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Evaluating Netflix's User Experience (UX) Through The Lens Of The HEART Metrics Method

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ABSTRACT

Netflix is one of the most popular subscription video-on-demand (SVoD) platforms, offering a wide range of authentic, high-quality content and features that allow users to select, enjoy, and share their viewing experiences on social media. Despite its popularity, Netflix often receives complaints from users, including issues with accessing the application and various features related to viewing activities. The aim of this study is to evaluate the user experience of the Netflix application and provide recommendations for improvement based on data analysis. To achieve this, the HEART Metrics are utilized, which focus on the user's perspective, and apply the Importance-Performance Analysis (IPA) method to map performance and identify improvement priorities. The research reveals several areas that require enhancement, particularly three priority variables: the Happiness variable (Hp3), indicated by the statement "I like the appearance of the Netflix application"; the Retention variable, represented by "I enjoy using the features of the Netflix application"; and the Task Success variable (Ts4), reflected in "I can save movies in the Netflix application." To improve user satisfaction, Netflix can incorporate both light and dark themes, creating a more user-friendly interface. This update could enhance navigation, increase time spent on the platform, promote recommendations, and encourage subscription renewals.

I. INTRODUCTION

The internet has led to the creation of numerous easily accessible internet-based content [1]. This convenience has made digital streaming services a highly desirable medium. According to a 2022 study by The Future of TV, Indonesians spend a total of 3,5 billion hours every month watching content on streaming services [2]. The widespread use of streaming services in Indonesia has contributed to the expansion of video-on-demand (VoD) services, also known as Subscription Video-on-demand (SVoD)[3]. SVoD is a subscription-based entertainment service that allows users to access content on the platform every month [4].

Netflix is one of the SVoD platforms that is quite famous among the public. Based on the research conducted in 2022 by Populix, Netflix occupies the first position as the most widely used SVoD service [5]. Netflix is a company that produces and delivers digital content with a variety of viewing options such as movies, documentaries, animations, series, and other exclusive content [6]. In addition to providing a variety of authentic content with high-quality [7], Netflix is also equipped with features that allow users to make choices, enjoy, and disseminate their viewing to social media [8].

As a popular streaming service, Netflix still receives complaints from its users. Netflix's rating on the Google Play Store has even decreased from 4.3 to 3.8 [9]. The decrease in rating is certainly influenced by users who often experience difficulties while using the Netflix application. Ratings and comments on the Google Play Store reflect users' opinions about the applications they use [10]. Based on Netflix user comments on the Google Play Store, the majority of users complained about the poor service they felt, ranging from not being able to access the Netflix application to having their account suspended even though they had paid the subscription fee. Furthermore, users also complained about other issues such as inappropriate font sizes, unmanageable screen ratios,

videos not displaying anything but audio still being heard, video and audio out of sync, subtitles not appearing, and when speeding up a video there is a long loading time and a decrease in video resolution quality. These problems certainly do not leave a good impression on users, and the unpleasant experience that users feel has the potential to make users not want to spend more time and are reluctant to extend the subscription period.

The number of complaints addressed to Netflix indicates that there is an urgency to evaluate the user experience of the application. *User experience* (UX) is related to the acquisition of emotions, feelings, and thoughts when users interact with a product service [11]. Therefore, UX is considered important to ensure that end users receive the effectiveness and efficiency of a product [12].

The HEART Metrics method was applied to evaluate the user experience of the Netflix App. This method was created as a complementary measurement tool whose design is more user-oriented [13]. HEART Metrics is considered suitable for evaluating the user experience of the Netflix app because this method considers the users' perspective as a top priority. From the users' perspective, the user's needs and behaviors [[14]. To analyze the data, Importance Performance Analysis (IPA) is applied so that the level of performance and importance of the attributes of a service and product are known [15]. The use of IPA also helps to take appropriate actions, such as maintaining, improving, or reducing the priority of these attributes [14].

Previous research conducted by Syahputra et al [16] on analyzing the user experience of the Flip application, which facilitates digital financial transactions. The study integrates the HEART Metrics method and IPA to evaluate user satisfaction and identify areas that require improvement. This combination allows for a comprehensive evaluation— HEART Metrics measures emotional and task-related of user satisfaction, while IPA determines the priority areas for enhancement based on performance and importance.

Another study conducted by Khoiriyah et al [12] by applying the HEART Metrics method to evaluate the user experience (UX) of the SEAL Learning Management System. Through descriptive analysis, this research measures each HEART variable based on the average score of user responses. This approach provides an overall picture of the effectiveness of the SEA LMS.

Another study conducted by Nurlailah & Rusdi [17] used the HEART Metrics method to evaluate the UX of the Segari application through descriptive analysis. Each variable in HEART metrics is analyzed based on the average score, which provides an overall view of the quality of the user experience. With this approach, researchers can assess the effectiveness of the app from various aspects of UX, including user satisfaction, engagement, acceptance, retention, and success in completing tasks.

In contrast to descriptive analysis, which solely determines whether user experience falls into a positive or negative category [12], the HEART Metrics and IPA methods

employed in this study facilitate a more nuanced evaluation. These methods not only identify specific areas requiring improvement but also provide structured recommendations, categorized into four levels based on importance and performance.

This study aims to evaluate the user experience of the Netflix application located in Palembang City. However, it does not examine the factors that affect user experience. Instead, the focus is on identifying areas that require improvement and providing recommendations.
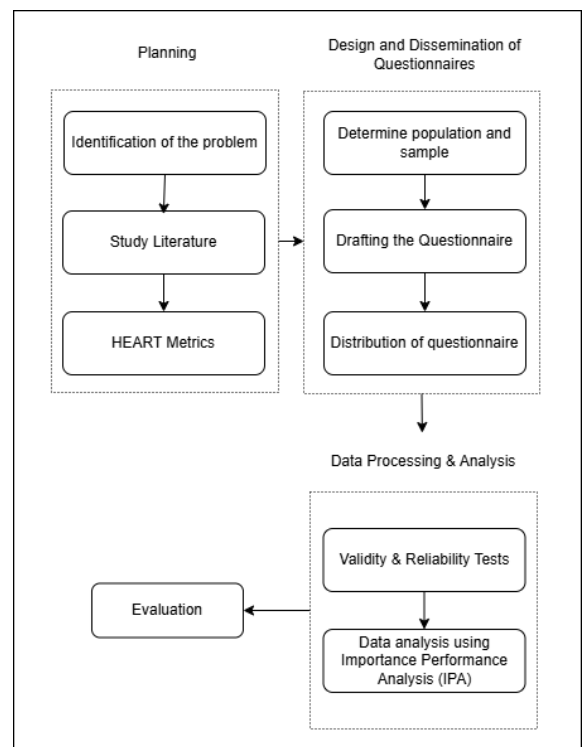
II. METHOD

The study stages can be observed in Figure 1.

Figure 1 Study Stages

A. Planning

1) Identification of the Problem

This Study started by identifying the problem by making observations related to the ratings and user comments of the Netflix app on the Google Play Store. The Identification of the problem has been explained in more detail in the introduction section.

2) Study Literature

This stage is carried out to obtain information related to the research to be carried out by reading relevant journals, articles, books, and previous research.

3) HEART Metrics Method

HEART Metrics was created as a complementary measurement tool whose design is more user-oriented [13]. Google's research team developed this method to understand

user needs and behavior so that it can be used to advance the product [14]. The HEART Metrics consist of five variables that provide insight into user experience. First, Happiness relates to subjective aspects such as user satisfaction, visual appeal, the likelihood of recommending the product to others, and perceptions of ease of use. Engagement measures the frequency and depth of user interactions with the product. Adoption tracks the number of new users who start using the product within a specific period. Retention assesses the number of users who continue using the product in subsequent periods. And Task Success includes traditional metrics of user experience, such as efficiency, effectiveness, and error rates.

B. Design and Dissemination of Questionnaires

1) Population and Sample

This study involves a population and sample who use the Netflix application and live in Palembang City. Application of Lemeshow's formula to determine the required sample:

$$n = \frac{Z^2 P(1-P)}{d^2} \tag{1}$$

Description:
n = Sample total
Z = Reference number (1,96)
P = Maximum estimation 50% (0,5)
d = Alpha (0,10)

Result of calculation:

$$n = \frac{1,96^2 \cdot 0,5 \, (1 - 0,5)}{0,10^2}$$

$$n = \frac{3,8416 \cdot 0,25}{0,01}$$

$$n = \frac{0,9604}{0,01}$$

$$n = 96,04$$

Referring to the calculation results, the number of respondents in this study reached 96 respondents and was proxied to 100 respondents.

2) Questionnaires and Questionnaire Distribution

The data collection method in this study is by distributing questionnaires via Google Forms. The questionnaire will be divided into two sections, namely perception (performance) and expectation (importance). The questionnaire consists of 20 statements, each statement has its own code based on the HEART Metrics variables, namely Happiness (Hp), Engagement (Eg), Adoption (Ad), Retention (Rt), and Task Success (Ts) [16]. Respondents can respond by choosing a value on a Likert scale from 1 to 5, namely Strongly Disagree (SD), Disagree (D), Neutral (N), Agree (A), and Strongly Agree (SA). The questionnaire was distributed through social media, such as WhatsApp, X (Twitter), and Instagram. The statements instrument can be observed in Table I.

TABLE I.
STATEMENTS INSTRUMENTS

Variables	Code	Statements
Happiness	Hp1	I feel happy when using Netflix [18]
	Hp2	I find Netflix apps easy to use [18]
	Hp3	I liked the interface of the Netflix app [18].
	Hp4	I find the Netflix app convenient and easy to use [18].
	Hp5	I would recommend the Netflix app to others [19].
Engagement	Eg1	I can access the Netflix app anytime [15].
	Eg2	Features on the Netflix app work well [15].
	Eg3	I can spend more than an hour a day using the Netflix app [15].
	Eg4	I intend to use the Netflix app for a long period of time [20].
Adoption	Ad1	I understand how to use the Netflix app[18]
	Ad2	The Netflix app can occupy my free time [18].
	Ad3	I prefer the Netflix app over other streaming platforms [18].
Retention	Rt1	I have subscribed and continued to use the Netflix app since I signed up until now [18].
	Rt2	I often use the features on Netflix [18].
	Rt3	I will renew my subscription to the Netflix app when my subscription expires [18].
Task Success	Ts1	I can access the Netflix app on multiple devices [15].
	Ts2	I can see the subscription expiration date on the Netflix app [15].
	Ts3	I can watch without ads on the Netflix app [15].
	Ts4	I can save movies on the Netflix app [15].
	Ts5	I feel the Netflix app is good enough [21].

C. Data Processing and Data Analysis

1) Validity Test

This test utilizes the Pearson Product Moment correlation, set a significance level of 0,05. The analysis was performed using SPSS software version 25.

2) Reliability Test

The test pertains to Cronbach's Alpha value. If the obtained Cronbach's Alpha value exceeds 0.60, the data is considered reliable.

3) Importance Performance Analysis (IPA)

IPA is applied to determine the level of performance and importance of attributes of a service or product [15]. The level of importance in the IPA method is presented in a cartesian diagram representation segmented into four quadrants and

separated by the X-axis and Y-axis coordinate points. Each quadrant shows varying priorities, Quadrant I is the main focus, Quadrant II must be maintained, Quadrant III indicates not urgent, Quadrant IV goes beyond the limit [16]. The following equations are the stages in analyzing data using the IPA method.

1) Determining the level of suitability [22]

$$Tk_i = \frac{Xi}{Yi} \times 100\% \qquad (2)$$

Description:
Tk_i = Respondent's suitability level
X_i = Performance value
Y_i = Importance value

2) Quadrant analysis [22]

$$\bar{X} = \frac{\sum Xi}{n} \quad \bar{Y} = \frac{\sum Yi}{n} \qquad (3)$$

Description:
$\bar{X}$ = Performance value
$\bar{Y}$ = Importance value
n = Total respondents

3) Calculating the value of each item [22]

$$\bar{\bar{X}} = \frac{\sum_i^N \bar{X}i}{k} \quad \bar{\bar{Y}} = \frac{\sum_i^N \bar{Y}i}{k} \qquad (4)$$

Description:
$\bar{\bar{X}}$ = Average performance value
$\bar{\bar{Y}}$ = Average importance value
k = number of attributes

III. RESULTS AND DISCUSSION

A. Demographics of The Respondents

Respondent demographics include various categories, such as gender, profession, domicile, length of application use, and intensity of use in a week. From the respondent data, it is acknowledged that the majority of respondents, amounting to 78 individuals (78,0%) are female, while 22 respondents (22,0%) are male. The majority of users have used the application for a period of 1 – 3 years, and the intensity of using the application for 1 – 3 hours in a span of one week. Respondent demographics data is presented in tabular form which can be observed in Table II.

TABLE II.
RESPONDENT DEMOGRAPHICS

Variable	Categories	Amount	Percentage
Gender	Male	22	22,0%
	Female	78	78,0%
Profession	Pelajar	4	4,0%
	Mahasiswa	70	70,0%
	Karyawan Swasta	11	11,1%
	Aparatur Sipil Negara	2	2,0%
	Wiraswasta	3	3,0%
	Job Seeker	7	7,1%
	Masinis	1	1,0%
	Ibu Rumah Tangga	1	1,0%
Domicile	Alang-alang Lebar	11	11,0%
	Bukit Kecil	16	16,0%
	Gandus	2	2,0%
	Ilir Barat I	3	3,0%
	Ilir Barat II	7	7,0%
	Ilir Timur I	3	3,0%
	Ilir Timur II	5	5,0%
	Ilir Timur III	1	1,0%
	Jakabaring	6	6,0%
	Kalidoni	4	4,0%
	Kemuning	7	7,0%
	Kertapati	2	2,0%
	Plaju	1	1,0%
	Sako	8	8,0%
	Sebrang Ulu I	4	4,0%
	Sebrang Ulu II	1	1,0%
	Sematang Borang	6	6,0%
	Sukarami	13	13,0%
Length of Application Use	<1 year	17	17,0%
	1 – 3 years	55	55,0%
	>3 years	28	28,0%
Usage Intensity (in a week)	<1 hour	9	9,0%
	1 – 3 hours	45	45,0%
	3 – 6 hours	33	33,0%
	>6 hours	13	13,0%

B. Validity and Reliability Tests

1) Validity Test

Testing was carried out twice, the first test was carried out with 30 samples and declared valid.

TABLE III.
VALIDITY TEST (PERFORMANCE)

Variable code	Pearson Product Moment Value	Statement
Hp1	0,611	Valid
Hp2	0,572	Valid
Hp3	0,531	Valid
Hp4	0,591	Valid
Hp5	0,615	Valid
Eg1	0,597	Valid
Eg2	0,652	Valid
Eg3	0,460	Valid
Eg4	0,664	Valid
Ad1	0,598	Valid
Ad2	0,564	Valid
Ad3	0,602	Valid
Rt1	0,640	Valid
Rt2	0,497	Valid
Rt3	0,626	Valid
Ts1	0,549	Valid
Ts2	0,610	Valid
Ts3	0,536	Valid
Ts4	0,572	Valid
Ts5	0,438	Valid

The second test involved 100 respondents, with the R Table coefficient number worth 0.195. The output of the performance section validity test can be observed in Table III

and the results of the importance section validity test can be observed in Table IV.

Variable code	Pearson Product Moment Value	Statement
Hp1	0,672	Valid
Hp2	0,706	Valid
Hp3	0,531	Valid
Hp4	0,686	Valid
Hp5	0,671	Valid
Eg1	0,574	Valid
Eg2	0,613	Valid
Eg3	0,445	Valid
Eg4	0,667	Valid
Ad1	0,639	Valid
Ad2	0,554	Valid
Ad3	0,589	Valid
Rt1	0,602	Valid
Rt2	0,615	Valid
Rt3	0,632	Valid
Ts1	0,735	Valid
Ts2	0,675	Valid
Ts3	0,618	Valid
Ts4	0,598	Valid
Ts5	0,638	Valid

2) Reliability Test

Testing was carried out twice, the first test used 30 samples and obtained a value of 0,934 for the performance section and 0,956 for the importance section. The second test was conducted using 100 samples. If the test output exceeds Cronbach's Alpha 0.60, then the data is deemed reliable. The output of the reliability test of the performance and the importance section can be seen in Table V for performance and VI for importance.

TABLE V.
RELIABILITY TEST (PERFORMANCE)

Reliability Statistic		
Cronbach's Alpha	N of Items	Statement
0,892	20	Reliable

TABLE VI.
RELIABILITY TEST (IMPORTANCE)

Reliability Statistic		
Cronbach's Alpha	N of Items	Statement
0,916	20	Reliable

C. Respondent Suitability Level (Tk_i)

The outcome of the suitability level, derived from the calculation of performance and importance using the second (2) equation, will determine the priorities that need to be addressed, and whether they require improvement or should be maintained. The outcomes from calculating the suitability level are conducted to assess whether user priorities have been adequately met. Based on the calculation, several statements still get a value below 100%, which means that there is still

user importance that has not been fulfilled. The outcomes of the calculation of Tk_i are presented in Table VII.

TABLE VII.
SUITABILITY LEVEL (Tk_i)

Variable Code	Performance Level (X_i)	Importance Level (Y_i)	Suitability Level (Tk_i)
Hp1	436	426	102,34
Hp2	440	432	101,85
Hp3	407	416	97,83
Hp4	423	427	99,06
Hp5	407	399	100,05
Eg1	423	418	101,19
Eg2	413	418	98,80
Eg3	419	426	98,35
Eg4	389	395	98,48
Ad1	435	427	101,87
Ad2	421	433	97,22
Ad3	377	367	102,72
Rt1	355	377	94,16
Rt2	387	417	92,80
Rt3	384	378	101,58
Ts1	424	413	101,76
Ts2	404	397	99,08
Ts3	432	436	98,30
Ts4	406	413	102,38
Ts5	429	419	99,72

D. Decision Making

Determination of variables that need to be improved by increasing or maintaining can be realized by comparing the decision score to the value of Tk_i. The decision score is derived by comparing the total performance score with the total importance score.

TABLE VIII.
DECISION MAKING

Variables Code	Suitability Level (%)	Decision Score (%)	Decision
Hp1	102,34	99,72	H
Hp2	101,85	99,72	H
Hp3	97,83	99,72	A
Hp4	99,06	99,72	A
Hp5	100,05	99,72	H
Eg1	101,19	99,72	H
Eg2	98,80	99,72	H
Eg3	98,35	99,72	A
Eg4	98,48	99,72	A
Ad1	101,87	99,72	H
Ad2	97,22	99,72	A
Ad3	102,72	99,72	H
Rt1	94,16	99,72	A
Rt2	92,80	99,72	A
Rt3	101,58	99,72	H
Ts1	101,76	99,72	H
Ts2	99,08	99,72	A
Ts3	98,30	99,72	A
Ts4	102,38	99,72	H
Ts5	99,72	99,72	H

According to the calculation results, the decision score is 99,72. If the Tk_i Value is lower than the decision score, the item must be improved, marked using the letter symbol A (Action), otherwise if the Tk_i Value is higher than the decision score, the item can be maintained and marked using the letter symbol H (Hold). The results of decision-making can be seen in Table VIII.

Based on Table VIII, it is known that several items need to be improved again because the Tk_i value of the item is below the decision-making score, these items are Hp3, Hp4. Eg3, Ad2, Rt1, Rt2, Ts2, dan Ts3.

E. Cartesian Diagram Quadrant Analysis

The intersection of the X-axis and Y-axis of the cartesian diagram is obtained by performing calculations using equation 3, obtaining a value of 4,10 for the Y-axis and 4,11 for the X-axis. The position of the item on the quadrant of the cartesian diagram is calculated using Equation 4. The cartesian diagram is used to determine the position of the item in which quadrant, making it easier to determine the action that must be given to the item. The findings of the analysis by applying the IPA method are presented in the form of a cartesian diagram in Figure 2.
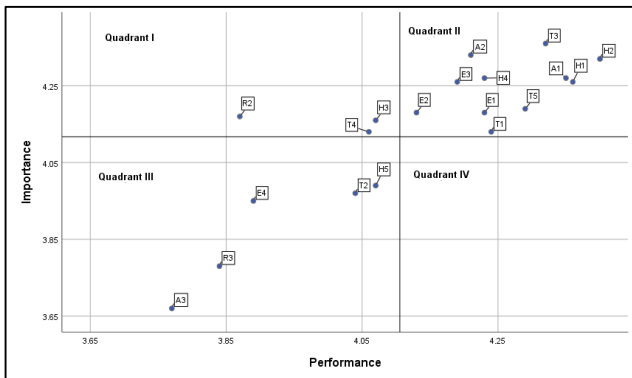

Figure 2 Cartesian Diagram

Referring to Figure 2, it is known that several variables are located in quadrant I, indicating that users consider these variables important but application performance is still not good. Variables located in quadrant I are the main focus for improving performance, these variables are Hp3, Rt2, and Ts4. Quadrant II is a position that means that the performance of the application has met the importance of users so that its performance must be maintained, 11 items that must be maintained, namely, Hp1, Hp2, Hp4, Eg1, Eg2, Eg3, Ad1, Ad2, Ts1, Ts3, Ts5. Furthermore, quadrant III indicates that importance and performance are low, there are 6 items in this quadrant, namely Hp5, Eg4, Ad3, Rt1, and Ts2. Items located in this quadrant can be considered for further improvement but the priority level is lower than items located in quadrant I. Quadrant IV denotes a diminished level of significance combined with a comparatively elevated level of performance, which is regarded as superfluous. However, the study did not find items located in quadrant IV, so the application can prioritize more to improve items located in quadrant I.

IV. CONCLUSION

Research has been conducted related to the evaluation of Netflix's user experience (UX) by applying the HEART Metrics method and the IPA method is applied to analyze the data. Based on the comparison calculation between the level of suitability and the decision-making score, it is known that there are a number of items that must be improved, namely Hp3, Hp4, Eg3, Ad2, Rt1, Rt2, and Ts3. Among the 8 variable items identified for improvement, 3 fall within quadrant I of the cartesian diagram, indicating they should be prioritized for performance enhancement. These variables are Happiness (Hp3) with the statement "I liked the interface of the Netflix app," Retention (Rt2) with, "I often use the features on Netflix," and Tas Success (Ts4) with, "I can save movies on the Netflix app," these items are related to Netflix's app features and should be prioritized for improvement. The other variables are in quadrant III, the application can consider improving the performance of these items even though they are not a top priority. The Netflix app can improve its user experience by enhancing its interface, specifically by incorporating both light and dark themes. This change would create a more user-friendly design, making it easier and more comfortable for users to navigate the app. As a result, users may spend more time on the platform, recommend it to others, and choose to renew their subscriptions.

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