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Evaluation of the LabChecking Platform Using Webqual 4.0 with the Importance Performance Analysis Method

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ABSTRACT

Objectives*: The objective of this research is to analyze, measure and improve the quality of website services based on the WebQual 4.0 method with the dimensions of Usability, Information Quality, and Service Interaction Quality as well as the Importance Performance Analysis (IPA) method.*
Methodology*: This research is using the quantitative descriptive method. Quantitative descriptive method, usually this method will be used as the main research in describing a word or number that has a certain meaning. In this study, the following stages were carried out:*
Finding*: Since the pandemic, one of the innovations of technological development is the medical services platform that helps access in the health sector where there are no distance limitations between patients and doctors. In Indonesia, there have been various health service platforms that support access to health care facilities, launched by various parties from these startup companies. One of the startups that is the choice of the community today is a medical services platform such as Labchecking.*
Conclusion*: The final results that have been measured have an average value of the level of perception (performance) and expectations (importance) of 2.85 and 3.54. For the average results obtained based on the suitability level value of 80.73% with the largest suitability level value found in the service interaction quality dimension, which is 81.72%, while for the results of the average value of the gap (GAP) of -0.681 with the largest gap value found in the usability dimension, which is -0.700.*

Keywords*: Laboratory; Platform; Webqual 4.0; Importance Performance Analysis (IPA)*

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INTRODUCTION

Marlina, Santoso, Kelvin, & Andry (2019), suggest that the rapid development of technology and information has a major impact on the use of using the internet. Sumarsid & Paryanti (2022) also argue that the existence of technology makes it easier to meet needs, especially in service businesses which are currently developing along with technology that makes it easier. Likewise, the development of startup companies in Indonesia goes hand in hand

with very rapid technological developments, especially in the use of the internet. Kemp (2022) said that research company DataReportal said there were 204.7 million internet users in Indonesia in January 2022, meaning that it had reached 73.7 percent of the total population. The number of connected mobile devices in Indonesia reached 370.1 million in January 2022. This figure increased by 13 million or 3.6 percent from the same period in the previous year. The number of mobile device usage above is an opportunity for startup company founders in developing businesses, one of which is in facilitating access to health care facilities such as webiste medical services platforms that help access in the health sector where there are no distance limitations between patients and doctors

In Indonesia, there have been various health service platform websites that support access to health care facilities, launched by various parties from the startup company. One of the startups that is the choice of the community today is the product of PT Solusi Tiga Selaras (Solutif), Periksalab. With the development of internet usage and gadget usage in Indonesia today, Periksalab has become an alternative for users to get health services and people are becoming increasingly familiar with online health portals.

According to the Periksalab website (2023), Periksalab is a digital health care platform that connects the needs of individuals / companies for laboratory tests with hospital / clinic / laboratory partners that have been certified by the Ministry of Health. Periksalab was founded on August 18, 2021 due to the conditions of the Covid-19 pandemic and currently Periksalab offers its users for those who want to pay more for premium services, where medical personnel conduct examinations to the location the user wants. In addition, Periksalab also sees another opportunity where users can do a Medical Check Up before going to the doctor, if the user has comorbidities that are vulnerable to Covid-19 exposure such as hypertension, diabetes mellitus and heart disease.

Based on 2021-2022 order data, starting from the beginning of Periksalab's establishment until April 2022, it explains that the Periksalab portal experiences fluctuations in the number of service orders and tends to experience a decline. If this decline continues, it will affect the company's income and the company needs to evaluate the website and make innovations. With this situation, there may be a shift in the level of urgency of laboratory examinations by the community so that Periksalab needs to change quality standards to find out how users perceive.

Based on previous research in the journal Santoso & Anwar (2015), a website has a very important role in conveying information, but a website can also act as a benchmark to determine the level of good quality for its users. A website can be said to be good if the website has good service quality. This research has a goal, namely to analyze the quality of service of a website. To carry out this research, researchers used the WebQual 4.0 method and the Importance-Performance Analysis (IPA) analysis method with the perception value of the end users of the site.

Santoso & Anwar (2015) said that the WebQual method is a method used to measure the quality level of a website with the perception of end users based on three dimensional variables, namely Usability, Information Quality, and also Service Interaction Quality. According to Mandias, Septiawan, & Bojoh (2021), this method is based on the principles of Quality Function Deployment (QFD). This WebQual method has undergone several changes, starting from the factors that influence this method when compiling to the questions in this method. WebQual itself already has several versions where each version has a use in research.

Kusuma, Suprapto, & Az-Zahra (2019) say that to assess the quality of the dimensions of the WebQual method on a website, it is necessary to measure the analysis with the IPA

method. The IPA method is a measurement method with a comparison between the performance of the quality of service and also the importance of users about the quality of service. In previous research in the journal Azizah, Aryadita, & Herlambang (2018), the WebQual method is a method used to measure the quality level of a website with the perception of end users based on three dimensional variables, namely Usability, Information Quality, and Service Interaction Quality.

The IPA method was first presented in 1997 by John A. Martilla and John C. James in an IPA (Importance Performance Analysis) article. Fatmala, Suprapto, & Rachmadi (2018) also said that IPA analysis can be divided into three uses, namely, suitability level analysis, gap level analysis (GAP) and also quadrant analysis with variable dimensions of usability, which is related to usability in planning a system, such as displaying an attractive appearance, facilitating interaction between users in using a system, and also having ease of learning and browsing and satisfaction from customers, The second is information quality, namely needs regarding important information in accordance with goals and expectations, information that is easy to understand, the quality of the latest information, information that matches the requirements and also the results of reliable information and service interaction quality includes services provided on the website such as features, security, comfort, and also the experience of using the webstie according to what the user feels. Roz (2020) with a good website, correct information and an attractive appearance according to user needs can make users feel comfortable with the information displayed simply and understandable to users.

So the purpose of this study, researchers will use the WebQual 4.0 method and the results of the WebQual 4.0 method will be processed using the Importance Performance Analysis method and it is hoped that by applying these two methods, this study will get an objective assessment of the performance of the Periksalab website so that the website manager can determine whether what is the urgency of improving the website in the future.

METHOD

This research uses a quantitative descriptive method. Quantitative descriptive method, usually this method will be used as the main research in describing a word or number that has a certain meaning. In this study, the following stages were carried out:

First, the problem identification stage to find out the problems in this study, the researcher conducted an interview with the SLA Tompaso regarding the problems on their website.

Second, after knowing the problem to be solved, the next step is the literature study stage by getting the appropriate theoretical foundations regarding this research which are also taken from several sources such as journals, and websites related to website quality, WebQual methods, and IPA methods.

Third, the determination of this research method uses the WebQual 4.0 method which focuses on three attributes, namely Usability, Information Quality, and Service Interaction and also uses the IPA method.

Fourth, to collect data, researchers distributed questionnaires using Google Form and distributed 100 questionnaires to Periksalab users who had reached the after service stage.

Fifth, perform data processing in the form of WebQual 4.0 calculations and also IPA calculations with gap analysis (GAP), conformity analysis, and quadrant analysis, according to data that has been obtained from respondents through questionnaires.

Sixth, is a discussion of the results that will show the results of the performance and importance of the website and the results of this discussion will show the priority of each attribute taken based on quadrant analysis.

Seventh, are conclusions and suggestions that hopefully can provide advice or input to the research studied.

RESULTS AND DISCUSSION

Results

Calculation of Importance and Performance Questionnaire

Table 1. Calculation of Performance Value

Dimension	Items	Table IPA Perception (Performance) Scale				Score				Score Total	Percentage (T)	Avarage
		1	2	3	4	1	2	3	4			
Usability	Q1	4	26	54	16	4	52	162	64	282	70,5%	2,82
	Q2	4	26	50	20	4	52	150	80	286	71,5%	2,86
	Q3	8	28	43	21	8	56	129	84	277	69,3%	2,77
	Q4	4	36	40	20	4	72	120	80	276	69,0%	2,76
	Q5	10	43	33	14	10	86	99	56	251	62,8%	2,51
	Q6	5	38	36	21	5	76	108	84	273	68,3%	2,73
	Q7	6	21	56	17	6	42	168	68	284	71,0%	2,84
	Q8	6	27	43	24	6	54	129	96	285	71,3%	2,85
Information Quality	Q9	4	25	50	21	4	50	150	84	288	72,0%	2,88
	Q10	3	22	53	22	3	44	159	88	294	73,5%	2,94
	Q11	6	23	50	21	6	46	150	84	286	71,5%	2,86
	Q12	3	30	46	21	3	60	138	84	285	71,3%	2,85
	Q13	5	28	46	21	5	56	138	84	283	70,8%	2,83
	Q14	4	32	45	19	4	64	135	76	279	69,8%	2,79
	Q15	5	25	47	23	5	50	141	92	288	72,0%	2,88
Service Interaction Quality	Q16	4	22	50	24	4	44	150	96	294	73,5%	2,94
	Q17	4	20	52	24	4	40	156	96	296	74,0%	2,96
	Q18	5	22	46	27	5	44	138	108	295	73,8%	2,95
	Q19	4	21	52	23	4	42	156	92	294	73,5%	2,94
	Q20	5	20	51	24	5	40	153	96	294	73,5%	2,94
	Q21	4	24	45	27	4	48	135	108	295	73,8%	2,95
	Q22	4	23	49	24	4	46	147	96	293	73,3%	2,93
Average Value											71,3%	2,85

Source : Research Data Processed (2023)

Table 2. Calculation of Importance Value

Dimension	Items	Table IPA Expectations (Importance) Scale				Score				Score Total	Percentage (T)	Avarage
		1	2	3	4	1	2	3	4			
Usability	Q1	0	2	40	58	0	4	120	232	356	89,0%	3,56
	Q2	1	3	36	60	1	6	108	240	355	88,8%	3,55
	Q3	1	8	38	53	1	16	114	212	343	85,8%	3,43
	Q4	0	9	30	61	0	18	90	244	352	88,0%	3,52
	Q5	5	17	28	50	5	34	84	200	323	80,8%	3,23
	Q6	5	4	33	58	5	8	99	232	344	86,0%	3,44
	Q7	2	6	38	54	2	12	114	216	344	86,0%	3,44
	Q8	0	4	35	61	0	8	105	244	357	89,3%	3,57
Information Quality	Q9	0	2	38	60	0	4	114	240	358	89,5%	3,58
	Q10	1	5	33	61	1	10	99	244	354	88,5%	3,54
	Q11	0	6	32	62	0	12	96	248	356	89,0%	3,56
	Q12	0	5	39	56	0	10	117	224	351	87,8%	3,51
	Q13	0	2	37	61	0	4	111	244	359	89,8%	3,59
	Q14	0	8	39	53	0	16	117	212	345	86,3%	3,45
	Q15	0	4	34	62	0	8	102	248	358	89,5%	3,58
Service Interaction Quality	Q16	1	2	32	65	1	4	96	260	361	90,3%	3,61
	Q17	1	2	36	61	1	4	108	244	357	89,3%	3,57
	Q18	0	2	34	64	0	4	102	256	362	90,5%	3,62
	Q19	0	4	32	64	0	8	96	256	360	90,0%	3,60
	Q20	0	5	32	63	0	10	96	252	358	89,5%	3,58
	Q21	0	3	35	62	0	6	105	248	359	89,8%	3,59
	Q22	0	1	33	66	0	2	99	264	365	91,3%	3,65
Average Value											88,4%	3,54

Source : Research Data Processed (2023)

In the table above is the result of weighting the value of performance and importance, the score and also the total score which is the sum of each score on each scale. For the average value taken from the total score that has been divided by the number of respondents and the overall average result is the value of performance and importance. The overall average result on the performance value is 2.85 while importance has a value of 3.54. For the calculation of the value of performance and importance will be used for quadrant analysis as the point of the X and Y axes.

Suitability Level

At this stage has the aim of observing how much user satisfaction is when using the Periksalab website. The formula that will be used to calculate the level of conformity is:

$$TKi = \frac{xi}{yi} \times 100\% \quad (1)$$

Description:
Tki = Suitability Result
Xi = Score from Performance Assessment
Yi = Score from Interest Assessment

Table 3. Suitability Table

Dimension	Items	Indicator	Score Total Perception (Xi)	Score Total Expectations (Yi)	Suitability Level (Tki)
Usability	Q1	Site is easy to learn to operate	282	356	79,21%
	Q2	Interactions with the site are clear and easy to understand	286	355	80,56%
	Q3	The site has clear instructions	277	343	80,76%
	Q4	The site is easy to use	276	352	78,41%
	Q5	The site has an attractive appearance	251	323	77,71%
	Q6	The design is appropriate for the type of site	273	344	79,36%
	Q7	The site has delivery capabilities	284	344	82,56%
	Q8	This site provides a positive experience for me	285	357	79,83%
		Total	2214	2774	638,4%
				Usability Average	79,81%
Information Quality	Q9	Provide accurate information	288	358	80,45%
	Q10	Provides reliable information	294	354	83,05%
	Q11	Provides timely information	286	356	80,34%
	Q12	Provides relevant information	285	351	81,20%
	Q13	Provides information that is easy to understand	283	359	78,83%
	Q14	Provides detailed information	279	345	80,87%
	Q15	Provides information in an appropriate form	288	358	80,45%
		Total	2003	2481	565,2%
				Information Quality Average	80,73%
Service Interaction Quality	Q16	Provide a sense of security when making transactions	294	361	81,44%
	Q17	My personal information is kept safe	296	357	82,91%
	Q18	Analysts who conduct examinations arrive on time	295	362	81,49%
	Q19	Analysts when conducting examinations create a sense of security and comfort	294	360	81,67%
	Q20	Analysts master sampling techniques	294	358	82,12%
	Q21	Laboratory examination results are on time	295	359	82,17%
	Q22	Has a good reputation	293	365	80,27%
		Total	2061	2522	572,1%
				Service Interaction Quality Average	81,72%
		Overall Average	6278	7777	240,27%
				Suitabel Table Average	80,73%

Source : Research Data Processed (2023)

The table above displays a comparison of the total score of each attribute contained in the performance and importance values which will get the results of the presentation of the level of conformity of the existing attributes. The value of the overall average level of conformity that has been calculated is 80.73%, which indicates that the website from Periksalab has a website quality that does not meet the expectations of users.

According to Supranto in Baiti, Suprapto, & Rachmadi (2017) the criteria for assessing the level of customer suitability are as follows:

- Customer suitability level> 100%, meaning that the quality of service provided has exceeded what customers consider important à Service is very satisfying
- The level of customer suitability = 100%, means that the quality of service provided meets what customers consider important à The service is satisfactory
- The level of conformity < 100% means that the quality of service provided is less / does not meet what is considered important by customers à The service is not satisfactory

Gap Analysis

Gap Analysis is an analysis method by measuring to determine the gap between categories based on performance and importance. The formula for calculating the gap value is as follows:

Q*i* = Performance *i* – Importance *i*

Table 4. Gap Analysis Calculation

Dimension	Items	Indicator	Score Total Perception (X_i)	Score Total Expectations (Y_i)	Suitability Level (GAP)
Usability	Q4	Easy to use site	2,760	3,520	-0,760
	Q1	Site is easy to learn to operate	2,820	3,560	-0,740
	Q5	The site has an attractive appearance	2,510	3,230	-0,720
	Q8	This site provides a positive experience for me	2,850	3,570	-0,720
	Q6	The design is appropriate for the type of site	2,730	3,440	-0,710
	Q2	Interactions with the site are clear and easy to understand	2,860	3,550	-0,690
	Q3	The site has clear instructions	2,770	3,430	-0,660
	Q7	The site has delivery capabilities	2,840	3,440	-0,600
				Usability Average	**-0,700**
Information Quality	Q13	Provides information that is easy to understand	2,830	3,590	-0,760
	Q9	Provides accurate information	2,880	3,580	-0,700
	Q11	Provides timely information	2,860	3,560	-0,700
	Q15	Provides information in an appropriate form	2,880	3,580	-0,700
	Q14	Provides detailed information	2,790	3,450	-0,660
	Q12	Provides relevant information	2,850	3,510	-0,660
	Q10	Provides reliable information	2,940	3,540	-0,600
				Information Quality Average	**-0,683**
Service Interaction Quality	Q22	Has a good reputation	2,930	3,650	-0,720
	Q16	Provide a sense of security when making transactions	2,940	3,610	-0,670
	Q18	Analysts who conduct examinations come on time	2,950	3,620	-0,670
	Q19	Analysts when conducting examinations create a sense of security and comfort	2,940	3,600	-0,660
	Q20	Analysts master sampling techniques	2,940	3,580	-0,640
	Q21	Laboratory examination results are on time	2,950	3,590	-0,640
	Q17	My personal information is stored safely	2,960	3,570	-0,610
				Service Interaction Quality Average	**-0,659**
				Overall Average	**-0,6814**

Source : Research Data Processed (2023)

The table above displays the results of the gap analysis (GAP) between perceptions and expectations which have been sorted based on the largest to smallest value. The result is that in the usability dimension the highest GAP value lies in indicator Q4, then in the information quality dimension the highest GAP value lies in indicator Q13 and in the service interaction quality dimension the highest GAP value lies in indicator Q22.

Then the average result is that the gap level on usability is at a value of -0.70%. The gap level on information quality is at a value of -0.68%. The gap level in service interaction quality

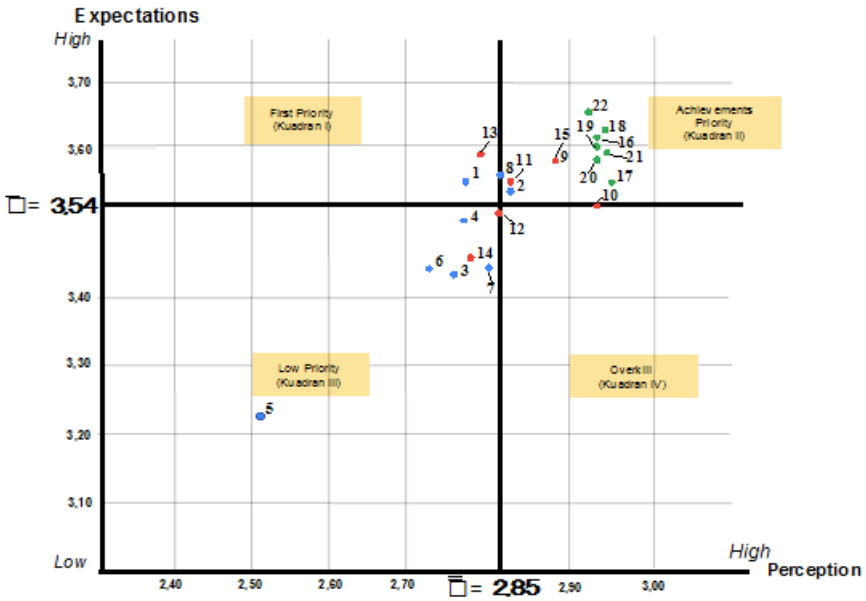
is at a value of -0.65%. The value of the overall average level of gaps that have been calculated results in an average value of -0.68

Supported by previous research in the journal Fatmala, Suprapto, & Rachmadi (2018) the level of quality of a website or system that is said to be good is indicated by the Qi (GAP) value ≥ 0. This means that the quality expected by respondents is in accordance with the current quality. Conversely, if Qi < 0, the system or website is said to be lacking or has not met the expectations or desires of its users.

Quadrant Analysis

Quadrant Analysis is a result that contains the classification value obtained from the performance and importance attributes according to the quadrant level. In this quadrant analysis, the attributes of performance are described by the x-axis, while the importance attribute is described by the y-axis. Quadrant analysis has four parts bounded by two line axes, namely (x,y).

Figure 1. Quadrant Analysis



Discussion

The results of the calculation of the value (average expectation score) and (average perception score) are then mapped in a Cartesian diagram, which aims to find out where the attributes are located in which quadrant. The following is a discussion of each quadrant:

1. Quadrant I In this quadrant, indicators are not in accordance with user expectations or have a high level of expectation but a low level of perception. This dimension is the top priority in paying attention and making improvements to the Periksalab website. These results are also supported by previous research Ngulum & Indriyanti (2020) which says that this quadrant is an input for website managers to pay more attention to attributes in quadrant I in making website improvements. This quadrant also answers the cause of the downward trend in the number of orders at Periksalab. Of course, Solutif must focus

on improvements, especially the information included on the Periksalab website such as paying attention to functional layouts in the right place.

2. Quadrant II There are 12 indicators on the Periksalab website that are included in quadrant II where these indicators have a high level of expectation and a good level of performance as well so that the indicators in this quadrant are considered to be in accordance with user desires and must be maintained for the Periksalab website in the future to make it better. Solutive is also expected to create new comfort for its users through the discovery or new development of innovative ideas that can be implemented on the Periksalab website to win future competition.
3. Quadrant III The seven indicators are located in quadrant III, which means that they are considered less important by users and in reality their performance is not too special. This means that the indicators contained in this quadrant have a low level of expectation and their performance is also considered poor by users. These results are also supported by previous research which says that Deo, Sanjaya, & Linda (2017) increased variables included in this quadrant can be reconsidered because their effect on the benefits felt by customers is very small.
4. Quadrant IV Based on the results of the analysis of Periksalab user respondents, there are no attributes that appear in quadrant IV.
   attributes that appear in quadrant IV. This is appropriate considering that Solutif does not carry out activities that have a low level of importance but a high level of performance so that they have overkill quality.

CONCLUSION

The results of the research using the WebQual 4.0 and IPA methods concluded that:

1. The main factor of the webqual 4.0 variable that needs to be improved by Periksalab is the usability variable because it has the lowest average value compared to other variables, which is 79.81%. Then the indicators that have the highest GAP level in the usability dimension are indicators Q1 "the site is easy to learn to operate" and Q4 "the site is easy to use".
2. The results of the analysis of Usability, Information Quality, and Service Interaction Quality variables with the IPA (Importance Performance Analysis) method in analyzing the average level of suitability Level, the level of gap (GAP) and also quadrant analysis as follows:
   a. Average level of Suitability
      The average result of the level of Suitability is 80.73%, which means that the Periksalab website has a website service quality that does not meet the expectations that are considered important from users.
   b. Average level of Gap
      The average result of the gap analysis (GAP) produces a value of -0.6814 which means that users feel that the quality level of the website still has shortcomings so that the ideal wishes of the users are still not fulfilled.
   c. Quadrant Analysis
      The results of the Cartesian quadrant analysis which have been divided into four quadrants have attributes that are spread across these four quadrants, so it can be concluded that there are 3 recommendations for the focus of website improvement tailored to quadrant A, namely the usability dimension with indicator Q1, namely "the site is easy to learn to operate" and Q8, namely "this

site provides a positive experience for me", then the information quality dimension with indicator Q13, namely "providing information that is easy to understand".

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