ANALYSIS OF THE EDLINK APPLICATION USING THE SYSTEM USABILITY SCALE (SUS) IN RELATION TO USER SATISFACTION

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ABSTRAK

Penelitian ini bertujuan untuk mengevaluasi tingkat kegunaan (usability) dan kepuasan pengguna terhadap aplikasi EdLink dengan menggunakan metode System Usability Scale (SUS). SUS merupakan alat penilaian kegunaan yang terdiri dari 10 butir pertanyaan—lima bersifat positif dan lima bersifat negatif—yang diberi skor kemudian dikonversi menjadi total nilai dalam rentang 0 hingga 100. Hasil penilaian diinterpretasikan melalui Grade Scale, Adjective Rating, Acceptability Ranges, dan Net Promoter Score (NPS) untuk memberikan gambaran menyeluruh mengenai persepsi pengguna. Aplikasi EdLink memperoleh skor SUS sebesar 74,7, yang termasuk dalam kategori Grade B dengan penilaian "Good", menunjukkan bahwa aplikasi ini cukup mudah digunakan dan telah memenuhi kebutuhan dasar pembelajaran digital. Hasil tersebut berada pada kategori "Acceptable", meskipun masih terdapat beberapa keterbatasan, seperti belum adanya notifikasi otomatis, akses terbatas terhadap transkrip akademik, serta belum tersedia fitur pengunduhan data akademik. Sebagian besar pengguna diklasifikasikan sebagai "Passive" dalam hasil NPS, yang menunjukkan tingkat kepuasan umum namun antusiasme yang masih terbatas untuk merekomendasikan aplikasi ini kepada orang lain.

***Kata Kunci**: Kegunaan , System Usability Scale (SUS), Kepuasan Pengguna, EdLink.*

ABSTRACT

This study aims to evaluate the usability and user satisfaction of the EdLink application using the System Usability Scale (SUS) method. SUS is a usability assessment tool consisting of 10 items—five positive and five negative—scored and converted into a total score from 0 to 100. The results are interpreted using the Grade Scale, Adjective Rating, Acceptability Ranges, and Net Promoter Score (NPS) to provide a comprehensive view of user perceptions. The EdLink application received a SUS score of 74.7, categorized as Grade B and rated "Good," indicating that it is fairly easy to use and meets essential digital learning needs. It falls under the "Acceptable" range, although some limitations remain, such as the lack of automatic notifications, limited access to academic transcripts, and no academic data download feature. Most users were classified as "Passive" in the NPS, suggesting general satisfaction but limited enthusiasm to recommend the app

Keywords: Usability, System Usability Scale (SUS), User Satisfaction, EdLink

1. INTRODUCTION

Over time, technology has become essential in accessing information. This shift has driven advancements in software, alongside the increasing complexity of information systems that now play a critical role in many aspects of life. Information technology is defined as a set of tools used to collect, process, store, and disseminate information to support decision-making and control within organizations (Sysoieva et al., 2023) . The influence of IT has significantly transformed business paradigms, laying the groundwork for the emergence of e-commerce and other digital services. As such, information technology has become an indispensable component of modern life.

Mobile applications are designed to offer convenient access to services, yet in practice, not all users experience this convenience. A key factor shaping user experience is the application's usability well-designed apps offer intuitive interfaces, clear navigation, and adequate support to help users complete tasks efficiently. Conversely, a lack of usability can lead to confusion, frustration, and decreased satisfaction.

Usability consists of five core dimensions: effectiveness, efficiency, safety, utility, and learnability (Weichbroth, 2020). To meet user needs, developers must incorporate usability evaluations throughout design and testing phases, using user feedback to identify and resolve usability issues. A user-centered approach helps create applications that are not only functional but also enjoyable, enhancing loyalty and long-term adoption.

User satisfaction plays a vital role in building a positive brand image and sustaining platform reputation. It is defined as the user's emotional response after comparing actual product performance to their expectations (Sedighi et al., 2022). Satisfied users are more likely to continue using an application and recommend it to others, driving user growth and retention.

Achieving high satisfaction requires understanding user needs, preferences, and behavior. This can be done through user research, feedback collection, and direct experience analysis. Providing responsive and high-quality user support is also critical in fostering satisfaction and loyalty. Continuous updates and improvements are essential to meeting evolving user expectations.

One of the key drivers of user satisfaction is usability, which refers to the degree to which a product enables users to achieve their goals effectively, efficiently, and with satisfaction (Ferreira et al., 2020) . In mobile apps, usability is reflected through intuitive navigation, clear visual design, and smooth functionality.

This study focuses on evaluating user satisfaction and the user interface (UI) design of the EdLink application a digital education platform that supports online teaching and learning. EdLink facilitates interactions between educators and students through features such as assignment submission, discussion forums, announcements, and integration with various digital education tools.

Despite its widespread use, several usability challenges have been observed at Universitas Sangga Buana YPKP. Users, especially those less familiar with technology, have reported difficulties accessing certain features. Common issues include non-intuitive navigation, a confusing interface, and technical problems with uploading or downloading materials.

To address these concerns, this research gathers feedback from EdLink users at Universitas Sangga Buana YPKP through testimonials and usability testing. The aim is to assess user understanding of EdLink's features and identify obstacles that hinder their experience. The findings will inform improvements to the UI, with a focus on enhancing efficiency, usability, and overall satisfaction.

Through ongoing development EdLink is expected to offer a better user experience for the academic community. These improvements will not only boost satisfaction but also encourage wider adoption across educational institutions, solidifying EdLink's role as a reliable and effective learning platform..

1.1 Information System

Information systems play a vital role in managing daily transactions and supporting operational, managerial, and strategic functions within organizations. They also generate essential reports for external stakeholders such as governments, investors, and business partners. By improving data processing efficiency, information systems enhance the quality of information, supporting better decision-making and organizational performance.

According to (Salbiah & Nasution, 2024), an information system involves the collection, processing, analysis, and dissemination of information for specific purposes. Laudon and Laudon . define it as a set of interrelated components that collect, process, store, and distribute information to support decision-making and control. emphasizes the integration of people, hardware, software, databases, networks, and procedures working together to transform and distribute information within an organization. In summary, an information system is not merely a technical tool but an integrated framework that supports organizational effectiveness and strategic goals (Adama et al., 2024).

1.2 Usability

Usability refers to the extent to which a system, application, or website can be used easily, effectively, efficiently, and satisfactorily by users to achieve specific goals. In the context of websites, usability measures how well a site supports user navigation, task completion, time efficiency, and overall satisfaction.

Usability is the degree to which an application interface facilitates user convenience, simplifying interactions and daily activities (Ali et al., 2022). Similarly, (Issa & Isaías, 2022) defines usability as the extent to which an application helps users complete their tasks effectively. Thus, usability involves not only the visual design but also how well the system functions to support user needs.

2. METHOD

The System Usability Scale (SUS) is one of the most widely used and popular evaluation methods for assessing the usability level of a system (Ferreira et al., 2020). The method was originally developed by John Brooke in 1986 as a simple yet effective measurement tool for evaluating a wide range of digital services and products, including software, hardware, web-based applications, and mobile apps.

The strength of SUS lies in its flexibility, simplicity, and its ability to be used across various types of systems without requiring significant time or resource investment. Moreover, this method is known for its reliability in producing consistent usability evaluations that are comparable across different systems or products.

The SUS method is based on data collection through a standardized questionnaire consisting of 10 items. These items are designed to assess user experience when interacting with the system under evaluation. Each item reflects specific usability aspects such as ease of use, efficiency, and user comfort during interaction.

This balance allows for a more objective evaluation of the system. Below is the SUS questionnaire as adapted from (Ferreira et al., 2020):

Table 1. Statement

No	Statement
1.	I think that I would like to use this application frequently.
2.	I found the application unnecessarily complex.
3.	I thought the application was easy to use.
4.	I think that I would need the support of a technical person to be able to use this application.
5.	I found the various functions in this application were well integrated.
6.	I thought there was too much inconsistency in this system.
7.	I would imagine that most people would learn to use this application very quickly.
8.	I found the application very cumbersome to use.
9.	I felt very confident using the application.
10.	I needed to learn a lot of things before I could get going with this application.

sing a Likert scale from 1 to 5, where 1 represents "Strongly Disagree" and 5 represents "Strongly Agree". These responses are later converted and analyzed as part of the SUS scoring process.

2.1 SUS Score Calculation

The System Usability Scale (SUS) is a quantitative method used to measure the usability level of a system based on users' perceptions. This method employs a standardized questionnaire consisting of 10 statements, each rated on a 5-point Likert scale.

1) Score Conversion
   The SUS questionnaire contains two types of statements: positive (odd-numbered) and negative (even-numbered). User responses must be converted before scoring:
   - For odd-numbered items (1, 3, 5, 7, 9): Subtract 1 from the user's score.
   - For even-numbered items (2, 4, 6, 8, 10): Subtract the user's score from 5.
   - This conversion ensures that higher scores consistently reflect more positive user experiences.
2) Score Summation
   Once all item scores are converted, they are summed to generate a raw total score for each respondent.
3) Final Score Calculation
   The raw total is then multiplied by 2.5 to produce the final SUS score on a 0–100 scale.
   This score represents the user's overall perception of system usability. The average of all respondents' SUS scores is used to provide a general usability overview of the application.

2.2 SUS Score Analysis

After the SUS score is calculated for each respondent using the procedure described earlier, the next step is to perform an interpretive analysis to provide meaningful insights into the usability level of the EdLink application. This analysis applies several approaches to ensure a comprehensive understanding of user experience from different perspectives.

To support a more holistic interpretation, the table below summarizes the SUS evaluation criteria, including SUS score range, adjective rating, percentile rank, acceptability category, and Net Promoter Score (NPS) classification. This table is widely used as a benchmark for comparing the usability of different systems (Bangor et al., 2009):

Table 2. System Usability Scale Score Interpretation and Benchmark Ratings

SUS Score	Adjective Rating	Percentile Rank	Acceptability	NPS
84.1–100	Best Imaginable	96–100	Acceptable	Promoter
80.8–84.0	Excellent	90–95	Acceptable	Promoter
78.9–80.7	Good	85–89	Acceptable	Promoter
77.2–78.8	Good	80–84	Acceptable	Passive
74.1–77.1	Good	70–79	Acceptable	Passive
72.6–74.0	Good	65–69	Acceptable	Passive
71.6–72.5	Good	60–64	Acceptable	Passive
65.0–71.0	OK	41–59	Marginal	Passive
62.7–64.9	OK	35–40	Marginal	Passive

51.7–62.6	OK	15–34	Marginal	Detractor
0–51.6	Worst Imaginable	0–14	Not Acceptable	Detractor

In addition to the numerical and categorical analysis, a graphical representation is also included to visually illustrate the SUS score interpretations across the different categories.

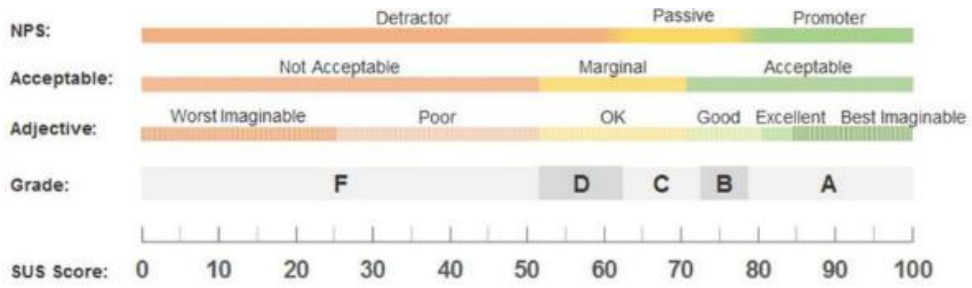

Figure 1. SUS score interpretations across the different categories

The following sub-sections elaborate on each interpretation method used:

1) Percentile Rank
   Indicates where the application's SUS score stands compared to global usability scores of other systems. For example, a score in the 90th percentile means the application is among the top 10% in usability performance.
2) Grade Scale
   SUS scores are converted into letter grades such as A+, A, B, C, D, or F. A+ or A signifies excellent usability, while scores below C indicate the need for significant improvement.
3) Adjective Rating
   Provides subjective descriptions for SUS scores using labels such as Best Imaginable, Excellent, Good, OK, Poor, and Worst Imaginable. This helps capture users' intuitive perceptions of usability.
4) Acceptability Ranges
   Categorizes whether a SUS score is acceptable based on established usability standards:
   - Acceptable: Indicates the system meets user expectations and functions well.
   - Marginal: Usability is acceptable but could be improved.
   - Not Acceptable: Usability is poor and requires major enhancements.
5) Net Promoter Score (NPS)
   NPS assesses user loyalty and the likelihood of users recommending the application to others:
   - Promoters: Highly satisfied users with strong likelihood to recommend.
   - Passives: Moderately satisfied users but not enthusiastic.
   - Detractors: Dissatisfied users likely to provide negative feedback.

3. RESULTS AND DISCUSSION

Based on the data obtained from 100 respondents who completed the SUS questionnaire, each participant's usability score was calculated. After statistical analysis, the highest SUS score recorded was 95.00, and the lowest score was 50.00. The most frequently occurring score (mode) was 75.00, reported by 19 respondents (19%). This suggests that users provided relatively high ratings, indicating a generally positive perception of the application's usability.

To assess how effectively the EdLink system can be accepted and used by users, the System Usability Scale (SUS) was employed. SUS is a widely used quantitative evaluation method in usability testing of information systems, offering a simple yet valid representation of user satisfaction and perception (Sauro, 2011).

To provide more meaningful and contextual interpretation of the SUS score, five interpretive approaches were used: Percentile Rank, Grade Scale, Adjective Rating, Acceptability Ranges, and Net Promoter Score (NPS). The following are explanations and interpretations based on each approach:

3.1 Percentile Rank

Percentile Rank helps determine the relative standing of the system's SUS score when compared to existing benchmarks or previous studies. According to Bangor et al. (2009), the global average SUS score is 68, corresponding to the 50th percentile. Any score above 68 is considered above average in usability performance.

In this case, the EdLink application achieved a SUS score of 74.7, which places it at the 71.80th percentile. This means the system performs better than approximately 71.8% of other systems that have been assessed using the SUS framework. This score clearly indicates a favorable user experience, positioning EdLink as a strong and usable system, especially when compared to similar platforms. According to Sauro (2011), systems that score above the 70th percentile are already within the threshold for "good usability" and are deemed suitable for actual operational use.

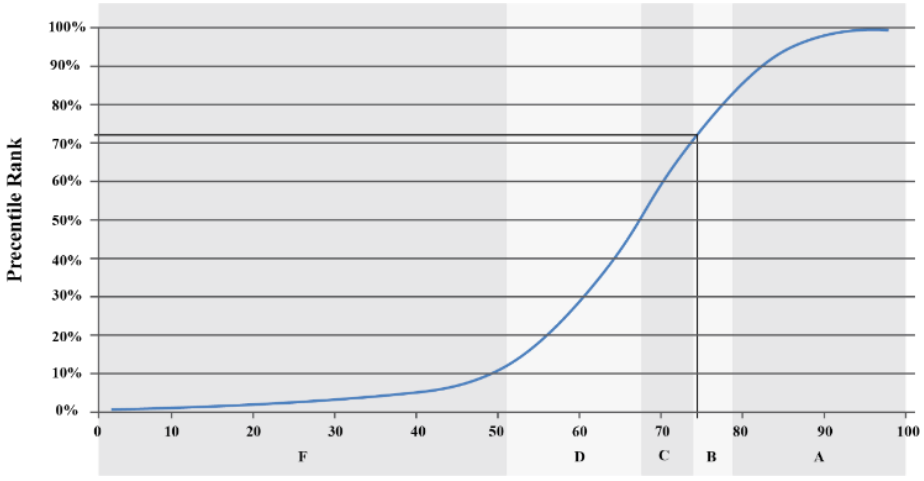

Figure 3. SUS Percentile Rank Distribution Curve

3.2 Grade Scale

The Grade Scale converts numeric SUS scores into academic-style letter grades, ranging from A (Excellent) to F (Poor), making it easier for stakeholders to interpret results. This method was developed by Sauro (2011) to communicate usability results in a more familiar and relatable format.

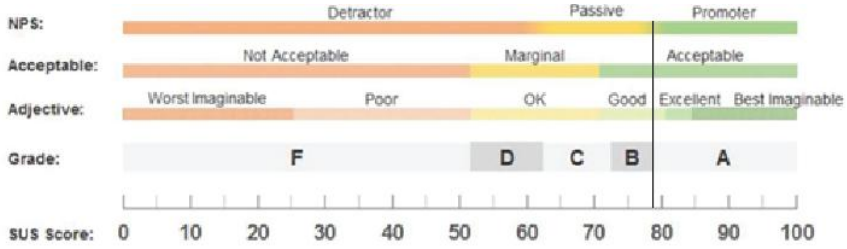

Figure 4. SUS Grade Scale and Corresponding Adjective Ratings

Based on this grading system, the EdLink system's score of 74.7 falls within Grade B, which signifies a good level of usability. While it does not reach the top grades (A or A+), Grade B still reflects a system that meets key usability standards, such as ease of navigation, functional consistency, and effectiveness in task completion. As noted by Lewis & Sauro (2009), systems scoring within this range are generally well-received by users and can be considered reliable, although there is still room for optimization and enhancement (Lewis & Sauro, 2009).

3.3 Adjective Rating

This approach maps SUS scores to descriptive qualitative labels to better capture how users feel about a system. The adjectives range from "Worst Imaginable" to "Best Imaginable" and serve to simplify the interpretation of numerical scores into everyday language (Bangor et al., 2009).

With a SUS score of 74.7, the EdLink application falls under the "Good" category. This suggests that users experienced satisfaction, low frustration, and general comfort while using the system. The adjective "Good" implies that the application performs well in key areas such as interface responsiveness, ease of learning, and overall task support, even though there remains potential to improve into the "Excellent" category.

3.4 Acceptability Ranges

This framework, proposed by Bangor et al. (2009), classifies SUS scores into three major acceptability categories:

- Not Acceptable: SUS ≤ 51.6
- Marginal: SUS 51.7–71.0
- Acceptable: SUS > 71.0

With a score of 74.7, the EdLink system falls into the Acceptable range. This means that users consider the system suitable and usable for regular operations. Being in this category indicates that the application has passed a critical threshold of usability, confirming its adequacy in supporting user tasks without causing significant cognitive load or confusion. Thus, EdLink can be classified as a functionally successful system from a usability standpoint.

3.5 Net Promoter Score (NPS)

The Net Promoter Score is a widely-used metric to gauge user loyalty and their likelihood to recommend a product or service. In relation to SUS, Sauro (2011) established a relationship between SUS scores and NPS categories:

- Detractors: SUS ≤ 62.6
- Passives: SUS 62.7–78.8
- Promoters: SUS ≥ 78.9

With a SUS score of 74.7, EdLink users fall into the Passive group. This classification implies that while users are generally satisfied, they are not yet enthusiastic enough to promote or recommend the system to others. According to Reichheld (2003), passive users are not necessarily dissatisfied, but they are also not emotionally connected enough to act as advocates for the product.

This highlights the importance of continued system development, particularly in enhancing features that contribute to delightful and engaging user experiences—such as improving interface design, reducing response time, and adding personalized features. These enhancements may help convert passive users into loyal promoters in the future.

3.6 Usability Level of the EdLink Application Based on the System Usability Scale (SUS) Method

Based on the data collected from 100 respondents, the usability level of the EdLink application was analyzed using several key indicators, namely the Grade Scale, Adjective Rating, Acceptability Ranges, and Net Promoter Score (NPS). In terms of the Grade Scale, the majority of respondents (43%) rated the application with a Grade B. This indicates that, in general, the application is perceived as a good system and is sufficiently capable of meeting user needs for learning and academic management activities. This rating suggests that the app's features and interface have adequately supported effective use, although there is still room for improvement toward achieving optimal performance.

In addition, 17% of users assigned a Grade A, reflecting a very high level of satisfaction and suggesting that the application excels in terms of functionality and ease of use. On the other hand, 24% of users rated the application with a Grade C, indicating that a portion of users perceived the system as standard or average, and that it still fell short of their expectations. Furthermore, around 16% of respondents

provided low ratings (Grades D and F), signifying unpleasant experiences or significant challenges in using the application, whether related to technical performance, interface design, or system responsiveness.

The Adjective Rating results offer a more subjective view of users' perceptions. Approximately 55% of respondents described the EdLink application as "Good," suggesting that a majority of users found the system functional and suitable for learning processes. However, only about 17% rated it as "Excellent" or "Best Imaginable," implying that only a small portion had an outstanding user experience. Conversely, 26% classified the app as "OK," meaning that while it is adequate, it does not offer added value or a notably positive impression for some users. Additionally, 2% of respondents rated it as "Worst Imaginable," signaling a serious usability concern that should not be overlooked.

From the Acceptability perspective, 72% of respondents rated the application as "Acceptable," a strong indication that the system meets the usability standards expected by most users in a digital learning environment. However, 26% considered the application to be only marginally acceptable, suggesting concerns regarding system consistency or ease of access. Moreover, 2% rated it as "Not Acceptable," pointing to critical issues that should be addressed promptly in order to improve the overall user experience and system reliability.

From the standpoint of Net Promoter Score (NPS), 25% of users fall under the "Promoter" category, indicating strong satisfaction and a likelihood of recommending the EdLink application to others. This loyal user base is a valuable asset for the future development and sustainability of the application. However, the majority of respondents—69%—were categorized as "Passive," meaning that while they are generally satisfied, they do not feel strongly enough to actively endorse the app. This implies that, although the system meets basic needs, it has yet to deliver a truly remarkable experience that fosters strong emotional engagement or user loyalty. Meanwhile, 6% of users were classified as "Detractors," suggesting dissatisfaction or a negative experience, with little intention of recommending the app.

Overall, these findings demonstrate that EdLink exhibits a fairly good usability level and is suitable for use by most of its users. The system is able to meet fundamental digital learning needs and provide users with the necessary convenience. However, the analysis also indicates the need for improvements, especially in refining features, enhancing the user interface to be more intuitive and user-friendly, and optimizing system performance for better responsiveness and stability. Continuous development efforts are crucial to increase user satisfaction, reduce dissatisfaction, and encourage more users to become active promoters—not just satisfied but also enthusiastic enough to recommend the app to others. Therefore, incorporating user feedback into design and feature enhancements is a key strategy to ensure EdLink continues to grow and deliver optimal value to its users.

3.7 User Satisfaction Level Toward the EdLink Application Based on System Usability Scale (SUS) Evaluation

The Grade Scale approach, which translates SUS scores into letter grades, provides a clear interpretation of the EdLink application's usability quality. With an overall SUS score of 74.7, the application falls under Grade B, signifying a good level of usability. This means that most users can operate the application smoothly for key functions, although certain areas still need further optimization. The Grade B rating suggests that EdLink already satisfies several important usability standards, including ease of navigation, consistent layout, and clear menu structures.

According to the Adjective Rating, the 74.7 score places EdLink in the "Good" category. Users generally feel satisfied and comfortable using the application due to its responsiveness and minimal technical errors. However, the score has not reached the "Excellent" category, which would represent a superior and highly satisfying user experience. This implies that while usability is solid, there is still room for improvement in terms of creating a more pleasant and seamless user journey.

From the Acceptability Ranges perspective, EdLink is considered "Acceptable." This means the application is appropriate and generally suitable for daily academic use. Users are able to complete essential tasks—such as checking schedules, reviewing grades, and managing academic data—without encountering significant difficulties. The category also implies that the application does not create unnecessary cognitive load or confusion, contributing to a smooth user experience.

However, several issues were identified by users during the evaluation process. One major concern is the lack of an automated notification system to alert users about class schedules or changes. Currently, users must manually open the app to check for updates, which can result in missed information and disrupt academic activities.

Another issue pertains to limited access to the Study Result Card (KHS), which is only viewable at certain times without clear explanations regarding access deadlines. This causes discomfort, as users cannot access their academic results whenever needed, particularly for urgent administrative purposes.

The application also lacks features that allow users to download key data, such as transcripts and personal profiles. Currently, users can only view the data within the app, with no options for exporting or saving the information in file formats. This limits flexibility, especially for users who need this data for printing, submission, or personal archiving.

Furthermore, several features in the application were found to be underutilized or even unused by many users. This indicates a mismatch between the features offered and the actual needs of users. Unnecessary or redundant features

may clutter the interface and reduce efficiency, ultimately affecting the overall user experience.

These findings suggest that although EdLink demonstrates good usability and is generally well-accepted, there are still notable limitations in its practical, everyday use. This is also reflected in the NPS results, which show a majority of users categorized as "Passive." In other words, while users are moderately satisfied, they have not yet developed strong emotional attachment or enthusiasm for the application that would compel them to recommend it to others.

In conclusion, the evaluation results indicate that the EdLink application is functional and meets most of the users' basic academic needs. Nonetheless, the functional shortcomings highlighted by users offer critical insights into how people interact with the application in their daily academic routines. These insights provide a realistic overview of both the strengths and areas of improvement in EdLink based on direct user experience.

4. CONCLUSION

Based on the research findings and discussion, the conclusions drawn from this study are as follows:

1) Based on the usability level analysis of the EdLink application using the System Usability Scale (SUS) method, it can be concluded that overall, the application has met the criteria of feasibility and user comfort for the majority of its users. This is reflected in the fact that most respondents gave a Grade B rating and an Adjective Rank of "Good," as well as placed the application in the "Acceptable" category and the "Passive" category in terms of Net Promoter Score (NPS).
2) The usability evaluation results of the EdLink application using the SUS method, with a score that falls under Grade Scale "B", Adjective Rating "Good", Acceptability "Acceptable", and NPS level "Passive", indicate that the application provides a fairly good level of user satisfaction. Most users find the application easy to use, convenient, and efficient in helping them complete their academic tasks, thus meeting the basic needs of daily usage. However, although functional satisfaction has been achieved, users' emotional attachment and enthusiasm to actively recommend the application remain relatively low. This indicates that the user experience has not yet been able to build strong loyalty or encourage word-of-mouth promotion effectively.

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