Detikcom Website Analysis with Webqual 4.0 and Importance-Performance Analysis Method

Kevin Christianto, Deny, Charles Martino, and Daniel Fischer

Abstract—**With the development of technology, internet usage is also increasing. Many companies are utilizing the internet in their business, especially news media companies. One of them is Detikcom, but unlike other news companies, Detikcom only has an online version so Detikcom must maintain the quality and satisfaction of its website readers to stay competitive with its competitors. Therefore, researchers conducted a study to measure the quality and satisfaction of Detikcom website readers using the method of Webqual 4.0 and Importance-Perfomance Analysis. The Webqual 4.0 method is used because it can measure website quality from usability, information quality, service interaction quality dimension, while IPA method is used to measure readers' satisfaction level based on average importance value and average performance value in existing dimension in Webqual 4.0. The instrument used to collect data is questionnaire. Questionnaires were made on the Google Form medium and distributed on online media. The result of the calculation of the gap between performance and importance shows that the performance of Detikcom has not met the expectations of its readers on all the research indicators. The results of the IPA diagram show there are three indicators that should be a top priority for improved performance and nine indicators that must be maintained its performance by Detikcom.**

Keywords—**Website, Detik.com, Webqual 4.0, Importance-Performance Analysis.**

I. INTRODUCTION

Current information technology is growing day by day, especially the internet. The growth of the internet also affects the growth and use of online information media. The increasing use of online media has led to a decline in public interest in print media. The growth of online media is not only reduce public interest in print media, but it is also led to a decline in the existence of print media. The survey results from Nielsen Indonesia 2014 showed that newspaper penetration as one of the print media decreased from 15 percent in 2010 to 11 percent in 2014. Otherwise, online media penetration made an increase in the same year from 17 percent to 34 percent [1].

In Indonesia, many companies have used the internet to help their business. Just like the news companies, they use the internet to provide a news website so that their readers can access the news they present from anywhere. The rise of the use of online media is in line with the intense competition between the news companies [1].

One of Indonesian news companies that provides a news website is Detikcom. Unlike other online news sites in Indonesian, Detikcom only has an online version and depends on advertising revenue. Even so, Detikcom is one of the leading sites for the latest news.

By only relying on the site, Detikcom must maintain the quality and satisfaction of its site readers. Quality is an important thing for a website, because the quality will affect the level of website usage. To measure the quality of the website, you can use the Webqual method.

Webqual has been developed since 1998 and has undergone several iterations. Webqual was originally created to assess the quality of e-commerce websites from the user's perception. However, now Webqual has been used to measure website quality in general [2].

In Webqual 4.0, the questions are arranged based on three areas, namely: usability, information quality, and service interaction quality. User perception consists of two parts, which is the perception of service received (actual) and the level of expectation (ideal), a qualified website can be seen from the high level of actual service perception and the gap between actual and ideal perception is low [3].

Meanwhile, user satisfaction of a website can be analyzed using the Importance-Performance Analysis (IPA) method. This method is an application technique that is easy to manage attributes of the level of importance and the level of implementation itself which is useful for the development of effective marketing programs [4].

The IPA combines the measurement of importance and satisfaction levels in a two-dimensional graph that makes it easy to explain the data and get practical suggestions. The interpretation of the Natural Sciences graph is very easy, where the Natural Sciences graph is divided into four quadrants based on the results of the Importance-Performance measurement [5].

From the background above, it can be concluded that Detikcom is one of the leading news websites in Indonesia even though it only uses online media. Therefore, researchers conducted research to analyze the quality and satisfaction of Detikcom website readers.

II. RELATED LITERATURE AND STUDIES

A. Webqual

Webqual is a tool for assessing the usability, quality of

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information and the quality of service interactions of web pages on the internet, especially those that use e-commerce facilities. Webqual is one technique or method for measuring the quality of a website based on direct responses from end users [6]. Based on several definitions mentioned webqual is a tool to measure the quality of information, the quality of service interactions and usability on a website. The Webqual method was first developed by Vidgen and Barnes in 1998 on e-commerce and e-government websites. The development of this method began with the emergence of Webqual 1.0, which was used by Vidgen and Barnes in a business school in the UK in 2000. It was continued with Webqual 2.0 for the B2C web at online bookstores. Then the existence of Webqual 3.0 was tested by Barnes and Vidgen in 2001 on a web auction. And the last is Webqual 4.0 [7].

The questions in Webqual 4.0 are divided into three categories: usability, information quality, and service interaction quality. These questions are as follows [7]:

Usability category is:

- I find the site easy to learn to operate
- My interaction with the site is clear and understandable
- I find the site easy to navigate
- I find the site easy to use
- The site has an attractive appearance
- The design is appropriate to the type of site
- The site conveys a sense of competency
- The site creates a positive experience for me

Information Quality category is:

- Provides accurate information
- Provides believable information
- Provides timely information
- Provides relevant information
- Provides easy to understand information
- Provides information at the right level of detail
- Presents the information in an appropriate format

Service Interaction Quality is:

- Has a good reputation
- It feels safe to complete transactions
- My personal information feels secure
- Creates a sense of personalization
- Conveys a sense of community
- Makes it easy to communicate with the organization
- I feel confident that goods will be delivered as promised.

B. Importance-Performance Analysis (IPA)

This technique was first proposed by Martilla and James in 1977. This technique they wrote in an article entitled "Importance-Performance Analysis", this article was published in the Journal of Marketing. In this technique, the respondent is asked to provide an assessment of the level of performance and importance of the company, then the results of the average level of performance and importance will be analyzed in the Importance-Performance matrix shown in Figure 1 [8].

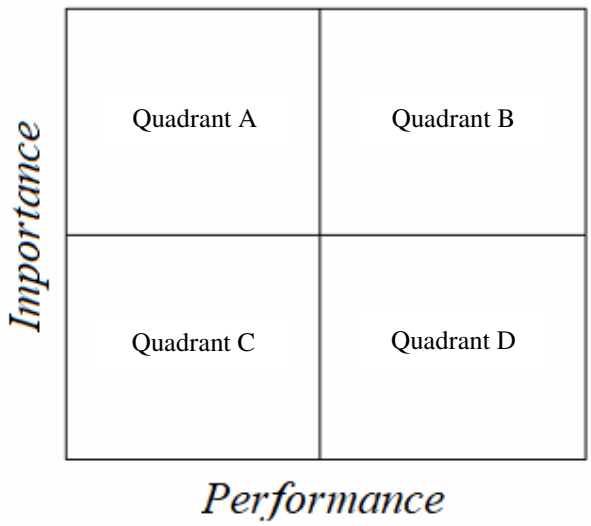

Figure 1. Importance-Perfomance Matrix [8], [10], [11]

The interpretations of the quadrants are as follows:

A. Top Priority, In this quadrant, there are important factors that are consumers want but the company's performance is considered not satisfactory enough, so the company must focus on improving the performance of the factors included in this quadrant.
B. Maintain Performance, In this quadrant, there are factors that are considered quite important and desired by consumers, therefore the company must maintain its performance in the factors included in this quadrant.
C. Low Priority, In this quadrant, there are factors that the actual level of performance is sufficient and not too desirable by consumers so the company does not need to focus or pay more attention to these factors.
D. Excessive, In this quadrant, there are factors that have a high level of performance, but are not very desirable by customers, so the company should stop the related resources, then focus more on other factors that have a higher priority.

III. METHODS

Table 1 Variable and Indicator Research [7], [9]

Variabel	Indikator	Kode
Usability	Easy to learn operation	USA1
	The interaction is clear and understandable	USA2
	Easy to navigate	USA3
	Easy to use	USA4
	Attractive appearance	USA5
	Suitable design	USA6
	Having competitiveness	USA7
	Creating positive experiences	USA8
Information Quality	Accurate information	INF1
	Reliable information	INF2
	Timely information	INF3
	Relevant information	INF4
	Information is easy to understand	INF5
	Information with the right level of detail	INF6
	Information in the appropriate format	INF7

Service Interaction Quality	Good reputation	SRV1
	Security of personal information	SRV2
	Personalization	SRV3
	Community space	SRV4
	Facilitate communication with organizations	SRV5

This type of research is quantitative descriptive research. Descriptive research is a research that conducted to clarify a phenomenon by explaining number of variables related to the problem being studied. Quantitative research is a method used to test certain theories by examining the relationship between variables [1].

In this study, there are three variables and twenty indicators that can be seen in Table 1, namely: usability with eight indicators, information quality with seven indicators, and service interaction quality with five indicators. The variables and indicators used are from Webqual 4.0, with two indicators not being used because they are outside the Detikcom website domain, namely security in conducting transactions and shipping goods or services.

The stages in this research can be seen in Figure 2, namely problem identification, literature study, data collection, validity and reliability testing, data analysis, and drawing conclusions.

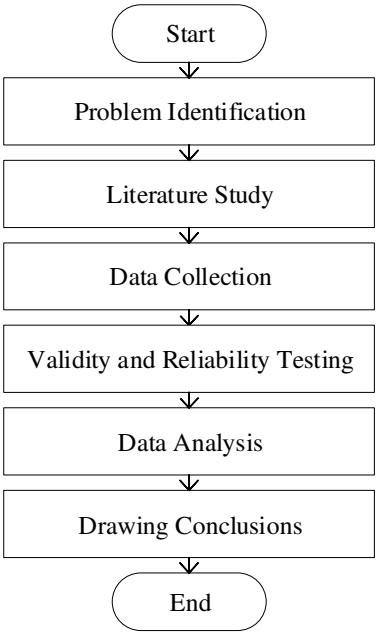

Figure 2. Research Step

The data collection technique used is random sampling technique. The instrument used in this study was a closed questionnaire with a Likert scale of one to five for each indicator with information strongly disagree to strongly agree for the scale of performance and from very insignificant to very important for the scale of importance. The questionnaire was created on Google Form media and distributed online on social media and forums. The sample used was 119 respondents.

Validity and reliability tests were performed using SPSS software. The method used to test the validity of the questionnaire is the Pearson Product Moment method, and the Cronbach's Alpha method to test reliability.

Data analysis was performed after conducting validity and reliability tests of the data collected. The analysis was carried out based on the measurement results from the Webqual method and the IPA method. Stages in analyzing data can be seen in Figure 3. From the results of this analysis, conclusions and recommendations are drawn.

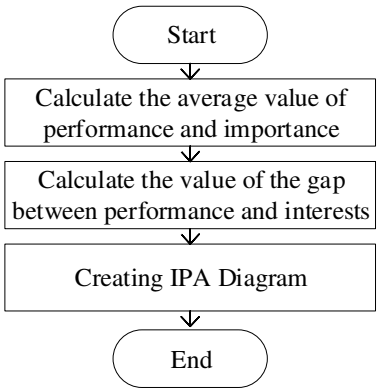

Figure 3. Data Analysis Step

IV. Result and Analysis

The results of the average performance for each indicator on the usability variable can be seen in Table 2. From the table can be seen that the highest Detikcom performance value on this variable is 3.50 on the USA7 indicator. Meanwhile, the lowest performance value is 3.03 on the USA5 indicator.

Table 2. Average Variable Performance for Usability

Indicator Code	Average Performance
USA1	3,24
USA2	3,40
USA3	3,34
USA4	3,37
USA5	3,03
USA6	3,31
USA7	3,50
USA8	3,36
Average	3,31

The average performance results for each indicator on the information quality variable can be seen in Table 3. From the table we can see that the highest Detikcom performance value on this variable is 3.59 on the INF3 indicator. Meanwhile, the lowest performance value is 3.22 on the INF1 indicator.

Table 3. Average Variable Performance for Information Quality

Indicator Code	Average Performance
INF1	3,22
INF2	3,29
INF3	3,59
INF4	3,31
INF5	3,33
INF6	3,24
INF7	3,29
Average	3,32

The results of the average performance for each indicator on the service interaction quality variable can be seen in Table 4. From the table can be seen that the highest Detikcom performance value on this variable is 3.67 on the SRV1 indicator. Meanwhile, the lowest performance value is 2.61 on the SRV4 indicator.

Table 4. Average Variable Performance for Service Interaction Quality

Indicator Code	Average Performance
SRV1	3,67
SRV2	3,09
SRV3	3,09
SRV4	2,61
SRV5	2,62
Average	3,02

From Table 2, Table 3, and Table 4, it is known that the information quality variable has the highest average performance with a value of 3.32, followed by the usability variable which has an average performance that is very close to the information quality variable with a value of 3.31, while the service interaction quality variable has the lowest performance value of 3.02. Overall, the average value of performance is 3.25. The highest value is 3.67 on SRV1, although the variable service interaction quality has the lowest average value. Meanwhile, the lowest value is 2.61 at SRV4. This shows that Detikcom focuses its performance on creating a good reputation. Meanwhile, other indicators on the service interaction quality variable on the website are the lowest priority.

The average value of importance for each indicator on the usability variable can be seen in Table 5. From the table can be seen that the indicator which is considered the highest importance by the reader on this variable is USA2 with a value of 4.03. Meanwhile, the indicator with the lowest importance is USA6 with a value of 3.47.

Table 5. Average Variable Importance for Usability

Indicator Code	Average Performance
USA1	3,74
USA2	4,03
USA3	3,74
USA4	3,90
USA5	3,60
USA6	3,47
USA7	3,74
USA8	3,55
Average	3,72

The average value of importance for each indicator in the information quality variable can be seen in Table 6. From the table can be seen that the indicator which is considered the highest importance in this variable is INF3 with a value of 4.08. Meanwhile, the indicator with the lowest importance is INF5 with a value of 3.64.

Table 6. Average Variable Importance for Information Quality

Indicator Code	Average Performance
INF1	3,76
INF2	3,96
INF3	4,08
INF4	3,68
INF5	3,64
INF6	3,84
INF7	3,80
Average	3,82

The average value of importance for each indicator in the service interaction quality variable can be seen in Table 7. From the table can be seen that the indicator which is considered the highest importance on this variable is SRV1 with a value of 3.98. Meanwhile, the indicator whose importance is considered the lowest is SRV3 with a value of 3.18.

Table 7. Average Variable Importance for Service Interaction Quality

Indicator Code	Average Performance
SRV1	3,98
SRV2	3,43
SRV3	3,18
SRV4	3,19
SRV5	3,24
Average	3,40

From Table 5, Table 6, and Table 7, it is known that the information quality variable has the highest average value of interest with a value of 3.82, followed by the usability variable which has an average interest of 3.72, while the service interaction quality variable has the lowest importance value of 3.40. Overall, the average value of interest is 3.68. The highest value is 4.08 on INF3. Meanwhile, the lowest value is 3.18 in SRV3. This shows that most respondents consider that timely information is the most important indicator of the Detikcom website, while personalized space is considered the least important indicator of the website.

Calculation of the gap between performance and importance is conducted to measure the extent to which Detikcom has fulfilled readers expectations. The gap is calculated by reducing the value of performance with the importance of each indicator.

A positive gap value indicates that the Detikcom website has met the expectations of its readers. The higher the value, the more readers expectations will be exceeded. Vice versa, negative values indicate that Detikcom's performance is not in accordance with the expectations of the reader. The lower value is, the further below the performance of the reader as expected.

From Table 8, it can be seen that all indicators on the usability variable have negative values, this means that the Detikcom website has not met the expectations of its readers on all indicators on the usability variable, especially on the USA2 indicator with a gap of -0.62. The smallest gap is on the USA8 indicator with a gap of -0.18.

Tabel 8. Gap between Performance and Importance for Usability

Indicator Code	Average Performance	Average Importance	Gap
USA1	3,24	3,74	-0,50
USA2	3,40	4,03	-0,62
USA3	3,34	3,74	-0,40
USA4	3,37	3,90	-0,53
USA5	3,03	3,60	-0,56

USA6	3,31	3,47	-0,16
USA7	3,50	3,74	-0,24
USA8	3,36	3,55	-0,18
Average	3,31	3,72	-0,40

From Table 9, can be seen that all indicators have negative values, this means that the Detikcom website has not met the expectations of its readers in all indicators on the Information Quality variable, especially on the INF2 indicator with a gap of -0.67. The smallest gap is on the INF5 indicator with a gap of -0.31.

Tabel 9. Gap between Performance and Importance for Information Quality

Indicator Code	Average Performance	Average Importance	Gap
INF1	3,22	3,76	-0,54
INF2	3,29	3,96	-0,67
INF3	3,59	4,08	-0,50
INF4	3,31	3,68	-0,37
INF5	3,33	3,64	-0,31
INF6	3,24	3,84	-0,60
INF7	3,29	3,80	-0,50
Average	3,32	3,82	-0,50

From Table 10 can be seen that all indicators have negative values, this means that the Detikcom website has not met the expectations of its readers on all indicators of the service interaction quality variable, especially on the SRV5 indicator with a gap of -0.67. The smallest gap is on the SRV3 indicator with a gap of -0.08.

Tabel 10. Gap between Performance and Importance for Service Interaction Quality

Indicator Code	Average Performance	Average Importance	Gap
USA1	3,24	3,74	-0,50
USA2	3,40	4,03	-0,62
USA3	3,34	3,74	-0,40
USA4	3,37	3,90	-0,53
USA5	3,03	3,60	-0,56
USA6	3,31	3,47	-0,16
USA7	3,50	3,74	-0,24
USA8	3,36	3,55	-0,18
Average	3,31	3,72	-0,40

From Table 8, Table 9, and Table 10, it is known that the average gap of all indicators is -0.43. Overall, the performance of Detikcom has not met the expectations of its readers. All indicators have negative values, with the farthest gap value is INF2 indicator with a gap value of -0.67. Whereas for SRV3 indicator the value of the gap is -0.08. This value shows that on this indicator, Detikcom performance is now very close to the performance expected by its readers.

A Natural Science diagram is created to determine the quadrants of each indicator. The diagram can be seen in Figure 4. The X axis represents the value of the performance indicator, while the Y axis represents the importance of the indicator. The inter-quadrant boundary line is the average value of performance and importance of the whole indicator.

From Figure 4, can be seen that there are three indicators located in quadrant A, nine indicators in quadrant B, five indicators in quadrant C, and three indicators in quadrant D.

In quadrant A, there are indicators USA1, INF1, and INF6. These three indicators must be the top priority of the Detikcom website because all three of these indicators have an above-average importance, but their performance is still below average.

In quadrant B, there are indicators USA2, USA3, USA4, USA7, INF2, INF3, INF4, INF7, and SRV1. These nine indicators must be maintained by Detikcom, because all nine of these indicators have an above-average importance level and the performance of Detikcom has also been above the average in all nine of these indicators.

In quadrant C, there are indicators USA5, SRV2, SRV3, SRV4, and SRV5. The indicators in this quadrant need not be overly focused because they have a level of importance below the average and the performance of Detikcom is also below average.

In quadrant D, there are indicators USA6, USA8, and INF5. All three of these indicators have below-average importance, but Detikcom has above-average performance for these three indicators. Ideally, Detikcom reduces its focus on these indicators and allocates its resources to the indicators in quadrant A.

The recommendations to be given are for indicators whose performance values are below the average of 3.25. Recommendations are expected to help the Detikcom website to improve its performance. Prioritize to improve performance on indicators that are in quadrant A, then improve performance on other indicators that still do not meet the expectations of the reader.

Viewed from Figure 4, the Usability variable has 2 indicators that are below the average. These indicators are USA1 and USA5. Starting with USA1, USA1 focuses on the ease of learning the operation of the website. The performance value on USA1 is actually very close to the average value of overall performance, which is only 0.1. The way that can be used to increase the value of performance on USA1 can be by providing a more complete description for the menus provided on the Detikcom website. With this additional information, the reader can understand the functions of these menus more easily.

The second indicator on the usability variable whose performance value is below the average value is USA5. USA5 focuses on attractive appearance. The recommendation that we can give is a background image on the website or by changing the background color with a more attractive color. Another recommendation is to rearrange the layout so that it doesn't look too full and narrow.

Then, for the Information Quality variable, the same as the Usability variable, there are 2 indicators that are below the average value, namely the INF1 and INF6 indicators. Starting with INF1, INF1 focuses on the presentation of accurate information. This indicator has a value that is still less than 0.3 from the average value. Recommendations that can be given are news that will be presented should be verified again to ensure the truth before being published.

Then, the second is the INF6 indicator. INF6 is an indicator that focuses on presenting information with the right level of detail. The performance value on this indicator

is only 0.1 less than the average value. The recommendation given is before presenting the news, double check whether the news to be presented has sufficient detail or is excessive, then make adjustments so that the news has the right details.

In the Service Interaction Quality variable, of the 5 indicators there are 4 indicators that are below the average. Indicators below the average are SRV2, SRV3, SRV4, and SRV5. Starting with the SRV2 indicator, SRV2 is an indicator that focuses on the security of personal information. In this indicator, the performance is still 0.16 below the average value. The recommendation for this indicator is to ensure that data entered by the reader such as e-mail is kept confidential, and data such as passwords are encrypted so that the reader can be absolutely sure of the security of his personal information.

The next indicator on Service Interaction Quality that is below the average is SRV3. SRV3 is an indicator that focuses on creating personalization space. This indicator has the same performance value as the SRV2 indicator, which is 0.16 below the average value. The recommendation for this indicator is to give readers the choice to change the background as they wish.

The third indicator is the SRV4 indicator. SRV4 is an indicator that focuses on the creation of community space. This indicator has a performance value that is far below the average value. In creating community space, Detikcom has a forum for readers to discuss. However, its performance is still considered less by the reader. The recommendation to increase the value of the indicator is to hold interesting events more often so that readers are more interested in discussing in the forum.

The last indicator is the SRV5 indicator. SRV5 is an indicator that focuses on ease of communication with organizations. This indicator has a performance value that is far below the average value. The recommendation that can be given is to make a call center or live chat feature on the Detikcom website. That way, readers can more easily communicate with the Detikcom.

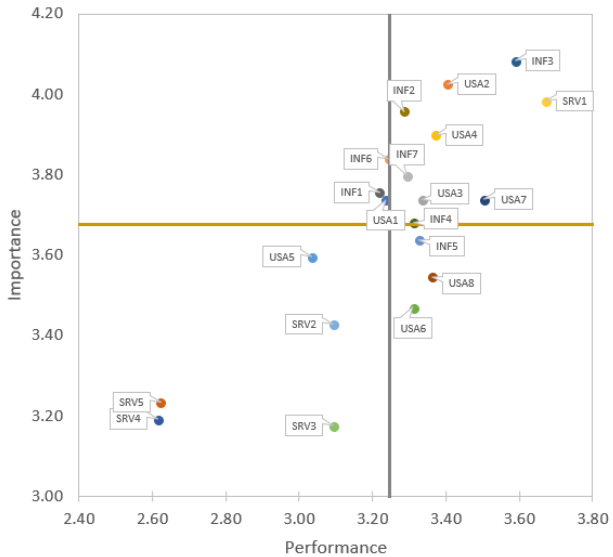

Figure 4. IPA Diagram

V. Conclusion

The conclusion that can be drawn from this research is that the Detikcom website has not met the expectations of its readers on all indicators. However, it can be said that the quality of Detikcom is already good because there are only three indicators that need to be the top priority for performance improvement, while there are nine indicators that have prioritized their performance and are in accordance with the expectations of the reader. Indicators that must be the top priority for improved performance are USA1, INF1, and INF6. Indicators that must be maintained are USA2, USA3, USA4, USA7, INF2, INF3, INF4, INF7, and SRV1. For further research, researchers can use or combine other methods to measure the quality and satisfaction of website readers.

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