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Investigating User Perceptions and Usability of Academic Information System Among Public Health Undergraduates in Kuningan

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Abstract. This research is designed to review user perceptions and usability of Academic Information System (SIAKAD) in undergraduate at Public Health Students, Kuningan. The aim is to determine how users perceive the usability of the system (ease, effectiveness and satisfication) and where there can be improvements. We assesed using the User Experience Questionare (UEQ), capturing six standard dimensions and two locally adapted ones: Security and Accessibility. A total of 51 respondents participated in the survey. The results indicated that all standard UEQ dimensions were rated in the "Above Average" category, with Perspicuity and Efficiency being the most notable strengths. Conversely, the Novelty dimension received lower scores, suggesting limited innovation in the system's design. The other two dimensions of Security and Accessibility performed well above industry standards as users feel more secure with their data and access the system. Overall, the system performed well in pragmatic aspects, particularly clarity and reliability. These outcomes provide useful lessons for future system modifications such as improving interface design, multi-device accessibility, and reinforcing security features.

Keywords: User Perceptions, Usability, Academic Information System (SIAKAD), Public Health Students, UEQ Evaluation

1. Introduction

SIAKAD, or the Academic Information System, is a digital infrastructure that serves as the operational backbone of higher education academic management. This system provides services such as KRS (Complete Study Plan Card), Grade Management, Attendance Management, Fee Monitoring, Financial Services, and Lecturer Consultation. Educational institutions are transitioning from traditional computing systems, and academic services are now offered using web-based and mobile information technologies (Saleh et al., 2022; Ibrahim & Aziz, 2022; Lasawali et al., 2022).

The completeness of features is only one aspect in the success of an information system implementation, but the extent to which it is usable and user perceptions about the system are also important. A non-user-friendly system can be an issue as it makes students feel, at best, uneasy and confused or, at worse, hesitant in both the academic and administrative processes (El Aadmi-Laamech et al., 2024; Abaricia & Delos Santos, 2023). Academic platforms suffer from issues like complex interfaces, sluggish system responses, and non-intuitive navigation. Consequently, understanding how users perceive the e-learning system and if it is easy to use

is key to supporting user acceptance and utilization by students (Saleh et al., 2022; Hinderks et al., 2019).

Perceived usability in educational systems was measured through the User Experience Questionnaire (UEQ) used by several studies. Saleh et al. Strengths of the LMS in Jordanian recent studies included dependability (Al-Saqaf et al. In Malaysia, a similar study was performed by Ibrahim and Aziz (Jan 16, 2022) and the results showed no strong tendency towards usability giving an implication for system improvement. In Indonesia, Lasawali et al. Cherawolo (2022) conducted the usability test on SIAKAD and discovered that the entrepreneurial level was too low, efficiency is convenient but the novelty of tested system was less efficient.

Therefore, this study aimed to assess the perception of and the usability of SIAKAD from Public Health students in a private university in Kuningan Regency. The utility of the UEQ lie on its main six dimensions; Attractiveness, Clarity, Efficiency, Dependability, Stimulation, Novelty This study formulates that a considerable perceived usability can be assessed in all these aspects (Saleh et al., 2022; Hinderks et al., 2019; Pratama et al., 2022).

2. Method

2.1 Methodological Framework and Instrument Justification

Academic systems usability is vital in enabling student engagement & administrative effectiveness. The degree to which users can interact with a product or system effectively, efficiently, and in a satisfying way to achieve their goals is what usability means (Hinderks et al. Poor usability in higher education can result in frustration, errors and reduced use, particularly those systems that are performing tasks crucial to users or customers such as course registration (Abdullah Ibrahim & Aziz Paharun, 2022), grading, academic consultation.

This paper specifically examines Sistem Informasi Akademik (SIAKAD), a form of digital applications on academic data management that is used by many educational institutions for tasks such as making Study Plan Cards (KRS), accessing transcript score, and loin system to liaise with lecturers (Lasawali et al., 2022; Pratama et al., 2022). Since SIAKAD becomes dominantly central in university operations, it is crucial to evaluate from the student view user usability aspect.

User experience is evaluated through the User Experience Questionnaire (UEQ) standard questionnaire scale that measures six key aspects: Attractiveness, Perspicuity, Efficiency, Dependability, Stimulation and Novelty (Schrepp et al. 2017; Schrepp 2023). It is one of the most used tools to assess learning platforms, mobile applications, and academic systems (Saleh et al., 2022; Bayu Ck & Setiawsan, 2021). We add two dimensions locally adapted to the Indonesian academic context namely Security and Accessibility, to take into account specific user considerations.

Previous research suggests the UEQ to be good in assessing academic applications. For instance, Saleh et al. Another study conducted on dependability in Jordan LMS found it as a strength (2022), while Malaysia accorded neutral usability perceptions, particularly at the Novelty dimension once again (Ibrahim et al. In Indonesia, Lasawali et al. (2022) and Pratama et al. Similarly, the literature (2022) utilized UEQ to gauge SIAKAD and learning platforms in addition, supporting that the instrument is still relevant. More recently, Ballard et al. (2025) reported the importance of balancing hedonic and pragmatic quality in user satisfaction.

The choice of UEQ in this study is motivated by these theoretical considerations and empirical findings, that are crucial to guarantee an assessment tool that achieve both methodological rigor and contextual relevance in measuring user perceptions of the SIAKAD system.

2.2 Types and Approaches of Research

This research applies a descriptive evaluative method to evaluate the student use of the Academic Information System (SIAKAD) with quantitative approach. The study was implemented based on the evaluation which extended using User Experience Questionnaire (UEQ) instrument with the addition of two new dimensions called Security and Accessibility to conform with these needs in academic circumstance users.

2.3 Population and Sample

The population in this study was all active fourth-semester students of Public Health Study Program at Universitas Bhakti Husada Indonesia which is a private college in Kuningan Regency. The method of determination was purposive sampling where only those respondents were selected that are real users of the system. The survey was conducted online via Google Forms, and 51 respondents were recruited from a total population of 102 students.

2.4 Data Collection Instruments and Techniques

Data were collected using the UEQ, consisting of 26 core items and 4 additional items for Security and Accessibility. Each item employed a 7-point Likert scale, later converted to a –3 to +3 scale.

$$UEQ\ Score = Raw\ Score - 4$$

To help respondents understand and evaluate the usability of the system accurately, a screenshot of the SIAKAD interface is embedded in the questionnaire as in figure 1 and its features are in figure 2 :

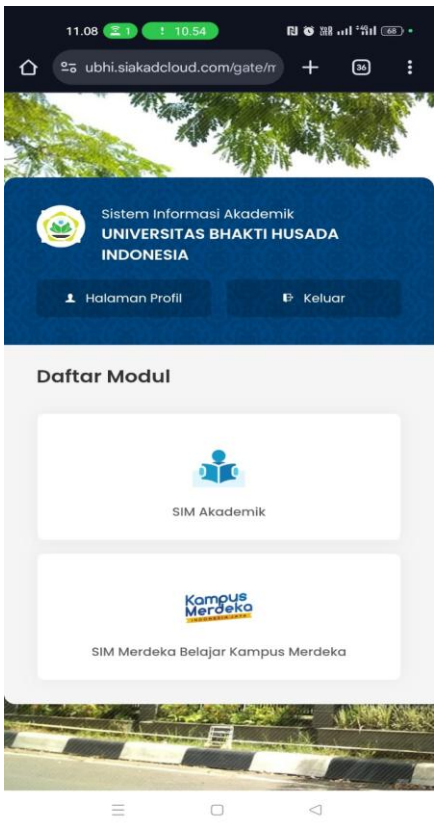

Figure 1. SIAKAD Homepage Interface

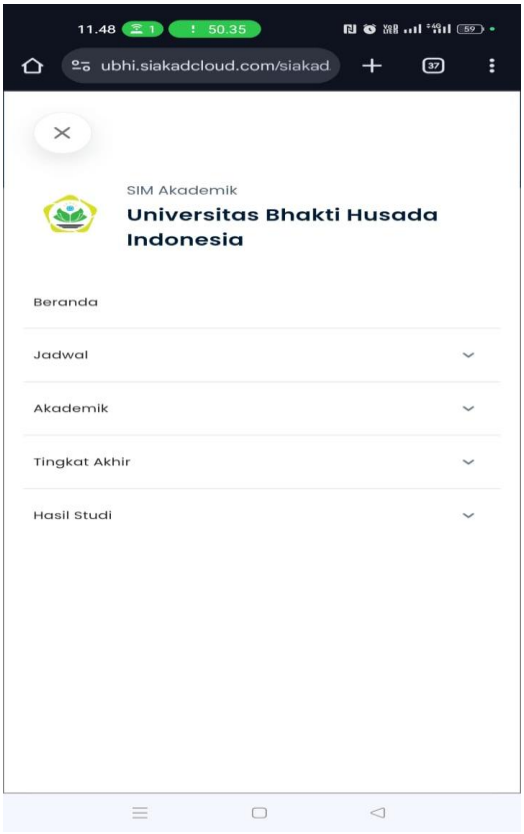

Figure 2. SIAKAD Feature

2.5 Data Analysis Techniques

Data analysis is carried out through the following steps **:**

- Score Conversion: Likert scores (1–7) are converted to the UEQ scale (–3 to +3).
- Dimensional Average Calculation: The average of each item is calculated and averaged again to obtain the dimension score. Example :

$$Dimension\ Score = \frac{Average\ Item\ 1 + Average\ Item\ 2}{2}$$

- Benchmark Interpretation: The average dimension scores are compared with the official UEQ benchmark As shown in table 1:

Table 1. UEQ Benchmark

Category	Score Range
Excellent	> 1.84
Good	1.58 – 1.84
Above Average	1.18 – 1.57

Below Average	0.70 – 1.17
Bad	< 0.70

- Data Visualization : Results are displayed in the form of bar graphs, both for the main and additional dimensions as well as pragmatic and hedonic quality classifications .
- Validation: A limited trial (pre-test) was conducted to test additional items. Reliability results using Cronbach's Alpha showed an α value > 0.78 (acceptable category).

2.6 Research Limitations

This study was conducted only in one study program and semester, so the generalizability of the results is limited. Additional dimensions were only validated through expert judgment and a small-scale pre-test, which may limit their broad applicability. Further research is recommended, including cross-program analysis and advanced statistical tests such as factor analysis.

3. Results and Discussion

3.1 Summary of Number of Respondents

The number of respondents was 51 students who had met the criteria as active SIAKAD users, without recording personal data such as gender or age to maintain the research focus on user experience and respondent privacy.

3.2 UEQ Dimension Results

3.2.1 Average Score per Dimension

The average results for each UEQ dimension are shown in Table 2, It can be seen that Perspicuity obtained the highest score (1.51) in the Above Average category, while Novelty only obtained a score of 0.76, which indicates a lack of innovation aspects :

Table 2. UEQ Dimension Result

UEQ Dimension	Average Score	Benchmark Category
Attractiveness	1.41	Above average
Perspicuity	1.51	Above average
Efficiency	1.48	Above average
Dependability	1.18	Above average
Stimulation	1.15	Above average
Novelty	0.76	Above average

As shown in Figure 3, it shows a comparison of the scores of the six UEQ dimensions in the form of a bar chart, so that the differences in strengths and weaknesses of each dimension are seen more clearly :

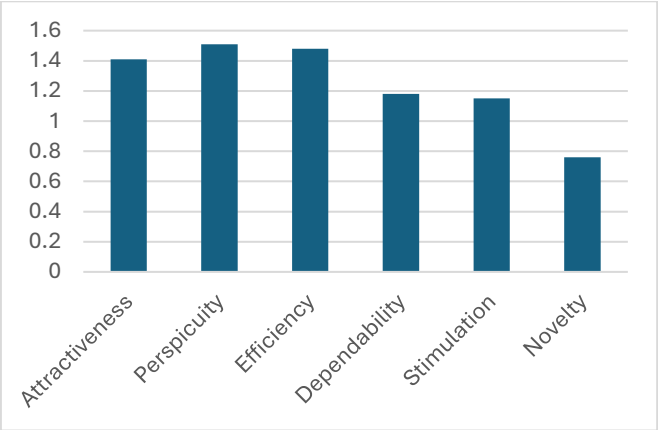

Figure 3. Diagram UEQ Dimension Result

3.2.2 Benchmark Interpretation

All standard UEQ dimensions were rated within the “Above Average” category. Perspicuity scored the highest, indicating that users perceived the system as clear and easy to understand. In contrast, Novelty received the lowest score, reflecting perceptions of the system being less innovative or fresh in design.

3.2.3 Evaluation Item

Statements such as “easy to use” and “pleasant” obtained high scores, particularly supporting the Perspicuity and Efficiency dimensions. On the other hand, terms like “innovative” and “creative” scored lower, which aligns with the lower score in the Novelty dimension. This suggests the system requires enhancements in creative design elements to increase engagement.

3.2.4 Pragmatic and Hedonic Quality

As shown in Table 3, pragmatic quality (1.39) is higher than hedonic quality (0.96). This indicates that this system is superior in terms of clarity, efficiency, and reliability compared to creativity or enjoyment :

Table 3. Pragmatic and Hedonic Quality

Quality Category	Score
Attractiveness	1.41
Pragmatic Quality	1.39
Hedonic Quality	0.96

As shown in Figure 4, it strengthens these findings by displaying a comparison of pragmatic and hedonic qualities in visual form :

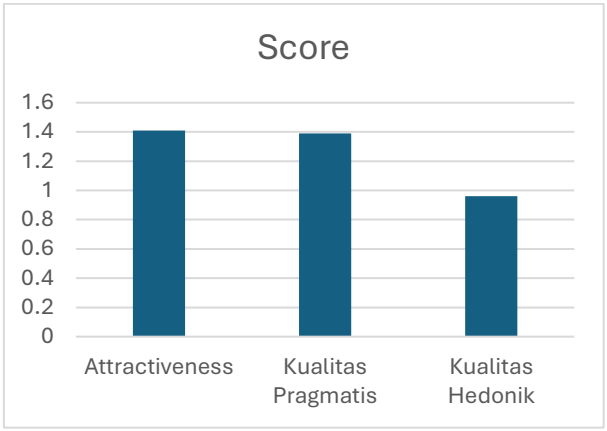

Figure 4. Pragmatic and Hedonic Quality

3.3 Additional Dimensions: Security and Accessibility

As shown in Table 4, the results for two additional dimensions, Security and Accessibility, are displayed. Both dimensions scored above average, indicating that users felt secure in accessing data and easily accessed the system from various devices :

Table 4. Security and Accessibility

Additional Dimensions	Average Score	Interpretation
Security	1.50	Above Average
Accessibility	1.27	Above Average

As shown in Figure 5, the score results for these additional dimensions confirm the positive contribution of security and accessibility to user satisfaction :

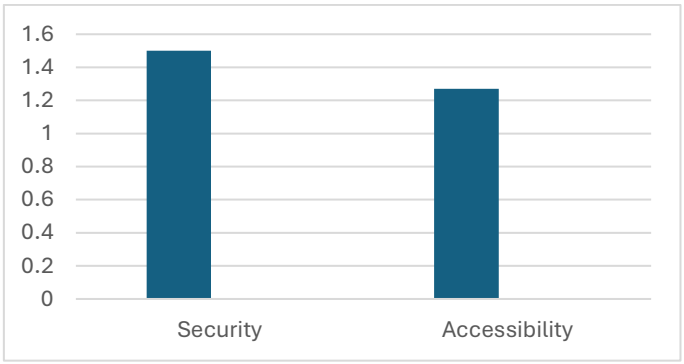

Figure 5. Security and Accessibility

Positive scores on the two additional dimensions indicate that users feel secure when accessing the system and can access it easily from a variety of devices. This aligns with locally relevant UX principles.

3.4 Discussion

The evaluation results indicate that the academic information system provided a fairly good user experience. Dimensions such as perspicuity and efficiency stood out, indicating ease of use and system efficiency. Although the novelty score was low, this opens up opportunities for more innovative system design improvements.

The addition of the Security and Accessibility dimensions is a significant contribution. In the context of online systems, students are highly concerned about account protection and ease of access. The positive scores support previous studies by Saleh et al. (2022) and Ibrahim and Aziz (2022), which emphasize the importance of adapting UX instruments to the user's local context. As shown in Figure 6, the overall results for all dimensions, both standard and additional, provide a comprehensive picture of the SIAKAD user experience :

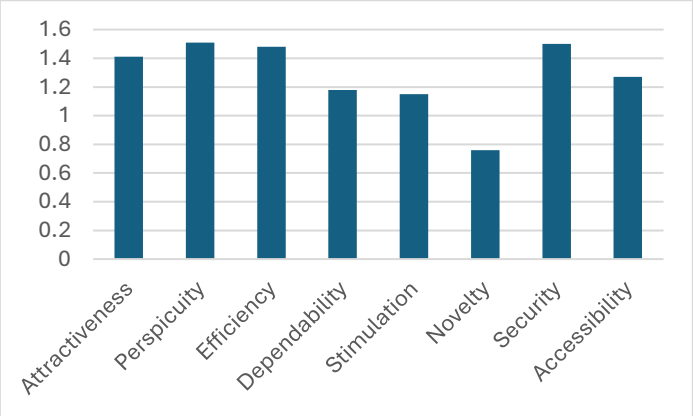

Figure 6. Result of all Dimension

The findings of this study were also compared with various previous studies to determine the relative position of this system's UX in national and international contexts. Compared to Saleh et al.'s (2022) study in Jordan, where the reliability dimension was a key strength with a score of 1.55, this study recorded a score of 1.18 on the same dimension, still in the Above Average category. This slight difference indicates that while SIAKAD in the Indonesian context is reliable, there is still potential to improve the system's stability and consistency. A study by Ibrahim and Aziz (2022) in Malaysia showed relatively neutral UX scores across various dimensions, particularly Novelty, which was also low (<1.0). This aligns with the current findings (0.76), suggesting that the lack of innovation in the academic system may be a broader regional challenge, rather than a local issue.

At the national level, Lasawali et al. (2022) showed a high score for efficiency (1.40), which is nearly equivalent to the results of this study (1.48). However, the clarity dimension (1.51) emerged as a distinct strength in this study, a finding that has not been widely emphasized in similar studies in Indonesia. This reinforces the assertion of Schrepp et al. (2017), who noted that clarity of interaction is often a determining factor in overall user satisfaction, especially in educational platforms that prioritize ease of navigation.

The relatively low hedonic qualities, such as novelty and stimulation, align with the observations of Hinderks et al. (2019), who argued that pragmatic qualities (e.g., efficiency, reliability) often dominate in utilitarian systems, while hedonic aspects are less developed. Ballard et al. (2025) further highlight the importance of balancing pragmatic and hedonic qualities, as long-term user satisfaction depends not only on functional ease but also on engaging and stimulating design. In this regard, the current findings suggest that SIAKAD should move beyond reliability and clarity to develop innovative and interactive features.

Furthermore, the integration of Security and Accessibility as locally adapted dimensions strengthens the contribution of this study. As illustrated by Pratama et al. (2022), contextual adaptation of usability instruments ensures better alignment with users' actual needs. The high scores for these two dimensions (1.50 and 1.27, respectively) also align with recent insights from El Aadmi-Laamech et al. (2024), who emphasized the growing importance of safe and inclusive digital platforms for enhancing student well-being.

Overall, this cross-context evaluation highlights that the evaluated systems were positively perceived in terms of pragmatic usability qualities (perspective, efficiency, dependability), while hedonic qualities such as novelty and stimulation require improvement. These findings align with those of Lu et al. (2025), who advocate expanding the evaluation framework beyond technology usability to create meaningful and engaging learner experiences. Thus, the results obtained not only validate the chosen methodological approach but also provide an empirical basis for developing more adaptive and innovative UX for academic systems in the future.

4. Conclusion

This study evaluated user perceptions and the usability of the Academic Information System (SIAKAD) among Public Health undergraduates in Kuningan using the User Experience Questionnaire (UEQ). All six standard UEQ dimensions were rated in the "Above Average" category, with Perspicuity and Efficiency emerging as the primary strengths that reflect the system’s clarity and ease of use, while Novelty received the lowest score, indicating the need for interface innovation and design enhancement. The locally adapted dimensions of Security and Accessibility also scored positively, showing users’ trust in system security and the convenience of multi-device access. Comparative analysis with similar studies in Jordan and Malaysia revealed that the evaluated system excelled in pragmatic aspects, particularly Perspicuity and Dependability, although the challenge of low Novelty scores was consistent across contexts. To improve usability, developers are encouraged to modernize the interface with interactive and user-friendly designs, ensure mobile device compatibility, strengthen security measures such as two-factor authentication, and integrate user analytics features to align future system upgrades with evolving user needs.

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