

Analysis of User Satisfaction of Acces by KAI Application Using User Experience Questionnaire (UEQ) Method

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Abstract

including in the transportation sector. Advances in information technology have encouraged companies to innovate in providing faster, more practical, and efficient services to meet user needs. One of them is PT Kereta Api Indonesia officially releasing the access by KAI application. However, in the access by KAI application there are indications of poor user experience which shows user dissatisfaction in using the access by KAI application. This study aims to determine the extent to which the Access by KAI application meets user expectations in terms of ease of use, effectiveness in helping users achieve their goals, and to determine the level of user experience felt during the use of the application. The method used in this study is the User Experience Questionnaire (UEQ) method to measure user experience with 6 assessment scales including attractiveness, perspicuity, efficiency, dependability, stimulation, and novelty. The results of the UEQ questionnaire showed that respondents had a positive impression of the Access by KAI application where the survey results showed a positive evaluation with a mean value > 0.8 and all aspects of the Access by KAI application were categorized in "Above Average" this means that in general it has quite good performance but still needs improvement.

Keywords: *User experience; Access by KAI; User Experience Questionnaire*

Abstrak

Perkembangan teknologi saat ini telah mempengaruhi berbagai aspek kehidupan masyarakat secara luas, termasuk dalam sektor transportasi. Kemajuan teknologi informasi telah mendorong perusahaan untuk berinovasi dalam menyediakan layanan yang lebih cepat, praktis, dan efisien guna memenuhi kebutuhan pengguna. Salah satunya adalah PT Kereta Api Indonesia resmi merilis aplikasi access by KAI. Penelitian ini bertujuan untuk mengetahui sejauh mana aplikasi Access by KAI memenuhi harapan pengguna dalam hal kemudahan penggunaan, efektivitas dalam membantu pengguna mencapai tujuan mereka, serta mengetahui tingkat pengalaman pengguna yang dirasakan selama penggunaan aplikasi. Metode yang digunakan dalam penelitian ini adalah metode User Experience Questionnaire(UEQ) untuk mengukur pengalaman pengguna dengan 6 skala penilaian diantaranya daya tarik (attractiveness), kejelasan (perspicuity), efisiensi (efficiency), ketepatan (dependability), stimulasi (stimulation), dan kebaruan (novelty). Hasil dari kuesioner UEQ menunjukkan bahwa responden memiliki kesan positif terhadap aplikasi Access by KAI dimana hasil survei menunjukkan positive evaluation memiliki nilai mean $> 0,8$ dan semua aspek pada aplikasi Access by KAI dikategorikan dalam "Above Average" hal ini berarti secara umum memiliki performa yang cukup baik tetapi masih memerlukan perbaikan.

Kata kunci: Pengalaman pengguna; Access by KAI; User Experience Questionnaire

INTRODUCTION

Science and technology provides rapid improvements in this era. Technology shows progress where all daily activities can be done easily and quickly just by accessing the internet. Information technology provides access to interactions between humans that can be carried

out anytime, anywhere, in any situation and reach globally (Luthfia et al., 2023). The advancement of information technology has influenced various aspects of people's lives widely, including in the transportation sector. The presence of information technology today has a positive impact on people's ability to communicate and travel quickly, safely, and comfortably. Technology plays a very

important role in meeting the needs of society in this field(Sudirman et al., 2020).

The increasingly advanced growth of information technology has caused a company to strive to provide services using information technology in order to provide fast and practical services. A very rapid development which is considered important in life and to support productivity mobility, currently is the means of transportation. It can be seen that the condition of excessive use of transportation vehicles causes traffic jams, especially during rush hours, conditions where public and private employees, school children, self-employed workers and various elements of society flock from one place to another with vehicles which will cause excessive intensity, the roads are crowded with two-wheeled or four-wheeled vehicles and even pile up on the road without any movement. In this day and age, service businesses are growing rapidly, including transportation. One example of a daily problem currently of concern to society today is transportation(Tristanti et al., 2020).

According to (Sugianto, 2020) in Salim (2000) transportation is the activity of moving goods (cargo) and passengers from one place to another. Transportation can be defined as an effort and activity to transport or carry goods and/or passengers from one place to another. The government also has a State-Owned Enterprise (BUMN) engaged in land transportation, namely PT Kereta Api Indonesia (Persero). Trains are transportation that has its own lane that is free of obstacles and can also carry more passengers than other land transportation. Based on Law Number 23 of 2007, the definition of a train is a railway facility with motive power, either running alone or coupled with other railway facilities, which or are moving on rail tracks related to train travel. Because this train is managed by a BUMN, the services provided are included in the category of public service. According to the Central Statistics Agency (BPS) in 2019, trains are a means of land transportation that has the ability to transport large numbers of passengers and goods over long and short distances. Trains are an option for both upper and lower middle class people who are looking for practicality and comfort to reach their destination. In providing transportation services, trains are managed by a State-Owned Enterprise, namely PT. KAI (Widiyatmoko, 2018)

The high use of the internet in Indonesia has become a trigger for companies to follow the wishes of the community, namely by creating various types of mobile applications that can be used in purchasing food, delivering services,

purchasing fashion goods, and in purchasing tickets. According to Suwondo (2017) (Falaahuddin & Widiartanto, 2020) mobile applications are software applications created specifically to run on tablets and smartphones. One of the mobile applications that is starting to emerge is the mobile application for purchasing e-tickets.

On August 10, 2023, PT Kereta Api Indonesia officially released the access by KAI application as a modern alternative for the public with innovative features that make train travel easier. The purpose of the KAI Access application is to make it easier for train transportation users when they want to order tickets, choose ticket seats, buy food while on the train, and obtain information through article pages. Therefore, the KAI Access application must be able to run well, attract users, be efficient in its use, easy to use, appropriate according to user needs, and up-to-date(Akbar et al., 2023). However, there are indications of poor user experience supported by many reviews on the play store and app store that show user dissatisfaction in using the access by KAI application. In its implementation, the use of the Access by KAI application is still low, as evidenced by the rating on Google Playstore which is only 2.2. This number is far lower compared to other ticketing applications. Many complaints and negative reviews were found after the update of this application which affected user satisfaction. When the use of external channels and the number of passengers is high, why are the ratings and reviews of the Access by KAI application relatively low(Ahsyar & Fronita, 2025). According to(Muntaha, 2024) based on data on the Google PlayStore, this application received a relatively low rating, 2.3/5.0 as of June 16, 2024. This shows that the Usability value of KAI Access is still relatively low. In fact, according to research conducted by the Journal of User Experience Analysis on the KAI Access Mobile Application using the User Experience Questionnaire (UEQ) Method and Usability Testing (Case Study: PT. KAI)", the number of downloads of this application reached 10 million downloads with KAI Access having entered version 4.9.8 since it was first launched. However, even though it has entered its 8th year of development, the rating of the KAI Access application on the Google Play Store and App Store for the past 3 years and is in the 3-star category and below is still very high. Many reviews from users complain about the poor user experience of the KAI Access application, such as the application running slowly, purchased train tickets often not appearing, inappropriate button placement, and

less flexible payment options. Users feel that the access by KAI application features do not provide fast and efficient access to meet user needs. In addition, users also find it difficult and experience problems while using the application, and have little confidence in the access by KAI application. In terms of interface design, users feel that the access by KAI application interface is uncomfortable and confusing (Solikha et al., 2024). The importance of user satisfaction in information system development cannot be ignored. User satisfaction can be an important guide in the process of developing the system, as well as helping to identify the strengths and weaknesses of the system being implemented. In maintaining the quality of the KAI Access application, it is important to evaluate the system by focusing on user satisfaction (Gading Putri Diniarti et al., 2023). Users who are satisfied with the application will tend to be more loyal, share positive experiences with others, and return to use the application in the future (Ratnawati & Faris, 2023).

User experience is an important aspect in developing digital products or services, because user experience satisfaction can be increased if the relationship between users and products or services can be strengthened by providing a good user experience. However, in addition to technical aspects, the use of applications also has a significant impact on the community environment (Prayoga et al., 2023).

Based on these things, a User Experience Questionnaire (UEQ) evaluation can be carried out, an evaluation that is free and provides a quick overall assessment of user experience. UEQ is part of a classic usability test to get a comprehensive impression of UX from the usability aspect and the experience aspect. User Experience (UX) according to ISO 9241-210 (2010) is the perception or response such as user emotions, beliefs, and preferences of someone who uses a product either before, is using, or has used the product, system or service. UX influences how someone still uses the product or not because good results from user experience can increase user loyalty to the product or service (Fasabuma et al., 2020). The purpose of UEQ is to identify factors that can affect user experience while using a product. The evaluation results of this measurement can be used as a recommendation for improving and developing the access by KAI application in the future, reviewed from several aspects, including attractiveness, pragmatic quality, and hedonistic quality (Indah Tri Handayani et al., 2024).

Thus, this study aims to evaluate the usability of the KAI Access application and provide recommendations for improvements to improve PT KAI's services. The method used in this study is the User Experience Questionnaire (UEQ), which is an effective method for evaluating user experience with an application. This method measures user experience based on several main aspects, such as attractiveness, perspicuity, efficiency, dependability, stimulation, and novelty (Aulia, 2024). By using the UEQ, this study can assess the extent to which the KAI Access application meets user expectations in terms of ease of use, effectiveness in helping users achieve their goals, and the level of satisfaction felt during the use of the application (Muntaha, 2024).

Therefore, based on the background, a study will be conducted entitled "Analysis of User Satisfaction of Access by KAI Application using the User Experience Questionnaire (UEQ) Method". This study focuses on how an application provides a good experience for users and provides convenience to users regarding the accessibility of the application.

RESEARCH METHOD

This study uses the User Experience Questionnaire (UEQ) method with the aim of measuring the level of user experience (UX) when using the Access by KAI application. User Experience Questionnaire (UEQ) is one of the methods used to measure UX (Herawati et al., 2022). According to (Putra et al., 2021) in (Putra et al., 2019). User Experience Questionnaire (UEQ) is a tool or can be called a questionnaire that is easy and efficient to use to find out user experience (UX). This UEQ makes it easier for developers to find out the UX of the design of an information system.

Types of Research

This research uses a descriptive quantitative approach.

Time and Place of Research

Data collection was carried out by distributing questionnaires from February 26 to March 6, 2025 to respondents.

Research Target / Subject

In the respondent determination stage, it is very important to ensure that the respondents are truly users of the Access by KAI application. Potential respondents in this study are Access by KAI users. Respondents are categorized based on

age ranges <20 years, 20–25 years, and > 25 years. This age category aims to find out how many users of the Access by KAI application are in each age group. In addition, respondents come from various professional backgrounds or statuses, such as students, college students, and workers so that they can provide a diverse picture of the use of the Access by KAI application. To measure the UX of a sample that represents users, 20 to 30 users are sufficient to provide a fairly stable measurement (Schrepp, 2019).

Procedur

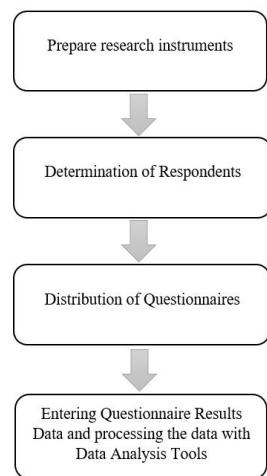


Figure1. Research Procedure



Figure 2. Questions on the EUQ method

At the research procedure stage, this includes preparing instruments in the form of a questionnaire that has been prepared in Google Form format containing 6 assessment scales with 26 question items (Schrepp, 2019) as shown in Figure 2. Then the questionnaire was distributed via WhatsApp social media. Data obtained from respondents can be downloaded into a Google sheet for data processing purposes. At the stage of

processing data with Data Analysis Tools, it includes distributing questionnaires to respondents. In this study, 44 respondent data were obtained. Data from each attribute of the respondents' questions in Google Form were entered into Data Analysis Tools. This Data Analysis Tool (DAT) was developed by Dr. Martin Schrepp to facilitate the UEQ data research process. Data Analysis Tool (DAT) is a Microsoft Excel-based tool programmed by the UEQ team to analyze and process UEQ respondent data. DAT is available and can be downloaded for free on the page <https://www.ueq-online.org/> (Aulia, 2024).

Data, Instruments, and Data Collection Techniques

Data is taken from the results of the questionnaire that has been distributed to respondents with predetermined criteria. Data that has been successfully collected can be downloaded in the form of a google sheet that is used to process data in Data Analysis Tools.

Data analysis technique

Overall, the questionnaire was filled out by 44 respondents, then the data from the questionnaire was entered into the UEQ data analysis table. After that, the transformation was carried out by calculating the value obtained from the UEQ questionnaire minus 4 and obtaining a positive or negative value for each UEQ item. A value of +3 is the highest positive value and -3 is the lowest negative value. The results of the data transformation were then processed to obtain an average value for each aspect of the UEQ (Alawiyah & Canta, 2022).

RESULTS AND DISCUSSION

The results of the analysis of the user experience on the Access by KAI application show that respondents have a positive impression of the Shopee application. This can be seen from the mean value of 26 items that show a positive evaluation (having a mean value > 0.8) (Alawiyah & Canta, 2022).

Table 1. EUQ results

UX Aspect	EUQ Scale Value
Attractiveness	1,32
Perspicuity	1,26
Efficiency	1,33
Dependability	1,27
Stimulation	1,09
Novelty	0,98

Based on the results obtained in table 1 above, the aspect with the highest score is Efficiency (1.33), which indicates that users feel that the Access by KAI application is quite efficient in supporting their needs. The Attractiveness aspect also obtained a high score (1.32), reflecting that users have a positive impression of the appearance and overall experience in using the application.

On the other hand, the aspect with the lowest score is Novelty (0.98), which indicates that users may feel that this application is less innovative or does not present truly new features compared to other transportation applications. In addition, the Stimulation aspect (1.09) also has a relatively low score, indicating that the experience of using Access by KAI does not provide a very pleasant or interesting impression for users.

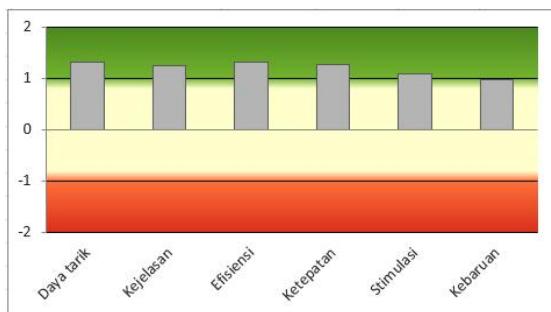


Figure 3. UEQ Access Test Result Graph by KAI

In Figure 3. UEQ testing shows that the Access by KAI application is considered quite effective, with the Efficiency aspect getting the highest score. The Attractiveness aspect is also high, indicating an attractive visual appearance. However, the Novelty aspect gets the lowest score, indicating a lack of innovation. The Stimulation aspect is also low, indicating a less attractive user experience. The graph supports the findings from the table with a visualization of the score range on a scale of -2 to +2. All aspects of user experience are in the positive zone (green), which means that in general the application provides a fairly good experience. However, the Novelty and Stimulation aspects are at the lower limit of the green zone, indicating the need for innovation and feature improvements to increase user engagement..

Table 2. Confidence Intervals Access by KAI values
 Confidence intervals ($p=0.05$) per scale

Scale	Std		Confidence interval
	Mean	Dev.	
Attracti	1,3	1,1	4 0,341 0,9 1,6

ceness	18	42	3	76	59
Persipuc	1,2	1,0	4	0,9	1,5
uity	62	76	3	0,321	40 83
Efficien	1,3	1,0	4	1,0	1,6
cy	26	27	3	0,307	19 32
Depend	1,2	1,0	4	0,9	1,5
ability	67	12	3	0,303	65 70
Stimulat	1,0	1,1	4	0,7	1,4
ion	87	20	3	0,335	52 22
Novelty	0,9	1,0	4	0,6	1,3
	77	98	3	0,328	49 05

The table above displays the intervals (confidence intervals) for each user experience scale based on the results of the User Experience Questionnaire (UEQ) evaluation of the Access by KAI application. These intervals are calculated at a 95% level ($p = 0.05$), which indicates the range of possible true values of the average user experience.

Based on the results shown in the table, the Efficiency aspect has the highest average value of 1.326, with an interval between 1.019 to 1.632. This shows that the majority of users consider the Access by KAI application as a fairly efficient platform in helping them access train transportation services.

The Attractiveness aspect also has a fairly high score with an average value of 1.318 and an interval of 0.976 to 1.659. This indicates that the appearance and design of the application are considered quite attractive by users, providing a comfortable and easy-to-use visual experience.

On the other hand, the aspect with the lowest average score is Novelty (0.977), with an interval of 0.649 to 1.305. This shows that most users feel that the Access by KAI application lacks innovative features or updates that differentiate it from similar applications. The Stimulation aspect (1.087) also has a relatively low value, with an interval of 0.752 to 1.422, which shows that this application has not fully provided an interesting experience for users.

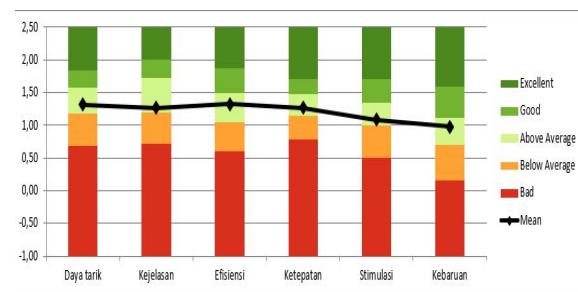


Figure 4. Comparison Results with the Access by

KAI Application Benchmark Scale

The image is a comparison with the benchmark scale of the Access by KAI application. All aspects of the Access by KAI application are categorized in "Above Average" this means that compared to the existing dataset, the Access by KAI application has a mean value that is lower than 25% of the application evaluation results on the dataset. However, the Access by KAI application has a mean value that is higher than 50% of the application evaluation results on the dataset.

CONSLUSIONS AND SUGGESTIONS

Conclusion

Based on the results of the discussion of testing the user experience on the Access by KAI application with samples from the general public, it can be concluded that the 6 scales measured have benchmark results that are categorized as "Above Average", this means that in general it has quite good performance but still requires improvement in various aspects, such as application speed, a more attractive user interface, and the addition of more complete features. By continuing to make improvements, Access by KAI can get closer to the "Excellent" category in meeting user expectations.

Suggestion

Based on the findings that the Access by KAI application received the "Above Average" category but still needs improvement in several aspects, it is recommended that developers focus on improving system optimization and technical performance. In addition, the interface design needs to be updated to make it more attractive and easy to use, by involving users in design testing. Adding advanced features also needs to be considered. To strengthen development, further research should use qualitative methods and benchmarking with similar applications as a reference.

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