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SERVICE QUALITY ANALYSIS OF MOBILE-BASED FANDOM COMMUNITY APPLICATION USING E-SERVQUAL AND IPA

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ABSTRACT

Using a modified e-service quality framework and the Importance Performance Analysis (IPA) approach, this study assesses the quality of service quality of Weverse and LYSN mobile apps. Information was gathered from 132 individuals who use these platforms regularly and are 22 years old. The findings indicate that Weverse and LYSN must improve to meet customer expectations, especially in response time, app stability, and refund policies. However, data security and ease of use effectively satisfy users' expectations. To increase user happiness, developers should prioritise improving underperforming areas while maintaining high standards in high-performing areas.

I. INTRODUCTION

Today, with the advent of the digital age, information is readily available on various devices, including tablets, computers, and smartphones, substantially enhancing the user experience, especially in the entertainment industry. In the world of K-pop, the emergence of fandom community apps is a noteworthy development in the entertainment sector. The websites Weverse and LYSN, created by HYBE Corporation and SM Entertainment, respectively, have become indispensable for fans to communicate and get updates from their idols. These apps increase fan interaction, engagement, and loyalty to artists and their agencies.

Weverse and LYSN are two examples of digital apps that entertain and inform users while enabling communication between fans and K-pop idols. On July 1, 2019, HYBE Corporation created Weverse, which first catered to fans of BTS and TXT. Since then, Weverse has expanded to feature international musicians such as Jeremy Zucker and New Hope Club and other K-pop singers, including BLACKPINK, NCT, SEVENTEEN, and ENHYPEN. [1]

On the other hand, LYSN-a- a social media network created by Dear U in collaboration with SM Entertainment, was launched by SM Entertainment to foster relationships between fans and idols. The "bubble feature," introduced by Dear U in 2020, allows celebrities to communicate with their fans through voice notes, videos, and text messages. This tool will enable fans to communicate with their idols by reading and replying to their messages. [2]

Although previous research highlights the importance of mobile app service quality in increasing user enjoyment, more research is needed on fandom community apps such as Weverse and LYSN. By assessing app service quality from the perspective of Indonesian users and applying IPA and E-Service quality frameworks, this study seeks to close this gap.

This research applies the E-Servqual theoretical framework to evaluate digital service quality dimensions, such as ease of use and responsiveness. It uses Importance Performance Analysis (IPA) to assess the importance and performance of these dimensions. E-Servqual measures the extent to which the service meets users' expectations, while IPA helps identify areas for improvement. This research focuses on mobile-based fandom community apps such as Weverse and LYSN, which have not been widely explored. The E-Servqual and IPA methods are applied to provide specific recommendations for app developers. This innovation contributes to the literature on the service quality of fandom community apps.

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Assessing Weverse and LYSN's service quality using IPA and e-service quality is an important research subject. E-service quality evaluates effectiveness, privacy, responsiveness, dependability, and site design. In contrast, IPA uses user-perceived relevance and performance to identify service areas that require improvement. This research aims to determine how much importance users place on the various service quality areas of the two apps.

In addition, this study aims to offer suggestions for improvement to the developers of Weverse and LYSN. These suggestions are intended to assist the developers in improving their service quality and increasing consumer delight and loyalty. Maintaining and growing the user base depends on enhancing service quality, especially as competition in the fandom community app market heats up.

This study also identifies a shortcoming in previous research: the lack of focus on service quality in mobile-based fandom community apps. While there are many studies on mobile app service quality, there is limited research specifically on fandom community apps. This study aims to fill that gap by conducting an in-depth analysis of service quality in that context.

As a result, this study contributes to the pool of information on mobile app service quality and is relevant to app developers. Answering the questions in this study is expected to provide better knowledge in improving user enjoyment and service quality of mobile fandom community apps, particularly in the Indonesian market.

II. METHODS

A. *Research Method and Model*

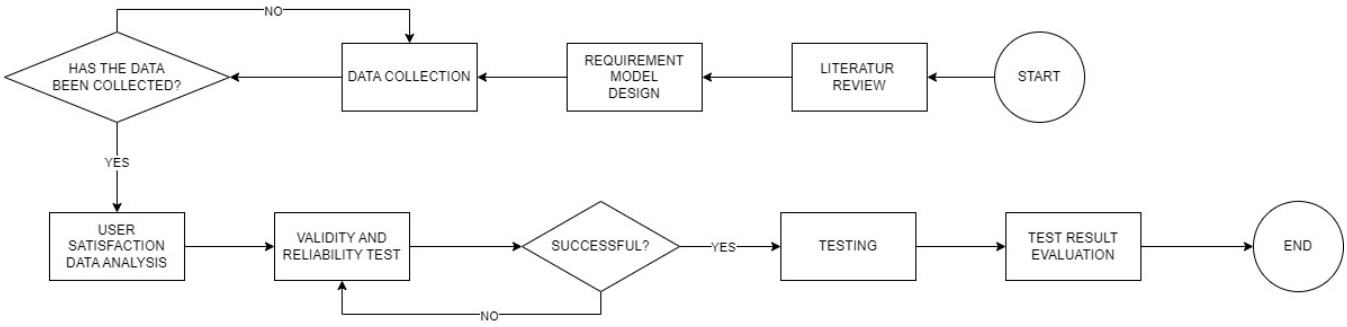

Figure 1. Flowchart of Research Method

Using an online survey, this study employed a quantitative descriptive methodology. A review of the literature was done to comprehend earlier studies. Moreover, requirements and approaches were determined to carry out the model design. A Google Form survey was used to gather data, and those who satisfied the criteria were given access to it on social media. To guarantee correctness, the data underwent validity and reliability tests. Tests were conducted to assess the responsiveness to user needs and functionality of the model—a comprehensive presentation of the study results, including an overview of the conclusions and recommendations. A Likert rating scale was employed in the data collection process to produce quantitative data for statistical analysis.

B. *Sampling*

To conclude the research findings, sampling from the population tries to represent the population as a whole. The Lemeshow formula was therefore applied. The sample size is determined using Lemeshow's formula when population characteristics are unknown. The following computation was used:

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

n = the total of samples
Z = standardized value = 1.96
P = highest possible estimate = 50% = 0.5
d = sampling error or alpha = 0.05

So to determine the number of respondents can be done as follows:

$$n = \frac{1.96^2 \times 0.5\,(1-0.5)}{0.05^2}$$
$$n = \frac{0.9604}{0.0025}$$
$$n = 384.16 \approx 400$$

The Lemeshow formula calculation indicates that 384.16 samples, rounded up to 400 respondents, are required for this investigation.

C. Research Instrument

The questionnaire used in this study was designed to measure service quality using the Importance Performance Analysis (IPA) and E-Service Quality (E-SERVQUAL) approaches. The following are details of how the questions were designed:

For the E-Service Quality dimension, the questionnaire covers several key aspects:

- Responsiveness: Measures how quickly the app responds to user problems or queries. Questions related to the effectiveness of handling issues and processing returns through the app.
- Efficiency: Measures the ease and speed with which users can access information through the app.
- Privacy: Measures how well the app protects users' personal information, such as payment data and other personal information.
- Compensation: Assesses how effective the app is in providing compensation when problems occur.
- Contact: Measures the availability of support, both over the phone and online.
- System Availability: Measures the availability of systems and applications for use by users.
- Fulfillment: Measures the extent to which the application fulfils the promises or expectations made to users.

For Importance Performance Analysis (IPA), the questionnaire was designed to measure two main dimensions:

- Expectation Level: Assesses the extent to which users expect certain features or services from the application.
- Performance Level: Measures the extent to which the application meets the user's expectations of that feature or service.

This questionnaire has undergone validity and reliability tests to ensure the questions are reliable and provide consistent results. The r value of each question instrument indicates that all instruments are valid and can be used in research.

To collect data for this study, the poll was sent over multiple platforms, including WhatsApp, Twitter, and Telegram. Participants were given a five-point Likert rating scale to answer questions, with options ranging from "very unsatisfactory" to "very satisfactory." The acquired data was then processed with the IBM SPSS Statistics tool.

D. Data Analysis

Descriptive analysis creates findings that are typically understandable after data collection. The researcher will discuss the following seven characteristics of high-quality services: responsiveness, efficiency, remuneration, privacy, system availability, fulfilment, and interaction. A minimum sample size of 400 respondents is required to collect data using a 5-point rating scale questionnaire. The responses provided by the respondents to each statement were used to compute cumulative scores.

the biggest cumulative value = 400 x 5 = 2000
smallest cumulative value = 400 x 1 = 400

The next step is to find the percentage value based on the cumulative value. Frequency and 100% add to an item's overall worth. There is a range of numbers between the most significant percentage value of 100% and the lowest percentage value of 20%.

$$the\ range\ of\ valuese = \frac{largest\ percentage - lowest\ percentage}{the\ whole\ scale\ points}$$
$$the\ range\ of\ values = \frac{100\% - 20\%}{5}$$
$$the\ range\ of\ values = 16\%$$

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Based on the above calculations, the following interpretation criteria are obtained.

Table 1. Interpretation criteria

Percentages	Categories
$20\% < x \leq 36\%$	Very Unsatisfactory / Very Unimportant
$36\% < x \leq 52\%$	Unsatisfactory / Not Important
$52\% < x \leq 68\%$	Neutral
$68\% < x \leq 84\%$	Satisfactory / Important
$84\% < x \leq 100\%$	Very Satisfactory / Very Important

E-Service Quality

The Electronic Service Quality Model (E-Servqual) is the latest model for measuring electronic service quality, replacing SERVQUAL, WebQual, and SITEQUAL. The model includes critical dimensions such as effectiveness (EFF), which assesses the ease and speed of site access; fulfilment of needs (FUL), which measures the extent to which the site meets order delivery and availability needs; system availability (SYS), which assesses the performance of electronic systems; and privacy (PRI), which measures the level of security and protection of user information. [6]

Zeithaml et al. (2009: 115) state that there are seven dimensions of E-Servqual, including four dimensions that are the core for assessing applications:

1. Efficiency: this includes convenience and speed in accessing and using the app. [3]
2. Fulfillment: this covers how the app can adequately fulfil its promises regarding item availability. [3]
3. System Availability: this includes the accuracy of the technical functionality of the site or application. [3]
4. Privacy: includes the extent to which the site or application can maintain security and protect user or customer information, providing a sense of security for users using the service. [3]

The three dimensions can be used to assess recovery services when a problem occurs, which is explained as follows:

5. Responsiveness: this includes effectiveness in handling issues and the process of returning through the app. [3]
6. Compensation: this includes the extent to which the app compensates consumers for problems that occur. [3]
7. Contact: availability of support via phone or online representatives. [3]

Importance Performance Analysis (IPA)

Importance Performance Analysis (IPA) is an analysis method used after calculating the conversion value of each search feature to determine the position of job characteristics in quadrants based on performance and expectation levels. The IPA Cartesian diagram, created by dividing the graph into four quadrants using the X-axis for the average indicator of the movement and the Y-axis for the average score of the variable of interest, assists in interpreting the data. This IPA Cartesian chart was generated using IBM SPSS Statistics for in-depth analysis.

Figure 2. Quadrant Importance Performance Analysis (IPA)
Source: [14]

Based on Figure 2, the following explanation:

- Quadrant I: This quadrant includes important attributes whose performance is still below customer expectations. These attributes need to be improved to meet customer expectations and increase satisfaction. [15]

- Quadrant II: This quadrant includes important attributes that perform well, so they must be maintained because they greatly satisfy customers. [15]
- Quadrant III: This quadrant includes less critical attributes that perform mediocre. While improvements may not be urgent, it is worth considering to prevent these attributes from falling into the more critical quadrants. [15]
- Quadrant IV: This quadrant includes attributes that perform very well but are considered less important by customers. Although the execution is satisfactory, these attributes are not considered very important or expected. [15]

Once each search feature has been identified and its conversion value has been determined, the data is processed using Importance Performance Analysis (IPA). [4]

$$TK_i = \frac{X_i}{Y_i} \times 100\%$$

$TK_i = suitability\ level$
$X_i = performance\ assessment\ score$
$Y_i = importance\ assessment\ score$

After that, calculate the average of each customer perception with the formula:

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

$\bar{X} = average\ score\ of\ product\ performance\ levels$
$\bar{Y}\imath = \ average\ score\ of\ the\ importance\ level\ of\ the\ product$
$n = total\ respondents$

Next, the formula obtains the average value of all performance (X) and relevant attributes (Y), which define the limits of the Cartesian diagram.

$$\bar{\bar{X}} = \frac{\overline{\sum X\imath}}{K}\ and\ \bar{\bar{Y}} = \frac{\overline{\sum Y\imath}}{K}$$

$\bar{\bar{X}}$ = the average rating for all aspects or qualities combined with the product performance level
$\bar{\bar{Y}}$ = average significance of each factor influencing customer happiness
K = the variety of characteristics that influence customer happiness

Lastly, a Cartesian diagram, as seen in Figure 5, provides a detailed explanation of the computation results for each characteristic.

III. RESULT AND DISCUSSION

A. Respondent's Demographic Profile

The demographic profile of the respondents, such as gender and age, affects the perception of the service quality of the Weverse/LYSN app. With the majority of respondents being female (76.5%) and the age group of 22 years dominating, perceptions of service attributes such as responsiveness and privacy may differ based on gender and age. Active users (98.5%) tend to have higher expectations and standards. These demographic factors influence the study's results and could provide additional insights if considered in further research.

This study targeted a sample of 400 active users of Weverse and LYSN in Indonesia but only managed to collect 132 respondents. While this sample is predominantly female (76.5%) and 22 years old (16.7%), and most are active users (98.5%), the smaller-than-target sample size and gender and age bias may affect the generalizability of the results. Nevertheless, this sample still provides a valid picture of the active user population in this specific context.

The questionnaire results obtained with the sample description in this study are as follows.

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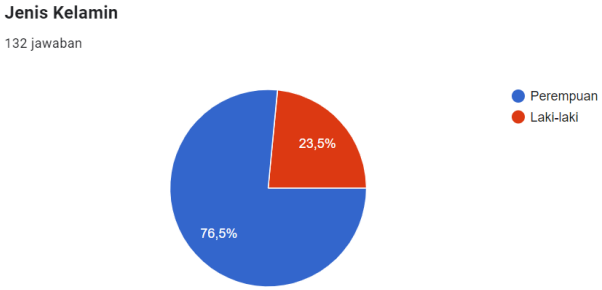

Figure 3. Gender of Respondents

The diagram indicates that there were 132 responders in all. 23.5% of respondents were male and 76.5% were female.

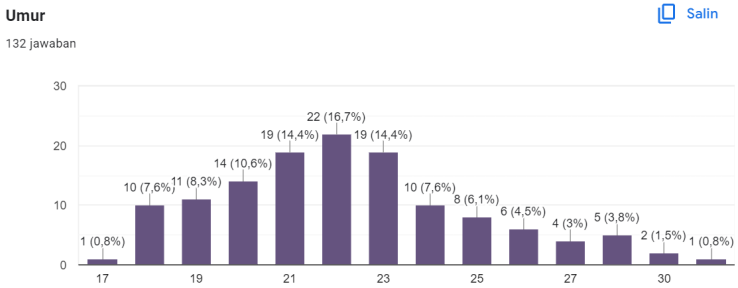

Figure 4. Age of Respondent

Of the total 132 respondents, the most dominant age is 22 years old, with a percentage of 16.7%. 21 and 23 years old were in second place with 14.4% each. Furthermore, 10.6% of respondents were 20, 8.3% were 19, and 7.6% were 18 and 24, respectively. 25-year-olds accounted for 6.1%, 26-year-olds for 4.5%, 28-year-olds for 3.8%, and 27-year-olds for 3%. 30-year-olds had a percentage of 1.5%, while 17- and 31-year-olds had 0.8% each.

Figure 5. Total active users of Wevers/LYSN apps

Among the 132 participants, nearly all of them are current users of the Weverse/LYSN program. According to the results, 98.5% of respondents are current Weverse / LYSN program users.

B. Validity and Reliability

According to Sugiharto and Sitinjak (2006) and Ghozali (2009), validity in research refers to how accurately and precisely a measuring instrument measures what it is supposed to measure based on the actual content. While low validity yields irrelevant data, high validity shows correct and pertinent outcomes to the measurement's goal. Furthermore, measurement precision, or the measuring device's capacity to identify minute variations in evaluated properties, is another aspect of validity. Walizer (1987) and Ghozali (2009) define reliability as the measurement's consistency. This tool measures the degree of consistency or stability with which a person answers questions over an extended period. Therefore, validity and reliability are two fundamental elements of research that ensure measuring instruments produce exact and consistent results in line with their intended measures. [13]

Validity and reliability testing of questionnaires is essential to ensure that research instruments measure precisely and consistently. Validity tests involve content validity (assessing the coverage of questionnaire items), construct validity (relationship to theoretical concepts), and criterion validity (correlation with other instruments). Reliability tests ensure consistency of results through methods such as internal consistency (Cronbach's Alpha coefficient),

test-retest reliability (repeating the questionnaire), and split-half reliability (dividing the questionnaire). These measures ensure the questionnaire produces accurate and reliable data.

Table 2. Validity

Item	Reality		Result	Expectation		Result
	r-count	r-table		t-count	t-table	
E1	0.608	0.171	Valid	0.590	0.171	Valid
E2	0.638	0.171	Valid	0.577	0.171	Valid
E3	0.579	0.171	Valid	0.603	0.171	Valid
E4	0.623	0.171	Valid	0.572	0.171	Valid
E5	0.563	0.171	Valid	0.572	0.171	Valid
F1	0.651	0.171	Valid	0.630	0.171	Valid
F2	0.709	0.171	Valid	0.633	0.171	Valid
F3	0.717	0.171	Valid	0.675	0.171	Valid
F4	0.664	0.171	Valid	0.695	0.171	Valid
F5	0.740	0.171	Valid	0.705	0.171	Valid
SA1	0.658	0.171	Valid	0.700	0.171	Valid
SA2	0.622	0.171	Valid	0.626	0.171	Valid
SA3	0.742	0.171	Valid	0.733	0.171	Valid
SA4	0.762	0.171	Valid	0.687	0.171	Valid
SA5	0.690	0.171	Valid	0.687	0.171	Valid
P1	0.682	0.171	Valid	0.634	0.171	Valid
P2	0.690	0.171	Valid	0.667	0.171	Valid
P3	0.602	0.171	Valid	0.651	0.171	Valid
P4	0.730	0.171	Valid	0.712	0.171	Valid
P5	0.712	0.171	Valid	0.672	0.171	Valid
R1	0.694	0.171	Valid	0.747	0.171	Valid
R2	0.593	0.171	Valid	0.751	0.171	Valid
R3	0.757	0.171	Valid	0.693	0.171	Valid
R4	0.597	0.171	Valid	0.666	0.171	Valid
R5	0.701	0.171	Valid	0.646	0.171	Valid
C1	0.623	0.171	Valid	0.640	0.171	Valid
C2	0.633	0.171	Valid	0.695	0.171	Valid
C3	0.667	0.171	Valid	0.665	0.171	Valid
C4	0.710	0.171	Valid	0.713	0.171	Valid
C5	0.654	0.171	Valid	0.662	0.171	Valid
K1	0.624	0.171	Valid	0.554	0.171	Valid
K2	0.661	0.171	Valid	0.631	0.171	Valid
K3	0.684	0.171	Valid	0.694	0.171	Valid
K4	0.714	0.171	Valid	0.710	0.171	Valid

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As seen in Table 2, all research question instruments have R-hope and Reality values higher than the R-table value, indicating that all instruments are valid. Therefore, each instrument in this questionnaire is reliable and suitable for use as a research tool.

Table 3. Reliability

Indicator	*Cronbach's Alpha*		Standardised Values	Result
	Reality	Expectations		
Efficiency	0.773	0.785	≥0.7	Reliable
Fulfillment	0.840	0.819	≥0.7	Reliable
System Availability	0.818	0.843	≥0.7	Reliable
Privacy	0.853	0.848	≥0.7	Reliable
Responsiveness	0.831	0.887	≥0.7	Reliable
Compensation	0.853	0.847	≥0.7	Reliable
Contact	0.800	0.821	≥0.7	Reliable

Table 3 shows that each dimension has a Conbrach's Alpha value that exceeds the minimum value of 0.7. Thus, it can be concluded that all dimensions, namely efficiency, fulfilment, system availability, privacy, responsiveness, compensation, and contact, can be reliable.

C. Service Quality Analysis

One method for assessing employee performance is gap analysis. It is a crucial phase in the planning and assessment of work. This approach is most frequently applied to the internal management of an organisation. The word "gap" literally means "difference" between two things. In management, gap analysis is a standard tool for assessing service quality. [5]

Table 4. Service Quality Analysis

Item	Reality	Expectation	Gap	Q=R/H
E1	3.590	3.954	-0.364	0.907
E2	3.689	4.090	-0.401	0.901
E3	3.901	4.060	-0.159	0.960
E4	3.613	4.022	-0.409	0.898
E5	3.757	4.015	-0.258	0.935
Mean	**3.710**	**4.028**	**-0.318**	**0.921**
F1	3.712	4.113	-0.401	0.902
F2	3.651	4.136	-0.485	0.882
F3	3.750	4.060	-0.310	0.923
F4	3.734	4.113	-0.379	0.907
F5	3.681	3.984	-0.303	0.923
Mean	**3.706**	**4.081**	**-0.375**	**0.908**
SA1	3.689	4.068	-0.379	0.906
SA2	3.719	4.007	-0.288	0.928
SA3	3.742	4.090	-0.348	0.914
SA4	3.750	4.075	-0.325	0.920
SA5	3.689	4.007	-0.318	0.920
Mean	**3.718**	**4.050**	**-0.332**	**0.918**
P1	3.810	4.196	-0.386	0.908
P2	3.750	4.121	-0.371	0.909

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Item	Reality	Expectation	Gap	Q=R/H
P3	3.848	4.196	-0.348	0.917
P4	3.765	4.030	-0.265	0.934
P5	3.712	4.060	-0.348	0.914
Mean	**3.777**	**4.121**	**-0.344**	**0.916**
R1	3.606	4.068	-0.462	0.886
R2	3.431	4.090	-0.659	0.838
R3	3.659	4.015	-0.356	0.911
R4	3.530	4.053	-0.523	0.870
R5	3.568	4.007	-0.439	0.890
Mean	**3.559**	**4.046**	**-0.487**	**0.879**
C1	3.507	4.015	-0.508	0.873
C2	3.431	3.946	-0.515	0.869
C3	3.621	4.007	-0.386	0.903
C4	3.628	4.083	-0.455	0.888
C5	3.689	3.969	-0.280	0.929
Mean	**3.575**	**4.004**	**-0.429**	**0.892**
K1	3.674	4.022	-0.348	0.913
K2	3.621	3.939	-0.318	0.919
K3	3.681	4.015	-0.334	0.916
K4	3.583	3.939	-0.356	0.909
Mean	**3.640**	**3.979**	**-0,339**	**0,914**

The average of each signal, as indicated by the average reality value score, ranges from 3.559 to 3.718, indicating that respondents' perceptions of service quality are neutral. Meanwhile, each indicator's average is 3.979 to 4.050 based on the average expectation score, showing that respondents' expectations regarding the quality of the services they receive are within a reasonable range. The discrepancy between each item's average reality and expectations ranges from 0.159 to 0.659. Although the quality of the mobile-based fandom community application (Weverse/LYSN) still needs improvement, it is still fairly nice. The Q value, or service quality, ranges from 0.838 to 0.960 based on the average value of reality and expectations, with Q values greater than 1 indicating good service quality.

D. Importance Performance Analysis (IPA)

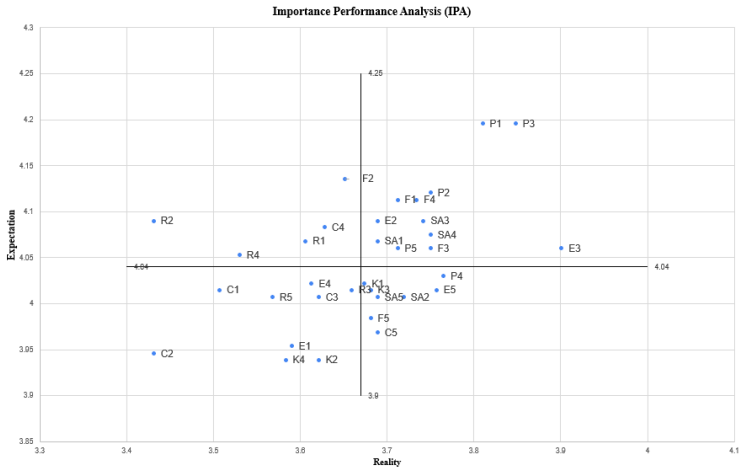

Figure 6. The Cartesian diagram of importance-performance analysis

On the Cartesian diagram, the indicators have been grouped into four different quadrants, each of which describes the specific characteristics of each indicator. The following is an explanation for each of these quadrants:

- Quadrant I (*high importance and low performance*)
  These metrics provide an overall picture of the app's operation and responsiveness to user requests and complaints. F2 prioritises equitable access to app features and services for all users. R2 emphasises the need for app stability to avoid technical issues, whereas R1 emphasises quickly responding to user concerns. R4 emphasises the importance of empathy and the app's capacity to handle user-reported problems successfully. Finally, C4 highlights the significance of a clear refund policy to ensure that users receive fair compensation if a transaction goes wrong. The strategy for this quadrant is to focus on immediate improvement because the factors here are critical to customers but currently have low performance. Steps that can be taken include:
  - Improve Responsiveness: For example, if the main problem is a slow response to complaints or technical issues, the company needs to speed up the response system by increasing resources in customer service or implementing automation in complaint handling.
  - Improving Application Stability: If application stability is an issue, it is necessary to improve the technology infrastructure, such as more robust servers or code optimisation, to ensure the application runs more smoothly.
- Quadrant II (*high importance and high performance*)
  These metrics provide an exhaustive overview of the functioning and experience of using the Weverse and LYSN apps. F4 assesses the clarity of transaction information, whereas E2 assesses how easy it is to find and interact with idols and content. SA3 and SA4 concentrate on app performance and stability, while SA1 emphasises the enjoyment of user interaction. Security is the primary emphasis of indicators P1, P2, P3, and P5. This includes using security technology to protect personal data. The app is hoped to meet user expectations while improving quality and security through constant monitoring and refinement of these parameters. The right strategy is to maintain or even improve quality on these factors:
  - Maintaining Ease of Use: If ease of use is highly rated, companies should continue to ensure the user interface (UI) remains intuitive and user-friendly.
  - Securing Personal Information: If personal data protection is already good, companies must continue to update and strengthen data security policies to maintain user trust.
- Quadrant III (*low importance and low performance*)
  Despite being less significant, Quadrant III indicators suggest low user happiness and require change to improve overall satisfaction. For example, C3 highlights the need for unambiguous transaction protocols in Weverse/LYSN, yet performance suffers due to many user errors. K2 emphasises the importance of online customer service, yet performance could be higher since customers find it difficult to obtain answers. K4 underlines the need for international contacts, yet performance is also lacking due to the same challenges. These features must be upgraded to enhance the user experience. Users consider aspects in this quadrant less critical, and their performance is also low. The strategy for this quadrant is to minimise the resources invested without ignoring this factor completely:
  - Resource Efficiency: Focus investments and improvements on other more critical aspects.
    However, if there is room for improvement that is easy or does not require a lot of resources, it can still be done.
- Quadrant IV (*low importance and high performance*)
  Quadrant IV for the Weverse/LYSN app includes prompt notifications (E5), item matching with advertising (F5), an explanation column for the "help/QnA" feature (SA2), ease of use for international consumers (SA5), and transaction protection (P4). Despite the high level of transaction security, users may not be concerned because they are used to safe online payment methods. These attributes are still necessary to maintain customer trust. Furthermore, adequate payment for customer concerns (C5) and complaint resolution (K1 and K3) are required to ensure overall user satisfaction. In this quadrant, performance is good, but these factors are not very important to customers. The strategy that can be applied is to reallocate excessive resources to more important aspects:
  - Redistribution of Resources: Resources invested in these factors can be redirected to quadrant I to improve areas that need more improvement.

E. Discussion

Based on the data analysis and processing that has been done, the Weverse and LYSN applications have the following implications:

1. This study identified critical indicators in service quality that companies need to maintain to maintain their performance. One of the twelve indicators is "Weverse/LYSN application functions properly as it should." In comparison with research conducted by Moladia, T., & Kristiana, T. [8], which focuses on analysing the service quality of the Tokopedia application, indicator 8, namely "The Tokopedia site can run properly", is in quadrant III in Importance Performance Analysis (IPA) and shows that the indicator has a relatively low-performance value. In contrast, indicator SA4 in the Weverse and LYSN applications is in quadrant II, which indicates that the indicator already has a reasonably high performance. Therefore, Weverse and LYSN applications should maintain performance on the SA4 indicator so that users can use the application comfortably and feel satisfied with its performance.
2. This study also identified a low indicator in service quality, namely indicator C1, "Weverse/LYSN application provides compensation for problems that occur". This can be a reference for companies to prioritise service quality improvements in Weverse and LYSN applications. This finding is in line with research conducted by Moladia, T., & Kristiana, T. [8], which focuses on analysing the service quality of the Tokopedia application, specifically on indicators 23 and 24, namely "Tokopedia compensates customers if an error occurs" and "Tokopedia compensates when the ordered goods are not suitable," which are also in quadrant III. Therefore, Weverse and LYSN applications need to improve their customer service performance to meet the needs of these application users.
3. This research identifies the leading indicator in service quality, namely indicator E2: "The Weverse/LYSN application makes it easy for users to find idols and content and interact with idols quickly and efficiently". In comparison with research conducted by Moladia, T., & Kristiana, T. [8], which focuses on analysing the service quality of the Tokopedia application, indicator 1, namely "Tokopedia makes it easy for me to find the items I need", is in quadrant IV in Importance Performance Analysis (IPA) and shows that the indicator has a pretty good performance value. Still, the importance of application user needs is considered low. In contrast, indicator E2 in Weverse and LYSN apps is in quadrant II, which indicates that the indicator already has a reasonably high performance. Therefore, Weverse and LYSN apps should maintain performance on the E2 indicator so that users can use it comfortably and feel satisfied with its performance.
4. This study also identified an indicator that is not high but also not low in service quality, namely indicator F5: "The availability of items is following what is advertised by the Weverse/LYSN application". In comparison with research conducted by Moladia, T., & Kristiana, T. [8], which focuses on analysing the service quality of the Tokopedia application, indicator 12, "The stock of available items is following the availability information listed", is in quadrant II in Importance Performance Analysis (IPA) and shows that the indicator has the value of the needs and performance of Tokopedia application users following user expectations from the application. This is inversely proportional to indicator F5 in the Weverse and LYSN applications, which are in quadrant IV, which indicates that the indicator has an importance value of the needs of application users, which is considered low. The performance of the Weverse and LYSN applications has met user needs.
5. This research identifies a key indicator in service quality: indicator P2 "Weverse/LYSN application does not share users' personal information to other sites". In comparison with research conducted by Moladia, T., & Kristiana, T. [8], which focuses on analysing the service quality of the Tokopedia application, indicator 17, "Tokopedia does not share customers' personal information with other sites", is in quadrant III in Importance Performance Analysis (IPA) and shows that the indicator has a relatively low-performance value. In contrast, indicator P2 in the Weverse and LYSN applications is in quadrant II, which indicates that the indicator already has a reasonably high performance. Therefore, Weverse and LYSN applications should maintain performance on SA4 indicators so that users can use the application comfortably and feel satisfied with its performance.
6. This study also identified a low indicator in service quality, namely indicator R5, "Weverse/LYSN application users can easily find information about the problems they are facing". This can be a reference for companies to prioritise service quality improvements in Weverse and LYSN applications. This finding is in line with research conducted by Moladia, T., & Kristiana, T. [8], which focuses on analysing the service quality of the Tokopedia application, specifically on indicator 22, namely "Tokopedia provides information related to transaction failures that cannot be processed", which is also in quadrant III. Therefore, Weverse and LYSN applications need to improve their customer service performance to meet the needs of application users.

7. This study also identifies indicators where application performance and the interests and needs of application users are low, namely in indicator K2: "Weverse/LYSN application has a live agent/customer service online to consult on problems that users face". In comparison with research conducted by Moladia, T., & Kristiana, T. [8], which focuses on analysing the quality of Tokopedia application services, indicator 25, "Tokopedia has customer service that is always online", which is in quadrant II in Importance Performance, Analysis (IPA) and shows that this indicator has the value of the needs and performance of Tokopedia application users following user expectations from the application. This is inversely proportional to the K2 indicator in the Weverse and LYSN applications in quadrant III. Therefore, Weverse and LYSN applications need to improve their customer service performance to meet the needs of users of the two applications.

IV. CONCLUSION

Conclusions can be made based on the quality analysis of Weverse and LYSN applications using Importance Performance Analysis and modified e-service quality. Based on the research findings from 132 respondents, nearly all (98.5%) are active Weverse/LYSN program users. Most respondents (76.5%) are female; the primary age group (16.7%) is 22. All research instruments get high results for validity and reliability according to validity and reliability assessments. Based on scores ranging from 79% to 84%, the investigation reveals that customers have high expectations about service efficiency, compliance with claims, system availability, and privacy protection. Users believe the Weverse/LYSN app to be successful and dependable because it meets their expectations in essential areas. However, it can be concluded from the gap analysis results involving 132 respondents who use the LYSN and Weverse applications that these two applications still need to be improved because user expectations are not fully met. This can be seen from the gap analysis table, which shows that respondents' opinions on service quality fall into the neutral category. The average reality score for each indication ranges from 3.559 to 3.718. According to the average expectation score for each indication, which falls between 3.979 and 4.050, respondents' expectations for the quality of the services they receive fall into a significant category. For every item, the average discrepancy between anticipation and reality is between 0.159 and 0.659. A Q number >= 1 denotes high service quality. The Q value gauges service quality by averaging reality, and expectation ranges from 0.838 to 0.960. As a result, even while the Weverse and LYSN apps are widely recognised as trustworthy and efficient, certain areas still require development to satisfy user expectations completely.

V. REFERENCES

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