Sibatik Journal
Jurnal Ilmiah Bidang Sosial, Ekonomi, Budaya, Teknologi, dan Pendidikan
E-ISSN: 2809-8544

MEASURING THE USER EXPERIENCE OF THE SATUSEHAT APPLICATION WITH THE HEART METRICS METHOD APPROACH

Franciskus Antonius Alijoyo[1]*, Suhaerudin[2], Safina Meilia[3]
School of Business and Information Technology STMIK LIKMI, Bandung, Indonesia[1,2],
CRMS Indonesia[3]
Email: 1antonius.alijoyo@gmail.com[1], heru.pj@gmail.com[2], safinam145@gmail.com[3]

Abstract

Satu Sehat application is a transformation of the Peduli Lindungi application as an important innovation step in an effort to utilise information technology to improve the quality of health services. This study aims to measure user satisfaction or user experience of the SatuSehat application using the HEARTMetric method so as to analyse the application from the point of view of user experience satisfaction which includes Happines, Engagment, Adoption, Retention and Task Success. Data collection was carried out by simple random sampling with respondents used in this research sampling test were 140 respondents. After the data is collected, the validity and reliability of the statement items are tested and analysed using Importance Performance Analysis. Based on the results of the analysis, the main priority that needs to be done is to increase and improve the quality of the Happiness variable. OneHealth application developers need to develop features that make it easier for users, innovate features and socialise the use of application features.

Keywords: SatuSehat, User Experience, HEARTMetric

INTRODUCTION

In an increasingly advanced digital era, the application of information technology in various fields has brought great changes, including in the health sector. The government strongly supports and encourages the utilisation of digital technology for public health in the future. Digital transformation is an important agenda to encourage the realisation of a healthy Indonesia through the use of data and information technology. (Ministry of Health, 2021)

The development of the digital era has made routine and quality data integration an important component in realising digital transformation. Health services in Indonesia continue to transform towards a strong, resilient and integrated health system. One of them is by integrating patient medical record data in health facilities into one *Indonesia Health Services* (IHS) platform called SatuSehat, which was officially launched by the Minister of Health Budi Gunadi Sadikin. The SatuSehat application is an important innovation in an effort to utilise information technology to improve the quality of health services. (Ministry of Health, 2021).

By applying technology, information and communication to the health sector in government or *e-government, it is* hoped that it can provide effectiveness and efficiency and can improve the quality of services to the community. (Santa, MacDonald, and Ferrer 2019). One of the current health problems in Indonesia is fragmented health data due to the large number of applications and limited regulations in standardisation and data exchange. Based on current mapping results, there are more than 400 health applications developed by the central and local governments. This condition makes health policies not fully based on comprehensive data and inefficient health services. (Ministry of Health, 2021).

Franciskus Antonius Alijoyo[1], Suhaerudin[2], Safina Meilia[3]
DOI: https://doi.org/10.54443/sibatik.v3i4.1854

Based on these problems, research related to the SatuSehat application is very important to do, considering that this application has not been introduced for a long time, so there is still little research related to the SatuSehat application. (Albantani 2023) .

User experience measurement plays an important role in mobile application development by involving user experience to achieve the desired goals. (Santosa 2016). The experiences and feelings experienced by users are what is meant by *user experience*. User experience is a feeling experienced by users that is subjective to an application that is used. This *user experience is* the feedback provided by users based on user responses in using an application to achieve goals. (Akbar, Suryanto, and Safitri 2021). User experience not only answers what the user sees but answers why the user has a sense of comfort with the design created when the user uses the application to get the desired goal. (Farnita 2017). The success of the *user experience of* an application is equivalent to the success of the application created, because the better the user *experience*, the user's needs with product features have reached the appropriate level. This can then determine the product can be called valuable or have value (Savira et al., 2020). (Savira, Paputungan, and Suranto 2020).

The SatuSehat application which is a transformation of the Peduli Lindungi application which is an application designed by the government during the Covid-19 pandemic to identify and detect people digitally so that it can help the government to monitor the community for more effective handling. (Hanum et al. 2022). The Peduli Lindungi application has been useful for the community to prevent the spread of Covid-19 and provide valid information about the Covid-19 problem. (Antonius Alijoyo & Haerani, 2022).. Until now, the SatuSehat application has been downloaded from the *play store* 50,000,000 times. However, the user experience of the SatuSehat application is not so good, seen in the rating that can be as much as 3.6 out of 5 stars on the *play store*. Based on the value obtained on the *play store*, there are indications of poor user experience supported by the number of dissatisfied reviews in using the SatuSehat application.

This study was conducted to measure user satisfaction or user *experience of* the SatuSehat application using the *HEARTMetric* method to measure user *experience* based on *user-centered focused*. *HEARTMetric* is the result of the development of Google researchers and has been generalised to several Google companies so it is believed that other organisations can reuse or adapt *HEART*Metric. (Pratama, Lestari, and Aini 2019). By using the *HEARTMetric* method, research or analysis is carried out by considering the user's perspective primarily. With this *user-centered focused* approach, the *HEARTMetric* method can help to obtain more information about how users interact with the application and the extent to which users are satisfied in using the application. (Syahputra et al. 2023). To process the results of the *HEARTMetric* measuring instrument, the *Importance Performance Analysis* method is used to find out what aspects need to be improved in the SatuSehat application.

DOI: https://doi.org/10.54443/sibatik.v3i4.1854

LITERATURE REVIEW

Usage (User Experience - UX)

User experience (UX) is now a fundamental idea in the design and assessment of digital goods, including applications like Satusehat. Hassenzahl and Tractinsky (2006) describe user experience (UX) as the whole user impression and reaction that results from using or expecting to use a product, system, or service. Key elements of UX encompass usability, interface design, user pleasure, and efficacy in addressing user requirements. Zimmermann, (2008) stress that UX extends beyond the practical features of goods to include the emotional and visual experience of consumers.

Within the realm of health applications such as Satusehat, user experience (UX) is gaining significance due to the sensitive and crucial health data they often include. Enhanced usability and intuitive interface design can enhance user convenience and increase the efficacy of utilising the programme in a health-related environment. Harte et al. 2017) study emphasises that problems in UX design for healthcare applications involve addressing the varied and intricate information requirements of users and presenting it in a user-friendly and comprehensible manner.

Veral and Macías (2019) suggest using a metric-based method to evaluate user experience, which provides a structured manner to quantify user pleasure, engagement, and task performance effectiveness. Within the framework of Satusehat, this involves evaluating users' interactions with the app, their effectiveness in attaining their intended objectives, and their emotional reactions to the app. Wilson et al. (2004) emphasised the significance of these metrics in comprehending the impact of application design on user behaviour and well-being.

Research on UX frequently investigates the correlation between technological design and consumers' emotional reactions. According to Nielsen (2013), user-focused design, considering the user's emotional and contextual demands, can result in more fulfilling experiences. For the Satusehat app, this may involve including design features that are not only utilitarian but also stimulate and encourage users to participate in healthier behaviours.

Satusehat Application

The Satusehat application embodies the most recent advancement in digital health technology, integrating elements including health information, personal health monitoring, and consultations with healthcare experts (SOUTH and ASIA 2023). Satusehat, a health application, was created to provide users with convenient access to crucial health information and resources for managing their individual health. Reported a notable rise in the use of digital health applications, suggesting a change in how people obtain health information and services (van Kessel et al. 2023).

This research primarily examines the reception and use of the Satusehat application by its users. Posited in the Technology Adoption Theory (TAM) that consumers' adoption of technology is significantly impacted by their views of usability and simplicity of use (Alsyouf et al. 2023). Wilson et al. (2019) emphasises the significance of information availability and user-friendly navigation in healthcare apps, as they can impact user adoption

and engagement rates. Research conducted by Liu and Tao (2022) indicates that consumers' confidence in the security and privacy of personal data in healthcare applications has a crucial role in increasing overall usage.

The review of Satusehat should also assess the influence of this application on user health behaviour. Chatterjee et al. (2021) found that health applications with tailored feedback can inspire users to embrace a better lifestyle. When assessing Satusehat, it is crucial to examine how its features impact users' health knowledge and behaviour positively. Social and community involvement is crucial in health apps like Satusehat. Liu et al. (2020) said that social interaction in health applications can enhance user motivation and engagement by fostering community building and peer support. Social support has been proven to enhance health outcomes and promote adherence to desirable health behaviours, especially in health-related situations (Fortuna et al. 2020). The inclusion of community forums, accomplishment sharing, and peer-to-peer help in Satusehat could greatly enhance the user experience and promote sustained engagement.

Technology integration and customised content are crucial factors for the effectiveness of health applications such as Satusehat. Agarwal (2023) found that tailoring material to individual health preferences and requirements enhances the pertinence and efficacy of apps. This involves adjusting health advice, establishing individual objectives, and offering tailored information. Additionally, as Kazanskiy, Khonina, and Butt (2024) detail, the incorporation of wearable technologies and health sensors enables more precise and prompt monitoring and feedback. Satusehat's capacity to interact with various technologies and tailor the user experience to unique requirements will be crucial in evaluating user efficiency and approval of the app.

HEART Metrics

Previous research has examined the user experience of different mobile applications utilising HEART Metrics. Research on the Go-Jek app demonstrates how using HEART Metrics may offer profound insights into the user experience. Khakim et al. (2018) utilised a questionnaire issued to 400 respondents to demonstrate that the user experience level of the Go-Jek application is good, indicating the efficiency of the HEART Metrics technique in assessing and enhancing user experience.

Additionally, HEART Metrics have been used to evaluate the Academic Information System (AIS). Pratama et al. (2019) conducted research where a questionnaire was given to 100 participants, showing that not all metrics in AIS align with the predicted goal-signal-Metric set. The results indicate a necessity to revamp the AIS Mobile user interface to enhance interactivity and enhance the app's evaluation in terms of user experience.

An intriguing research project is the implementation of HEART Metrics on the Peduli Lindungi mobile app. In a study by Hanum et al. (2022), feedback from 399 participants was analysed. The study identified many areas for enhancement, such as revamping the programme's look to enhance UI and UX and introducing new features to boost application efficiency and effectiveness.

A recent study on the Flip app demonstrates that integrating HEART Metrics with importance performance analysis might result in more profound insights. Syahputra et al., (2023) administered surveys to 100 participants and identified 8 out of 20 items on the HEARTscale that need improvement. The results highlight the significance of the factors Engagement and Task Success, which are deemed crucial and necessitate prompt improvement.

HEART Metrics may be applied not just to mobile applications but also to numerous other digital platforms. HEART Metrics may gauge customer pleasure, shopping engagement, and task performance, such as browsing for a product or making a purchase, on e-commerce websites. Sharma et al., (2023) conducted a study that demonstrated a notable enhancement in user engagement and customer satisfaction in e-commerce websites with the use of HEART Metrics. This improvement was directly correlated with higher sales and improved customer retention. The study highlights the significance of precise and user-centred assessment in enhancing the entire customer experience.

HEART Metrics are pertinent in the realm of social media, utilised HEART Metrics to assess the efficacy of social media advertising. By utilising HEART Metrics, firms may enhance their ability to monitor engagement and adoption and get insights into how their content connects with viewers. This study demonstrates that HEART Metrics is not only an efficient instrument for monitoring user experience but also a strategic asset in digital marketing.

HEART Metrics is a helpful tool in several digital domains, including mobile apps, websites, and social media. HEART Metrics offers a thorough framework for enhancing the user experience by concentrating on happiness, engagement, adoption, retention, and task success.

METHODS

Data Collection Method

In this research, the method used is *literature review* which aims to collect information related to the research. Literature searches using Google Scholar to facilitate the search for journals or previous research related to case studies or topics relevant to this research in order to obtain a theoretical basis for the research to be carried out. Primary data was obtained using quantitative methods by distributing questionnaires online. The result of this stage is to obtain data that can help the basic argumentation in this research. The stages carried out in this research are arranged with the following charts:

Franciskus Antonius Alijoyo[1], Suhaerudin[2], Safina Meilia[3]
DOI: https://doi.org/10.54443/sibatik.v3i4.1854

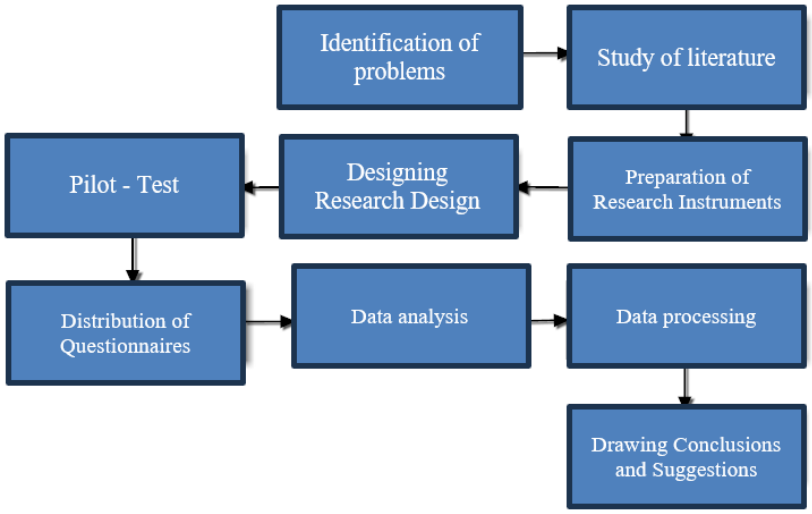

Figure 1: Research Stages

The initial stages of research with the identification of problems through the results of observations made based on ratings and reviews of the SatuSehat mobile application in the *play store* and *literature review* as material in preparing the introduction. Based on the existing problems, the next step is to prepare research instruments based on the *HEARTMetric* model in the research. After the questionnaire has been designed, the next stage is to determine the sampling technique to be used in the study. This study uses a sampling technique, namely *simple random sampling*, where all SatuSehat application users in Indonesia have the same rights as respondents. (Hanum et al. 2022). The sample calculation for this study uses the Slovin formula, as follows.

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

Description:
n = number of samples
N= total population
e = error tolerance limit
(limit set at 10%)

From the data on the number of SatuSehat application downloaders in the *play store*, a sample size of 100 respondents was obtained. The next step is to distribute questionnaires online by distributing links via private messages and social media. After the questionnaire data is collected, data processing is carried out, and continued with data analysis to draw conclusions.

User Experience

According to Garrett (2010) *User Experience* is about considering every possibility of every action that may be performed by users and understanding every step that users take in carrying out the process. (Lachner, Fincke, and Butz 2017)Therefore, *User Experience is* a very important aspect in ensuring that a product provides sufficient service, so that it can satisfy its users when using the application.

DOI: https://doi.org/10.54443/sibatik.v3i4.1854

Hear Metric

HEARTMetric is the easiest framework for identifying goals and measuring *usercentred* success. The *HEARTMetric* approach is not used with a focus on specific variables but there is a structured way to organise the variables that should be used in the evaluation, namely by determining the set of *Goals*, *Signals*, and *Metrics* first. (Flaounas and Kokkinaki 2018). Google researchers suggest that the *HEARTMetric* has 5 variables that are commonly used to measure *User Experience Quality* (UXQ) consisting of *Happiness*, *Engagement*, *Adoption*, *Retention*, and *Task* success. (Rodden, Hutchinson, and Fu 2010).

1) *Happiness is* used to describe metrics that are attitudinal and relate to subjective aspects of user experience, such as satisfaction, visual appeal, likelihood to recommend, and perceived ease of use.
2) *Engagement* here means user involvement with a product. The term is often applied to the frequency, intensity, or depth of interaction over some period of time.
3) *Adoption and Retention* focuses on new products and features such as calculating how many new users are using the product at a time and how many new users are using the product.
4) *Retention* is an aspect to measure the level of user activeness in a period of time so that producers can continue to improve services.
5) *Task Success* includes some traditional user experience behaviours such as efficiency, effectiveness, and error rate.

Table 1. Set *Goals-Signal-Metric*

	Goals	Signal	Metrics
Happiness Engagement Adoption Retention Task Success	The first step is to identify what the purpose of the product or service is based on the HEARTmeasurement tool.	The second step is to challenge how the success or failure of in these goals can be expressed through the behaviour of product users.	The final step is to figure out how to translate the Signal into a measurable metric

Importance Performance Analysis

Importance Performance Analysis (IPA) is a calculation technique used to calculate the importance and performance of various attributes on a product. So that it can find out how high the level of importance and performance of an object of research. In addition, the actions to be taken on these attributes can also be determined. Action options are maintaining, increasing, or reducing priorities. (Suryanto, Fauzi, and Setyohadi 2021). The following are the steps that need to be done in the IPA calculation technique.

1) Calculating performance and importance scores

$$Tki = \frac{Xi}{Yi} \text{ x } 100\%$$

Franciskus Antonius Alijoyo[1], Suhaerudin[2], Safina Meilia[3]
DOI: https://doi.org/10.54443/sibatik.v3i4.1854

Description:
Tki = Respondent's level of conformity
Xi = Performance/reality assessment score
Yi = Importance/expectation rating score

2) Quadrant analysis

$$X = \frac{\sum Xi}{n} \quad Y = \frac{\sum Yi}{n}$$

Description:
X = Performance/perception level score
Y = Importance/expectation score
n = Number of respondents

3) Calculating the score for each item or attribute

$$\bar{\bar{X}} = \frac{\sum_i^N Xi}{k} \quad \bar{\bar{Y}} = \frac{\sum_i^N Yi}{k}$$

Description:
$\bar{\bar{X}}$ = Average performance/perception score
$\bar{\bar{Y}}$ = Average importance/expectation score
k = number of attributes

Research Instruments

In this study, to measure the *Happiness* aspect, the H code is used, for *Engagement* using the E code, for *Adoption using the* A code, for *Retention using the* R code, and for *Task Success* using the T code. Respondents will answer each question item by selecting a value on a Likert scale of 5 to 1, namely Strongly Agree (SS), Agree (S), Neutral (N), Disagree (TS), and Strongly Disagree (STS). The statements on the questionnaire are made with reference to the *HEARTMetric* found in table 2 below:

Table 2. Research Questionnaire Statement

	Statement
H1	I feel satisfied after using the SatuSehat app
H2	I find the SatuSehat app easy to use
H3	I am interested in the appearance of the SatuSehat app
H4	I feel comfortable when using the SatuSehat app
H5	I would recommend SatuSehat app to others
H6	I feel compelled to use the SatuSehat app when I need health services
E1	SatuSehat application can be accessed at any time
E2	All SatuSehat features work well
E3	The features of the SatuSehat app are useful to me
E4	I regularly update the SatuSehat app
E5	I can use the SatuSehat app when I need health information

Franciskus Antonius Alijoyo[1], Suhaerudin[2], Safina Meilia[3]
DOI: https://doi.org/10.54443/sibatik.v3i4.1854

A1	I know how to use the SatuSehat app
A2	SatuSehat app can fulfil my health needs
A3	I need a little time to learn how to use the SatuSehat app
A4	I prefer SatuSehat over other health apps
R1	I often use the features of the SatuSehat app
R2	The quality of the SatuSehat app is good
R3	I will use SatuSehat app for health services
R4	I never *uninstall the* SatuSehat app
R5	I use the SatuSehat app to obtain health information
T1	I can fill in my personal data in the SatuSehat app
T2	I can scan the QR code in the SatuSehat app when entering public spaces
T3	I can view my medical resume in the SatuSehat app
T4	I can see my Covid-19 test results in the SatuSehat app.
T5	I can search for hospitalisation in the SatuSehat app
T6	I can search for health facilities in the SatuSehat app
T7	I can view vaccine and Immunisation certificates in the SatuSehat app
T8	I can use the SatuSehat app for medication reminders
T9	I can view health news on the SatuSehat app

RESULTS AND DISCUSSION

Validity and Reliability Test

A validity test is a test used to determine the extent to which the measuring instrument used in measuring what is measured. Valid indicators will be exactly right to measure what you want to measure. A reliability test is a data analysis method to measure whether the results remain consistent if recalculated. The point is that the questionnaire becomes reliable if the results of respondents' answers to questions are always consistent from time to time. (Sujono and Santoso 2017)

Table 3. Indicator Validity Test Results

Indicators	r count	r table	Sig.	Description
H1	0,678	0,166	0,05	Valid
H2	0,671	0,166	0,05	Valid
H3	0,655	0,166	0,05	Valid
H4	0,728	0,166	0,05	Valid
H5	0,654	0,166	0,05	Valid
H6	0,599	0,166	0,05	Valid
E1	0,605	0,166	0,05	Valid
E2	0,770	0,166	0,05	Valid
E3	0,501	0,166	0,05	Valid
E4	0,718	0,166	0,05	Valid
E5	0,771	0,166	0,05	Valid

A1	0,710	0,166	0,05	Valid
A2	0,713	0,166	0,05	Valid
A3	0,646	0,166	0,05	Valid
A4	0,807	0,166	0,05	Valid
R1	0,665	0,166	0,05	Valid
R2	0,472	0,166	0,05	Valid
R3	0,425	0,166	0,05	Valid
R4	0,517	0,166	0,05	Valid
R5	0,341	0,166	0,05	Valid
T1	0,636	0,166	0,05	Valid
T2	0,576	0,166	0,05	Valid
T3	0,644	0,166	0,05	Valid
T4	0,677	0,166	0,05	Valid
T5	0,787	0,166	0,05	Valid
T6	0,821	0,166	0,05	Valid
T7	0,587	0,166	0,05	Valid
T8	0,682	0,166	0,05	Valid
T9	0,578	0,166	0,05	Valid

From the table, the r-table value in this study is obtained where n = 140 and sig. at 0.05 is 0.166. From the analysis results it is known that the r-count value on each variable item> from the r-table, it can be interpreted that all statement items used are valid and can be used as measuring instruments.

Table 4. HEARTPerformance

Indicators	Cronbach's Alpha	Description
Happiness (H)	0,739	Realiable
Engagement (E)	0,676	Realiable
Adaptation (A)	0,675	Realiable
Retention (R)	0,165	Realiable
Task Success (T)	0,839	Realiable

From the table it is known that the *Cronbach's Alpha* value on the Happiness variable is 0.739> 0.6 Engagement 0.676> 0.6 Adaptation 0.675> 0.6 Retention 0.165> 0.06 and Task Success 0.839> 0.06 from these results it can be said that the statements used are realiable or consistent.

Importance Performance Analysis

The Importance Performance Analysis method can be used to decide whether a variable or instrument should be improved or maintained. This can be done by comparing the decision-making score with the value of the level of conformity (Tki) of each instrument.

Franciskus Antonius Alijoyo[1], Suhaerudin[2], Safina Meilia[3]
DOI: https://doi.org/10.54443/sibatik.v3i4.1854

(Syahputra et al. 2023). After the calculation process, a decision-making score value of 96% was obtained. This value is then compared with the value of the suitability level of each instrument. If the value of the level of conformity is smaller than the decision-making score, an improvement is needed on the instrument marked with the letter A *(Action)* and if the value of the level of conformity is greater than the decision-making score, the instrument performance needs to be maintained marked with the letter H *(Hold)*.

Table 5. Hold and Action

Variables	Indicators	Tki (%)	Score Decision (%)	Hold (H) Action (A)
Happiness	H1	84%	96%	A
	H2	98%	96%	H
	H3	93%	96%	A
	H4	88%	96%	A
	H5	90%	96%	A
	H6	94%	96%	A
Engagement	E1	100%	96%	H
	E2	100%	96%	H
	E3	100%	96%	H
	E4	79%	96%	A
	E5	92%	96%	A
Adaptation	A1	99%	96%	H
	A2	97%	96%	H
	A3	96%	96%	H
	A4	99%	96%	H
Retention	R1	94%	96%	A
	R2	98%	96%	H
	R3	100%	96%	H
	R4	80%	96%	A
	R5	100%	96%	H
Task Success	T1	100%	96%	H
	T2	100%	96%	H
	T3	100%	96%	H
	T4	100%	96%	H
	T5	100%	96%	H
	T6	100%	96%	H
	T7	100%	96%	H
	T8	100%	96%	H
	T9	100%	96%	H

Franciskus Antonius Alijoyo[1], Suhaerudin[2], Safina Meilia[3]
DOI: https://doi.org/10.54443/sibatik.v3i4.1854

Based on the data table above, the instruments that need to be improved because they have a lower suitability level value than the decision-making score are H1, H3, H4, H5, H6, E4, E5, R1 and R4.

Cartesian Diagram Quadrant Analysis

The results of the *Importance Performance Analysis* can be shown in the Cartesian diagram in Figure 2 which is divided into four quadrants. The cartesian diagram will divide each instrument into four different quadrants. The following is an explanation of each instrument in each quadrant in the cartesian diagram.

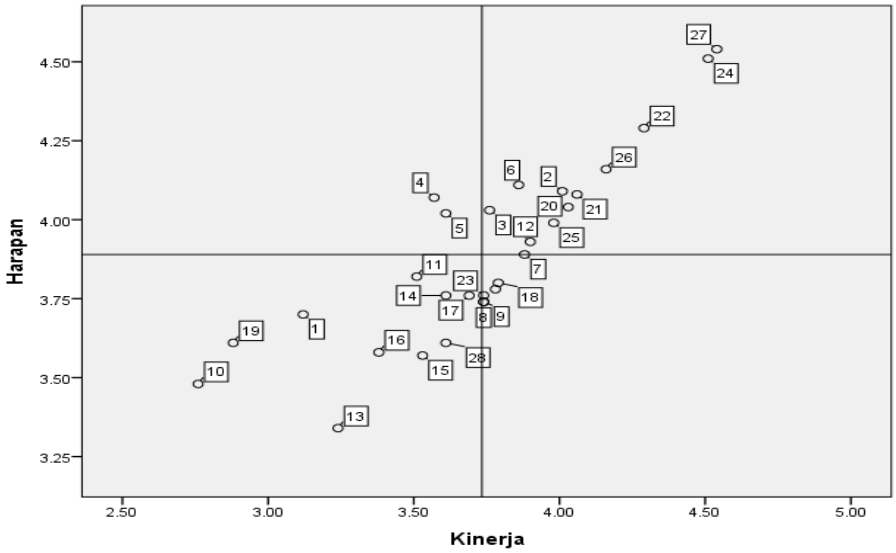

Figure 2. IPA Cartesian Diagram Results

Quadrant I contain instruments that are considered important by users, but the performance of the application is still considered poor and users are dissatisfied. Thus, the instruments in quadrant I must be the top priority for quality improvement and improvement. (Alfiatussyuaidah and Putra 2022). In quadrant I, there are two instruments that need to be improved, namely H4 and H5 which read "I feel comfortable when using the SatuSehat application and I will recommend the SatuSehat application to others". This is indicated by the value of the level of conformity (Tki) of instruments H4 and H5 which is the lowest compared to other instruments and has the most difference under the decision score value of 9.59%. Therefore, it is important for SatuSehat application developers to make the necessary improvements to the SatuSehat application to ensure its performance can run as expected.

Quadrant II contains instruments that are considered to have met user expectations. In other words, the instruments in quadrant II are considered to have been successfully implemented and meet user expectations so that their performance quality needs to be maintained properly in the long term. Based on the figure above, the instruments in quadrant II are H2, H3, H6, E1, A1, R5, T1, T2, T4, T5, T6 and T7. The company needs to maintain the performance of these instruments to make the Satu Sehat application grow and meet user needs better.

In quadrant III, users have low expectations for the performance of the SatuSehat application, and the SatuSehat application also shows relatively low performance, so there are no meaningful expectations for the instruments in this quadrant. Therefore, the instruments in this quadrant have a low priority. The instruments in quadrant III are H1, E4, E5, A2, A3, A4, R1, R2, R4, T3 and T8. Although users consider the instruments in this quadrant to be less important, OneHealth app developers still need to pay attention to the items contained in this quadrant III. Because it does not rule out the possibility that these items can be a priority for application users in the future.

In quadrant IV, the expectations given by users of the Satu Sehat application performance are low, but the performance provided by the SatuSehat application according to users is high, so it seems excessive. As shown in the Cartesian diagram, those in quadrant IV are E2, E3, R3 and T9. The company needs to maintain the performance of these instruments to make the Satu Sehat application grow and meet user needs better.

This study successfully identified key factors that influence the user experience of the SatuSehat application using the HEART Metrics methodology. The primary results indicate that enhancing the Happiness component is crucial for augmenting customer satisfaction. This aligns with the concept put forward by Hashim et al., (2021), which underscores the significance of favourable emotions in user experience as a crucial determinant of user happiness and loyalty. Moreover, a study conducted by Wang et al., (2021) on mobile health apps demonstrates a strong correlation between users' happiness and their perception of the app's usability and efficacy. This finding emphasises the significance of prioritising the Happiness variable in the current study.

Furthermore, the study findings indicated that certain instruments had lower appropriateness ratings, emphasising the necessity of adopting a comprehensive strategy in the development of user experience. The underwhelming levels of engagement, adoption, retention, and task success highlight the conclusions drawn by Fischer et al., (2020), who emphasise the importance of involvement in building a fulfilling user experience. This aligns with Al-Rahmi et al., (2021) theory of Diffusion of Innovations, which emphasises the significance of both adoption and retention in effectively implementing new technology.

Practically speaking, the results of this study strongly recommend that SatuSehat application developers prioritise enhancing user satisfaction. Hentati et al., (2021) has recognised intuitive interface design as crucial for supporting enjoyable user engagement. Furthermore, the study proposes that the socialisation of novel characteristics is a crucial tactic. The 'technology acceptance model' (TAM) introduced by Davis, (1989) underscores the role of views regarding usability and simplicity of use in influencing the adoption of technology.

Although this study offers useful insights on the user experience of the SatuSehat app, the research technique has several limits that indicate the need for future inquiry. Utilising a blended technique that incorporates both quantitative and qualitative analysis, as suggested by Creswell & Creswell, (2017) ,may lead to a more comprehensive and nuanced comprehension of user experience. This will enable the identification of elements that impact customer happiness in a more comprehensive manner.

Franciskus Antonius Alijoyo[1], Suhaerudin[2], Safina Meilia[3]
DOI: https://doi.org/10.54443/sibatik.v3i4.1854

Furthermore, the emphasis on digital health applications necessitates a more profound comprehension of how particular facets of health impact the user experience. Further investigation might explore the impact of confidence in health information, as outlined by Fogg, (2002) in the idea of online credibility, on user experience inside health apps. By taking into account these results and recommendations, the creators of the SatuSehat app may implement strategic measures to enhance user experience. These endeavours will not only enhance user contentment and allegiance but also facilitate broader acceptance of digital health applications, which in turn can have a favourable influence on public health.

The incorporation of digital technology in the healthcare industry has experienced substantial progress, shown as the SatuSehat application. These findings validate the significance of comprehending user experience within the framework of health applications. A study conducted by Lin et al., (2018) on digital health applications reveals that users' emotional aspects, such as pleasure and contentment, significantly influence the success of these apps. This comparison emphasises that our findings on the prevalence of the Happiness variable in user experience are not exclusive, but rather indicative of a larger pattern that emphasises the crucial significance of happy emotions in the design of health technology.

In addition, our study has found that the low level of user engagement and difficulties in adopting and retaining users are comparable to the obstacles encountered by other developers of applications. Nevertheless, the ways we propose to tackle these problems by enhancing Happiness and implementing intuitive interface design are options that have not been completely exploited in digital health systems. This implies that although difficulties in engaging and retaining users are widespread, the methods used to tackle these obstacles might differ significantly depending on the unique circumstances of the application (Yang and Duncan 2021).

The significance of intuitive interface design and a comprehensive comprehension of the elements influencing technology adoption, as elucidated in the 'technology acceptance model' (TAM) by Hornbæk & Hertzum, (2017), should not be undervalued. A study conducted by Harte et al., (2017) on usability demonstrates that designing with a focus on the user may greatly enhance user happiness and, ultimately, the success of an application. Within the framework of the SatuSehat apps, these applications may utilise these design concepts to not only enhance user satisfaction but also to promote better acceptance and long-term usage.

Considering the significance of reliable health information, it is important for future studies to investigate the impact of trust on user experience in digital health applications. Fogg, (2002) emphasises that online credibility is crucial in consumers' evaluation and adoption of new technologies. Within the framework of the SatuSehat application, establishing and preserving user confidence by delivering precise and dependable health information may significantly enhance user contentment and allegiance, while also bolstering the programme's long-term prosperity.

The incorporation of digital technology in the healthcare industry has experienced substantial progress, shown as the SatuSehat application. These findings validate the significance of comprehending user experience within the realm of health applications. A

study conducted by Zhang et al. (2016) about digital health applications reveals that users' emotional aspects, such as pleasure and satisfaction, significantly influence the success of these apps. This comparison emphasises that our findings on the prevalence of the Happiness variable in user experience are not exclusive, but rather part of a wider pattern that emphasises the crucial significance of happy emotions in the design of health technology.

In addition, our study has found that the low level of user engagement and difficulties in adopting and retaining users are comparable to the obstacles encountered by other developers of applications, as outlined in the research conducted by O'Brien and Toms (2008) and Rogers (2003). Nevertheless, the ways we propose to tackle these problems by enhancing Happiness and implementing intuitive interface design are options that have not been completely exploited in digital health systems. This implies that although difficulties in engaging and retaining users are frequently encountered, the methods used to tackle these obstacles might differ significantly depending on the unique circumstances of the application.

The significance of intuitive interface design and a comprehensive comprehension of the elements influencing technology adoption, as elucidated in the 'technology acceptance model' (TAM) by Davis (1989), should not be undervalued. A study conducted by Nielsen and Norman (2000) on usability demonstrates that designing with a focus on the user may greatly enhance user happiness and, ultimately, the success of an application. Within the framework of the SatuSehat apps, these applications may utilise these design principles to not only enhance user satisfaction but also to promote higher levels of acceptance and user loyalty.

It is crucial to consider the reliability of health information. Future studies should investigate the impact of trust on user satisfaction while using digital health applications. Fogg (2003) emphasises the significance of online credibility in the evaluation and adoption of new technologies by users. Within the framework of the SatuSehat application, establishing and upholding user confidence by delivering precise and dependable health information may significantly contribute to enhancing user contentment and allegiance, while also bolstering the programme's enduring triumph.

CONCLUSION

Based on the results of data processing that has been carried out from this study, it can be concluded that the level of *User Experience* on the SatuSehat Application there are instruments that need to be improved because they have a lower suitability level value than the decision-making score is H1, H3, H4, H5, H6, E4, E5, R1 and R4. Then of the 29 instruments on the HEARTscale, there are 2 instruments in quadrant I that need to improve their performance, namely H4 and H5. In this case, the main priority that needs to be done is to increase and improve the quality of the Happiness variable. For this reason, the researcher suggests that the SatuSehat application developer develop features that make it easier for users, innovate features and socialise the use of application features.

REFERENCES

Agarwal, Shashank. 2023. "Unleashing the Power of Data: Enhancing Physician Outreach through Machine Learning." International Research Journal of Engineering and Technology 10(8):717–25.

Akbar, Ahmad Virdauzy Rizky, Tri Lathif Mardi Suryanto, and Eristya Maya Safitri. 2021. "Analisis User Experience Pengguna Aplikasi KAI Access Berdasarkan Alat Ukur Heart Metrics." Jurnal Informatika Dan Sistem Informasi (JIFoSI) 2(2):244–54.

Albantani, Abdurrahman. 2023. "Analisis Faktor-Faktor Yang Memengaruhi Niat Masyarakat Untuk Terus Menggunakan Aplikasi Satu Sehat." Jura : Jurnal Riset Akuntansi 1(3):298–311.

Alfiatussyuaidah, Siti, and M. Soekarno Putra. 2022. "Analysis of The Quality of The Population And Civil Registration Service System In Ogan Ilir Regency Using Importance Performance Analysis Method (IPA)." IT Journal Research and Development 7(1):1–11. doi: 10.25299/itjrd.2022.7985.

Al-Rahmi, Waleed Mugahed, Noraffandy Yahaya, Mahdi M. Alamri, Ibrahim Youssef Alyoussef, Ali Mugahed Al-Rahmi, and Yusri Bin Kamin. 2021. "Integrating Innovation Diffusion Theory with Technology Acceptance Model: Supporting Students' Attitude towards Using a Massive Open Online Courses (MOOCs) Systems." Interactive Learning Environments 29(8):1380–92.

Alsyouf, Adi, Abdalwali Lutfi, Nizar Alsubahi, Fahad Nasser Alhazmi, Khalid Al-Mugheed, Rami J. Anshasi, Nora Ibrahim Alharbi, and Moteb Albugami. 2023. "The Use of a Technology Acceptance Model (TAM) to Predict Patients' Usage of a Personal Health Record System: The Role of Security, Privacy, and Usability." International Journal of Environmental Research and Public Health 20(2):1347.

Antonius Alijoyo, Franciskus, and Erna Haerani. 2022. "The Implementation Of The Care-Protect (Pedulilindungi) Application: The Economic Impact And Constraints Faced." Eduvest - Journal Of Universal Studies 2(1):131–39. doi: 10.36418/edv.v2i1.341.

Chatterjee, Ayan, Andreas Prinz, Martin Gerdes, and Santiago Martinez. 2021. "Digital Interventions on Healthy Lifestyle Management: Systematic Review." Journal of Medical Internet Research 23(11):e26931.

Creswell, J. W., and J. D. Creswell. 2017. Research Design: Qualitative, Quantitative, and Mixed Methods Approaches. Sage publications.

Davis, Fred D. 1989. "Perceived Usefulness, Perceived Ease of Use, and User Acceptance of Information Technology." MIS Quarterly 319–40.

Farnita, Irma. 2017. "Layanan Mobile Ho-Jak, Go-Jek Dan Grab Terhadap Perbandingan Pengalaman Pengguna (Studi Pada Konsumen PT. Ho-Jak Indonesia, PT. Aplikasi Anak Bangsa Dan PT. Grab Indonesia." Jurnal Ekonomi Dan Manajemen Teknologi 1(2):97–106.

Fischer, Björn, Alexander Peine, and Britt Östlund. 2020. "The Importance of User Involvement: A Systematic Review of Involving Older Users in Technology Design." The Gerontologist 60(7):e513–23.

Flaounas, Ilias, and Aikaterini Kokkinaki. 2018. "On the Evaluation of OLES Using the Heart Framework." ASCILITE 2015 - Australasian Society for Computers in Learning and Tertiary Education, Conference Proceedings 668–71.

Fogg, Brian J. 2002. "Persuasive Technology: Using Computers to Change What We Think and Do." Ubiquity 2002(December):2.

Fortuna, Karen L., John A. Naslund, Jessica M. LaCroix, Cynthia L. Bianco, Jessica M. Brooks, Yaara Zisman-Ilani, Anjana Muralidharan, and Patricia Deegan. 2020. "Digital Peer Support Mental Health Interventions for People with a Lived Experience of a Serious Mental Illness: Systematic Review." JMIR Mental Health 7(4):e16460.

Hanum, Aprilianan Latifah, Tiara Karunia Miranti, Diah Fatmawati, Muhamad Frendi Diyon, and Cahyo Joyo Prawiro. 2022. "Analisis User Experience Aplikasi Mobile Peduli Lindungi Menggunakan Heart Metrics." Jurnal Syntax Admiration 3(1):1–12.

Harte, Richard, Liam Glynn, Alejandro Rodríguez-Molinero, Paul M. A. Baker, Thomas Scharf, Leo R. Quinlan, and Gearóid ÓLaighin. 2017. "A Human-Centered Design Methodology to Enhance the Usability, Human Factors, and User Experience of Connected Health Systems: A Three-Phase Methodology." JMIR Human Factors 4(1):e5443.

Hashim, Wahidah, Emmanuel O. C. Mkpojiogu, Azham Hussain, and Shahrun Nizam Abdul-Aziz. 2021. "A Product Pain-Pleasure Framework for Software Product Design in the Usability and User Experience Domains." Webology 18(SI01):1–31.

Hentati, Amira, Erik Forsell, Brjánn Ljótsson, Viktor Kaldo, Nils Lindefors, and Martin Kraepelien. 2021. "The Effect of User Interface on Treatment Engagement in a Self-Guided Digital Problem-Solving Intervention: A Randomized Controlled Trial." Internet Interventions 26:100448.

Hornbæk, Kasper, and Morten Hertzum. 2017. "Technology Acceptance and User Experience: A Review of the Experiential Component in HCI." ACM Transactions on Computer-Human Interaction (TOCHI) 24(5):1–30.

Kazanskiy, Nikolay L., Svetlana N. Khonina, and Muhammad A. Butt. 2024. "A Review on Flexible Wearables-Recent Developments in Non-Invasive Continuous Health Monitoring." Sensors and Actuators A: Physical 114993.

Kemenkes, Republik Indonesia. 2021. "Cetak Biru Strategi Transformasi Digital Kesehatan 2024." Buku.

Van Kessel, Robin, Ilias Kyriopoulos, Brian Li Han Wong, and Elias Mossialos. 2023. "The Effect of the COVID-19 Pandemic on Digital Health–seeking Behavior: Big Data Interrupted Time-Series Analysis of Google Trends." Journal of Medical Internet Research 25:e42401.

Lachner, Florian, Florian Fincke, and Andreas Butz. 2017. "UX Metrics: Deriving Country-Specific Usage Patterns of a Website Plug-in from Web Analytics." Lecture Notes in Computer Science (Including Subseries Lecture Notes in Artificial Intelligence and Lecture Notes in Bioinformatics) 10515 LNCS:142–59. doi: 10.1007/978-3-319-67687-6_11.

Lin, Yuting, Carina Tudor-Sfetea, Sarim Siddiqui, Yusuf Sherwani, Maroof Ahmed, and Andreas B. Eisingerich. 2018. "Effective Behavioral Changes through a Digital mHealth App: Exploring the Impact of Hedonic Well-Being, Psychological Empowerment and Inspiration." JMIR mHealth and uHealth 6(6):e10024.

Liu, Kaifeng, and Da Tao. 2022. "The Roles of Trust, Personalization, Loss of Privacy, and Anthropomorphism in Public Acceptance of Smart Healthcare Services." Computers in Human Behavior 127:107026.

Liu, Wenlong, Xiucheng Fan, Rongrong Ji, and Yi Jiang. 2020. "Perceived Community Support, Users' Interactions, and Value Co-Creation in Online Health Community: The Moderating Effect of Social Exclusion." International Journal of Environmental Research and Public Health 17(1):204.

Nielsen, Lene. 2013. Personas-User Focused Design. Vol. 15. Springer.

Pratama, Ananda Vickry, Aprillia Dian Lestari, and Qurrotul Aini. 2019. "Analisis User Experience Aplikasi Academic Information System (Ais) Mobile Untuk User-Centered Metrics Menggunakan Heart Framework." Sistemasi 8(3):405. doi: 10.32520/stmsi.v8i3.527.

Rodden, Kerry, Hilary Hutchinson, and Xin Fu. 2010. "Measuring the User Experience on a Large Scale: User-Centered Metrics for Web Applications." Conference on Human Factors in Computing Systems - Proceedings 4:2395–98. doi: 10.1145/1753326.1753687.

Santa, Ricardo, Jason B. MacDonald, and Mario Ferrer. 2019. "The Role of Trust in E-Government Effectiveness, Operational Effectiveness and User Satisfaction: Lessons from Saudi Arabia in E-G2B." Government Information Quarterly 36(1):39–50. doi: 10.1016/j.giq.2018.10.007.

Santosa, Paulus Insap. 2016. "Measuring User Experience during a Web-Based Survey: A Case Of Back-to-Back Online Surveys." International Journal on Advanced Science, Engineering and Information Technology 6(3):339–44. doi: 10.18517/ijaseit.6.3.815.

Savira, Yordan Patra, Irving V Paputungan, and Beni Suranto. 2020. "Analisis User Experience Pada Pendekatan User Centered Design Dalam Rancangan Aplikasi Placeplus." Automata 1(2):28–29.

Sharma, Anil, Soumyakant Dash, D. Y. Patil Vidyapeeth, Sachin Deshmukh, and Dr Vishwanath Karad M. I. T. WPU. 2023. "A Study on Neuromarketing Potential, Problems and Applications in the Indian E-Commerce Sector." The Online Journal of Distance Education and E-Learning 11(2).

SOUTH, I. N., and SOUTHEAST ASIA. 2023. "HEALTHCARE AND MEDICAL SECTOR."

Sujono, and Harry Budi Santoso. 2017. "Analisis Kualitas E-Learning Dalam Pemanfaatan Web Conference Metode Webqual (Studi Kasus: Universitas KH. A. Wahab Hasbullah) Sujono1,." SAINTEKBU : Jurnal Sains Dan Teknologi 9(2):27–37.

Suryanto, Tri Lathif Mardi, Akhmad Fauzi, and Djoko Budiyanto Setyohadi. 2021. "Identifying the Effect of Emotions in Government-Citizen Online (G2C) Tourism

Based on the HEART Metrics." International Journal of Data and Network Science 5(4):641–48. doi: 10.5267/j.ijdns.2021.8.003.

Syahputra, Rafi Purwa, Rendi Hardiartama, Bangkit Putra Kristana, and Anita Wulansari. 2023. "Analisis User Experience Aplikasi Flip Menggunakan Metode Heart Metrics Dan Importance Performance Analysis (IPA)." Jurnal Informatika Dan Rekayasa Perangkat Lunak (JATIKA) 4(2):228–36.

Veral, Roberto, and José A. Macías. 2019. "Supporting User-Perceived Usability Benchmarking through a Developed Quantitative Metric." International Journal of Human-Computer Studies 122:184–95.

Wang, Yang, Tailai Wu, and Zhuo Chen. 2021. "Active Usage of Mobile Health Applications: Cross-Sectional Study." Journal of Medical Internet Research 23(12):e25330.

Wilson, Mark G., David M. Dejoy, Robert J. Vandenberg, Hettie A. Richardson, and Allison L. Mcgrath. 2004. "Work Characteristics and Employee Health and Well-being: Test of a Model of Healthy Work Organization." Journal of Occupational and Organizational Psychology 77(4):565–88.

Yang, Tianxi, and Timothy V Duncan. 2021. "Challenges and Potential Solutions for Nanosensors Intended for Use with Foods." Nature Nanotechnology 16(3):251–65.

Zimmermann, Philippe Georges. 2008. "Beyond Usability: Measuring Aspects of User Experience."

Franciskus Antonius Alijoyo[1], Suhaerudin[2], Safina Meilia[3]
DOI: https://doi.org/10.54443/sibatik.v3i4.1854