. To improve navigation, the addition of breadcrumb links and help icons with tooltips will offer clear pathways and immediate guidance without relying on a manual. On the technical side, implementing background processing and real-time progress bars will enhance responsiveness during high-volume uploads. Finally, incorporating an interactive guided tour will ease the learning curve for new users, ensuring that all system actors can effectively use the platform from the outset.



The results of this study emphasize that the success of archival information system implementation is determined not only by functional performance but also significantly influenced by the quality of system usability. Therefore, it is recommended that future research conduct System Usability Scale (SUS) evaluations both before and after system implementation to enable a comparative assessment of usability improvements. This approach would provide more comprehensive insights into the effectiveness of system enhancements and support iterative system refinement to achieve higher usability levels. This study is expected to serve as a reference and foundation for the development of digital archival systems in other study programs or educational institutions with similar characteristics.

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