

Measurement e-commerce Services Quality: Applying Webqual 4.0 and Importance Performance Analysis

Sucipto^{1*}, Cahyani Budihartanti²

STMIK Nusa Mandiri, Jl. Damai No.8 Warung Jati Barat (Margasatwa), Jakarta Selatan 12740, Indonesia

¹ciptoito77@gmail.com*; ²cahyani.cbh@nusamandiri.ac.id

ARTICLE INFO

Article History:

Received February 20, 2020

Revised March 3, 2020

Accepted June 1, 2020

Available Online June 15, 2020

Keywords:

Shopee Website;

Webqual Method;

Importance Performance Analysis (IPA)

Method

Kata Kunci:

Shopee Website;

Metode Webqual;

Importance Performance Analysis

(IPA) Method

Correspondence:

Telephon: +62 8121 8603422

E-mail: ciptoito77@gmail.com

ABSTRACT

One of the increasing use of technology in the business sector is the growing number of online-based business applications. Business actors began to develop many businesses through e-commerce websites. Shopee is an application that is engaged in buying and selling online and can be accessed easily using a smartphone. With a total visit of nearly 2 billion in 2019, Shopee grossed US\$942 million. But the buyer satisfaction rate of online transactions is still low compared to conventional purchases, in addition to reducing satisfaction, plus the risk of fraud that can be detrimental. The purpose of this research is to know the perception of consumers to the quality of service and analyze the consumer satisfaction of the Shopee website. The instruments used in this research are questionnaires with sampling techniques incidental. In this research, the method used is Webqual method 4.0 and IPA. The Webqual method consists of the usability aspects, information quality, and interaction quality. In the IPA method is used to analyze the level of conformity and gaps based on the level of satisfaction and expectation of users. The result of the calculation of the IPA method can be described with the IPA matrix consisting of four quadrants. From the results of the analysis of this research, the value of Gap (GAP) is the most significant aspect of interaction quality, with an average value of 3.20%.

ABSTRAK

Salah satu peningkatan pemanfaatan teknologi pada sektor bisnis adalah semakin banyaknya penerapan bisnis berbasis online. Pelaku usaha mulai banyak yang mengembangkan bisnis melalui website e-commerce. Shopee adalah sebuah aplikasi yang bergerak di bidang jual beli secara online dan dapat diakses secara mudah dengan menggunakan smartphone. Dengan total kunjungan hampir 2 miliar pada tahun 2019 Shopee meraih keuntungan sebesar US\$ 942 juta. Namun tingkat kepuasan pembeli terhadap transaksi online masih rendah dibandingkan pembelian secara konvensional, selain mengurangi kepuasan, ditambah lagi resiko penipuan yang dapat merugikan. Tujuan dari penelitian ini adalah untuk mengetahui persepsi konsumen terhadap kualitas layanan dan menganalisis kepuasan konsumen terhadap Shopee website. Instrumen yang digunakan pada penelitian ini adalah kuesioner dengan teknik sampling incidental. Pada penelitian ini, metode yang digunakan adalah metode webqual 4.0 dan IPA. Pada metode webqual terdiri dari aspek usability, information quality dan interaction quality. Pada metode IPA digunakan untuk menganalisis tingkat kesesuaian dan kesenjangan berdasarkan tingkat kepuasan dan harapan para pengguna. Hasil dari penghitungan metode IPA dapat digambarkan dengan matrix IPA yang terdiri dari empat kuadran. Dari hasil analisa pada penelitian ini, nilai kesenjangan (gap) terbesar yaitu pada aspek interaction quality dengan nilai rata-rata 3.20%.

1. Introduction

Now, a company or agency can communicating information effectively through the website or world wide web (www) business development when it is so rapidly with shouting by technology development that supports any business. The development business is done online when it means raising the utilization of technology information. Growth new technology encouraged a number the online marketing channels or often called e-commerce. This used to the fullest by businesses to develop business through e-commerce provided website[1][2][3].

In other research suggested that Indonesia will be shopping online at a boom in 2015, predictions are based on the results of research concluded that throughout the last few years to 2014 into next year, e-commerce growth rapidly shows the increase [4].

One of which is supporting factors e-commerce website. Buyers in e-commerce interact with corporations use the website. One of them is the Shopee website. Was the site of the place Shopee the sale online that guarantee 100 % money back to the buyer. In other research suggested Shopee is an online market place first for consumers to consumers (c2c) offering facilities for buying and selling online [5][6][7].

In other research suggested that a growth potential market e-commerce is consumer growth in shopping online. It is because of the low penetration by some obstacle debit cards and credit cards; consumers can take that information on the internet first before decided to buy products or services he wants and distrust consumers to do online shopping. Consumer confidence in online shopping is a complicated control because of obstacles relating to consumer attitudes and behavior. Hence, needed research on the beliefs and behavior consumers concerning online to the e-commerce shopping business can use the potential that exists in Indonesia [8][9].

Purchase online through the website are still not received the trust of consumers and prefer expenditure in immediate rather than shopping online. For consumers who purchase online fraud are not satisfied, and there are, which can harm to reduce the disbelief of the new Shopee website purchase of goods. On another research website will the quality of e-commerce will affect the many customers had decided to online shopping in e-commerce. Know the quality of a website set, and there is a standard 4[10][11][12].

The purpose of this study is to find the perception of consumers on the quality of care at the website and saw significant www.Shopee.co.id relations between the level of customer satisfaction on the e-commerce website www.Shopee.co.id (ease) usability, information quality, interaction quality, quality of interaction.

2. Method

2.1 Data Collection

Data collection method in this research was:

1. Interview data collection method by giving questions to respondents never used the Shopee website.
2. The survey in this research a scale of measurement is used in the questionnaire Likert scales, choice answers criteria were the scored answer:

Table 1. The assessment criteria Likert

	No	The performance	Score	Statement importance
3. The literature study In this report, it writer seeking	1	Strongly Agree (SA)	5	Very Important (VI)
	2	Agree (A)	4	Important (I)
	3	Neutral (N)	3	Neutral (N)
	4	Not Agree (NA)	2	Not Important (NI)
	5	Strongly Disagrees (SD)	1	Very Unimportant (VU)

information through a book reference and journal research journal before.

In data collection, then the researcher would first test the validity of its and reliability. After the data that has been obtained in input to the software ms.excel, the results of data processed to software SPSS, then afterward formulation analyzed to said the test hypotheses.

2.2 Webqual 4.0

In other research suggested Webqual 4.0 is a website based on measurements to gauge the quality of the research that can be instruments categorical in four variables, which uses usability, the quality of information, interaction quality, and overall impressions 5. Webqual 4.0 is a measuring instrument for measuring the quality of websites based on research instruments that can be described into four variables the usability, quality information, quality, and overall impressions interaction, following such a picture[13][14][15].

Table 2. Webqual Dimension 4.0[16][17][18]

Dimension	Variable WebQual 4.0
Usability	1. I find the site easy to learn to operate
	2. My interaction with the site is clear and understandable
	3. I find the site easy to navigate
	4. I find the site easy to use
	5. The site has an attractive appearance
	6. The design is appropriate to the type of site
	7. The site conveys a sense of competency
	8. The site creates a positive experience for me
Information Quality	9. Provides accurate information
	10. Provides believable information
	11. Provides timely information
	12. Provides relevant information
	13. Provides easy to understand information
	14. Provides information at the right level of detail
	15. Present the information in an appropriate format
Service Interaction Quality	16. Has a good reputation
	17. It feels safe to complete transactions
	18. My personal information feels secure
	19. Creates a sense of personalization
	20. Conveys a sense of personalization
	21. Makes it easy to communicate with the organization
	22. I feel confident that goods/services will be delivered promised

2.3 Importance Performance Analysis (IPA)

In other research in the methods of analysis about the importance (science) begins by determining the level of between the poor importance about perception, and then compute the average for each the attribute of being perceived by the user in continue with compute the average of all the attributes importance and about the perception will be in the diagram kartesius [19].

2.4 Skala Likert

According to [20], the Likert scale used to measure attitude opinion and perception of a person or a group of people about social phenomena with a Likert scale, then the variable to be measured elaborated be an indicator variable, arrayed be item-item. Questions answer to each item an instrument that uses the Likert scale has a choice of words between others very agree, agree, neutral, disagree, and strongly disagree[20].

2.5 Population

According to [20], population areas are generalization consists of objects/subject have the quality and characteristic of a certain set by researchers to be studied and then drawn in conclusion. A population that used to meet research is, in an extract from the website of <https://databoks.katadata.co.id/datapublish/2019/09/03/Shopee-jadi-e-commerce-paling-top-dari-masa-ke-masa>, be seen that visitors Shopee up to the second quarter of 2019 as many as 90,7 million visitors [21].

2.6 Data Sampling

According to [21] the sample is part of the quantity and characteristics that are owned by the population. When massive people and no researcher probably learned all that is in the population, for example, because of the limited funds, power time so that researchers can use a sample taken from a population that. For that, a sample taken of the population should represent.

Based on the total number of visitors in the second quarter as many as Shopee 2019 90.700.000 visitors. Hence to determine samples can be in it, using formulas Slovin with the error of 10 %, as follows:

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

Description:

n = The minimum amount of respondents

N = Population Size of

d = limits of tolerance *Error*

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

$$n = \frac{90.700.000}{1+90.700.000(0,1)^2}$$

$$n = \frac{90.700.000}{1+90.700.000(0,01)}$$

$$n = \frac{90.700.000}{1+ 907.000} = \frac{90.700.000}{907.001} = 99,99 \text{ Rounded to 100 respondents.}$$

2.7 Data Questionnaire

Table 3. Data Questionnaire

Variable Names	The question	Variable indicators
Usability	I find it easy to learn how to operate Shopee.	X1.1
	I feel it is clear and learning to interact with Shopee	X1.2
	The website I find it easy running from the website.	X1.3
	The Shopee menu finds it easy to use.	X1.4
	The Shopee website has an interesting display.	X1.5
	Design Shopee following the website online shop.	X1.6
	The Shopee website provides knowledge about information Shopee.	X1.7
	The Shopee website gives a positive thing for me.	X1.8
Information Quality	Shopee website giving information accurate	X2.1
	Shopee website giving information trustworthy	X2.2
	Shopee website provides information on time	X2.3
	Shopee website give information related to Shopee	X2.4
	Shopee website to provide information easy to understand	X2.5
	Shopee website provides information that is right in detail	X2.6
	Provide information with Shopee website format compatible with online shop	X2.7
Interaction Quality	Shopee website having a good reputation	X3.1
	I feel safe when uploading data to Shopee	X3.2
	I feel safe when data input vested in Shopee website	X3.3
	Shopee website gives the impression of interest and attention	X3.4
	I feeling easy to inform (<i>feedback</i>)	X3.5
	Shopee website giving easy services in communicating with the seller	X3.6
	I feel confident with the information given Shopee website	X3.7
<i>Overall Impression</i>	I feel the website is good overall	Y

2.8 Testing validity

According to [21], validity is degree precision between the data that happened on objects research with the power reported by researchers. With the valid is the information on is no difference between the data reported by researchers with the data happening on objects research. The questionnaire said valid when a question on how to do capable of being expressed validity on the variables of Webqual 4.0. The result of the questionnaire in have joined by test correlation, test validity done with the correlation between scores obtained at individual questions with a score of the total (item-total correlation)[21]

2.9 Reliability testing

According to the quantitative [21], to get data valid, reliable, and objectively, so research done by use of the instruments valid and reliable, done in samples near a population and analysis, and the data was undertaken the right way. To see if a measuring instrument reliable or not, in the alpha using a Cronbach. Alpha Cronbach, a constructor variable, said reliable if put a value on alpha Cronbach alpha > 0,6.

3. Results and Discussion

3.1 Webqual Index (WQI)

Webqual index is a research used to determine the quality of a system. To find wqi needed some data appendages, as the importance of (mean interest, maximum score (max) score, and weighted wgst (Score to get) wqi final value of a website.

Table 4. Means of Importance, Max. The score, Weighted Score, Webqual Index

No	Statement	MoI	Max	Wgt.	WQI
			Score	Score	
1	I feel easy to learn how to operate Shopee website	4.35	21.75	18.92	0.87
2	I feel understand interact with clear Shopee website	4.14	20.70	17.14	0.83
3	I feeling easily run menu Shopee website	4.14	20.70	17.06	0.82
4	I feeling easily use Shopee website	4.20	21.00	17.64	0.84
5	Shopee website has an attractive display	4.09	20.45	16.73	0.82
6	Website design Shopee following the website online shop	4.08	20.40	16.52	0.81
7	Shopee website to provide knowledge about information Shopee.com	4.12	20.60	16.60	0.81
8	Shopee website giving to a thing positive for me	3.90	19.50	14.90	0.76
9	Shopee website give precise information	4.24	21.20	17.09	0.81
10	Shopee website gives information that trustworthy	4.10	20.50	16.11	0.79
11	Shopee website to provide information on time	4.08	20.40	15.75	0.77
12	Shopee website give information related to Shopee	4.13	20.65	16.93	0.82
13	Website intelligible Shopee provides information	4.13	20.65	16.64	0.81
14	Shopee website giving information right in detail	4.07	20.35	15.71	0.77
15	Shopee website give information by format compatible with online shop	4.11	20.55	16.60	0.81
16	Shopee website have good reput	4.15	20.75	16.93	0.82
17	I feel safe when uploading new data to Shopee website	3.99	19.95	15.36	0.77
18	I feel safe when data input personal at Shopee website	4.08	20.40	15.63	0.77
19	Shopee website gives the impression of attracting and attention	4.09	20.45	16.16	0.79
20	I find it easy to feed into (feeds back)	4.04	20.20	15.47	0.77
21	Shopee website giving easy services in communicating with the seller	4.22	21.10	17.05	0.81
22	I feel sure to the information given Shopee website	4.09	20.45	16.20	0.79
23	I feel the website is good overall	4.25	21.25	17.64	0.83
		4.12	473.95	380.78	0.80

Description:

1. Means of Importance

Based on the table above, value moi obtained from its mean value of interest and have grouped based on the level the sake of individual questions. Where question considered the most important was to value moi his exceeds the top quartile, namely 4.15. While the question is considered far less important was to value moi his less than the value the bottom quartile, namely 4.08. To the questions being considered, the most important is question number 1, 4, 9, 16, 21, 23 that questions relevant to the ease studies Shopee website, ease use Shopee website, info accurate, good reputation, ease in communication, and good as a whole. To the questions being is considered far less important is the question of number 8, 11, 14, 17, 18, 20 that which is something to say about positive, information a timely, which detailed information, security in uploaded, security in private input data and the provision of feeds back.

2. Maximum Score (Max. Score)

Max. Or based on the score of 5, multiplied by the scales the research. Or is a maximum 473.95.

3. Weighted Score (Wgt. Score)

The weighted. The score obtained from the time between the importance of (moi) rata-rata with some of the value of this study on the quality of current (website perceived value the 380.78) performance.

4. Webqual Index (WQI)

Value or from the wqi dividing the wgt, score to max. Score of each indicator, so that the wqi produced of 0.80 %.

3.2 The analysis

Calculate the conformity and importance of using formulas as follows:

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

Description :

Tk_i = The level of respondents

X_i = performance

Y_i = importance

Table 5. Value and Importance website about Shopee

Statement	Xi	Yi	Tki (%)
X1.1 I feel easy to learn how to operate Shopee website	435	426	102.11
X1.2 I feel clear and understand interact with Shopee website	414	408	101.47
X1.3 I find it easy running a menu of Shopee website	412	414	99.52
X1.4 I am feeling easily use Shopee website	420	415	101.20
X1.5 Shopee website having the appearance of interesting	409	401	102.00
X1.6 Website design Shopee following the website online shop	405	408	99.26
X1.7 Shopee website knowledge of good information	403	412	97.82
X1.8 Shopee positive website giving to a thing for me	382	390	97.95
X2.1 Shopee website giving information accurate	403	424	95.05
X2.2 Shopee website gives information that trustworthy	393	410	95.85
X2.3 Shopee website gives information that on time	386	408	94.61
X2.4 Shopee website give information related to Shopee	410	413	99.27
X2.5 Shopee website provides information that is easy to understand	403	413	97.58
X2.6 Shopee website to provide information on the details	386	407	94.84
X2.7 Shopee website provides information with the proper format with online shop	404	411	98.30
X3.1 Shopee website having a good reputation	408	415	98.31
X3.2 I feel safe when a transaction in Shopee	385	399	96.49
X3.3 I feel safe when data input personal at Shopee website	383	408	93.87
X3.4 Shopee website give the impression attract and attention	395	409	96.58
X3.5 I am feeling easy to inform (feedback)	383	404	94.80
X3.6 Shopee website provides facilities to Communicate with the dealer	404	422	95.73
X3.7 I feel sure to the information given Shopee website	396	409	96.82
Y1.1 I feel the website as a whole is good	415	425	97.65
Average	401.48	410.91	97.70

From table can be seen that attributes on having the level of the largest x1.1 with the value of 102.11 %. To attribute having is with the level of lowest x3.3 value of 93.87 %. To attribute, x3.3 also has the lowest in and the gap (in) largest in interaction variable quality. Based on the data, but should be improved to attribute to improve their quality x3.3.

3.3 In each variable in

Table 6. Value indicators performance and importance Shopee website

	Statements	Perf	Imp
x1.1	I feel easy to learn how to operate Shopee website	4.35	4.26
x1.2	I feel clear and understand bear interaction with Shopee website	4.14	4.08
x1.3	I am feeling easily run all of Shopee website	4.12	4.14
x1.4	I find it easy to use Shopee website	4.20	4.15
x1.5	Shopee website having the appearance of interesting	4.09	4.01
x1.6	Website design Shopee according to shop online website	4.05	4.08
x1.7	Website know information about Shopee	4.03	4.12
x1.8	Shopee website give positive things for me	3.82	3.90
x2.1	Shopee website give precise information	4.03	4.24
x2.2	Shopee website giving information trustworthy	3.93	4.10
x2.3	Shopee website provides information time	3.86	4.08
x2.4	The website gives information related to Shopee	4.10	4.13
x2.5	Shopee website giving information comprehensible	4.03	4.13
x2.6	Shopee website giving information right in detail	3.86	4.07
x2.7	Shopee website provides information with the format according to the online shop	4.04	4.11
x3.1	Shopee website having a good reputation	4.08	4.15
x3.2	I feel safe when uploading data	3.85	3.99
x3.3	I feel safe when data input vested in Shopee website	3.83	4.08
x3.4	Shopee website gives the impression of attracting and attention	3.95	4.09
x3.5	I feeling easy to inform Returned	3.83	4.04
x3.6	Shopee website provides facilities to communicate with the dealer	4.04	4.22
x3.7	I feel confident with the information given Shopee website	3.96	4.09
y1.1	Shopee website having a good reputation	4.15	4.25
	Average	4.01	4.11

In the table above look, the average values of indicators performance are of 4.01 and the importance of 4.11. Will next in of the sports analysis gap (gap) to look at the level of the quality of his website. To determine the value of the gap (gap) can be calculated based on the difference between quality value performance at present (performance to the value of the qualities expected by the user (importance).

$$Q_i = P_i - I_i$$

$$Q_i = \text{GAP}$$

$$P_i = \text{Performance}$$

$$I_i = \text{Importance}$$

If to level the gap (q) are positive, so the quality of performance is currently meet level the qualities expected by the user. If to level the gap (q) values are negative, so the quality of performance now has not fulfilled level the qualities expected users. The value gap (gap) depicted in the percentage according to the scale Likert.

$$\text{Gap \%} = \frac{\text{Total}}{Z} \times 100 \quad [7]$$

$$\text{Total skor} = \text{nilai total penilaian responden } (Y_i - X_i)$$

$$Z = \text{skor tertinggi likert} \times \text{jumlah responden}$$

Table 7. Gap at Shopee website

	Statements	Perf (P)	Imp (I)	Q (P-I)	Gap (%)
x1.1	I find it easy to learn how to operate Shopee website	4.35	4.26	0.09	1.80
x1.2	I feel and understand interact with clear Shopee website	4.14	4.08	0.06	1.20
x1.3	I was feeling easily run menu Shopee website	4.12	4.14	-0.02	0.40
x1.4	I feeling easily use Shopee website	4.20	4.15	0.05	1.00
x1.5	Shopee website having the appearance of attractive	4.09	4.01	0.08	1.60
x1.6	Website design Shopee in accordance with the website online shop	4.05	4.08	-0.03	0.60
x1.7	Websites Shopee provide information that is complete	4.03	4.12	-0.09	1.80
x1.8	Shopee website giving to a thing positive for me	3.82	3.90	-0.08	1.60
X2.1	Shopee website provide accurate information	4.03	4.24	-0.21	4.20
X2.2	Shopee website giving information trustworthy	3.93	4.10	-0.17	3.40
X2.3	Shopee website gives information that on time	3.86	4.08	-0.22	4.40
X2.4	Shopee website giving information relating to Shopee	4.10	4.13	-0.03	0.60
X2.5	Shopee website to provide information easy to understand	4.03	4.13	-0.10	2.00
X2.6	Shopee website giving information right in detail	3.86	4.07	-0.21	4.20
X2.7	Shopee website give information by format compatible with online shop	4.04	4.11	-0.07	1.40
X3.1	Shopee website having a good reputation	4.08	4.15	-0.07	1.40
X3.2	I feel safe when uploaded on a Shopee website	3.85	3.99	-0.14	2.80
X3.3	I feel safe when data input personal at Shopee website	3.83	4.08	-0.25	5.00
X3.4	Shopee website gives the impression of interest and attention	3.95	4.09	-0.14	2.80
X3.5	I feel easy to provide input (<i>feedback</i>)	3.83	4.04	-0.21	4.20
X3.6	Shopee website gives ease in communication with the dealer	4.04	4.22	-0.18	3.60
X3.7	I feel sure to information given Shopee website	3.96	4.09	-0.13	2.60
Y1.1	I feel sure to the information given Shopee website	4.15	4.25	-0.1	2.00
	Average	4.01	4.11	-0.09	2.37

In the table above-average score produced gap Shopee website to -0.09 where $Q \leq 0$, that means quality levels performance Shopee website now has not met the expectations. Users

3.4 Matrix Importance Performance Analysis

A method of Importance Performance Analysis used to describe attributes qualities Shopee website already meet the expectations of users and which must be improved.

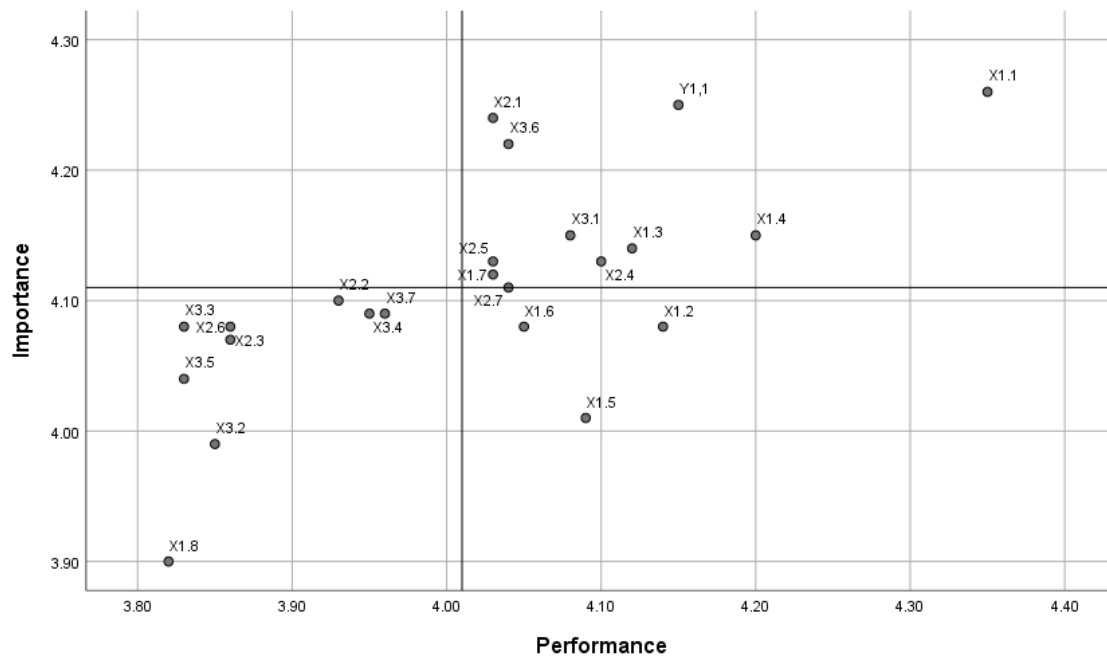


Fig 1. Matrix Importance Performance Analysis

Based on pictures on the matrix, importance-performance analysis is divided into four. Quadrant The line every quadrant is resulting from the calculation rata-rata performance value and importance. Average valueThe value of rata-rata performance by 4.01 and value rata-rata 4.11. Importance as much asThe result of the mapping attributes every variable can be explained as follows:

1. Quadrant I

The attribute of being are part a quadrant i am x1.1, x1.3, x1.4, x1.7, of a variable used x2.1, x2.4, x2.5 on information, of a variable quality x2.7, x3.1, x3.6 interaction y1.1 of variable quality and of a variable overall. Attributes included in a quadrant i maintained its qualities to her performance because the quality is excellent and having an interest high and is following desired by the user.

2. Quadrant II

Based on the results of the matrix importance-performance analysis, there is no attribute of being included in the quadrant ii.

3. Quadrant III

An attribute that included in the quadrant iii is x1.8 of variable, usability x2.2, x2.3, x2.6 of variable quality, information x3.2, x3.3, x3.4, x3.5, x3.7 of variable quality. Interaction On this, quadrant iii having a level of interest is low, and the quality of the performance of a less well so does not be a priority to repairing.

4. Quadrant IV

Attributes including quadrant 4 are x1.2, x1.5, x1.6 of variable usability. An attribute that including quadrant 4 quality levels, its performance is good but having the importance low that can be ignored.

4. Conclusion

Based on the research that for measuring the quality of the Shopee website can use 4.0 Webqual is consisting of the use of information quality and interaction quality. From this analysis in research, the value in the gap on the most important interaction quality the average value of 3.20 %. Analysis of IMPORTANCE method used to describe the quality Shopee website, to no attributes will be repaired.

References

[1] Anderl, Eva, Schumann, Jan Hendrik, and Kunz, Werner (2016), "Helping Firms Reduce Complexity in Multichannel Online Data: A New Taxonomy-Based Approach for Customer Journeys," Journal of Retailing, 92 (2), 185–203.

- [2] C. Mintardjo, S. Mandey, and A. Binalay, "Pengaruh Sikap, Norma Subjektif Dan Motivasi Terhadap Minat Beli Secara Online Pada Mahasiswa Fakultas Ekonomi Dan Bisnis Di Manado," *J. Ris. Ekon. Manajemen, Bisnis dan Akunt.*, vol. 4, no. 1, pp. 395-406, 2016.
- [3] Istiqomah, Z. Hidayat, and A. Jariah, "Analisis Pengaruh Kepercayaan, Iklan dan Persepsi Resiko Terhadap Keputusan Pembelian di situs Shopee di Kota Lumajang," *J. Prog. Conf.*, vol. 2, no. July, pp. 557-563, 2019.
- [4] Lee, G. and Lin, H. (2005), "Customer perceptions of e-service quality in online shopping", *International Journal of Retail & Distribution Management*, Vol. 33 No. 2, pp. 161-176. <https://doi.org/10.1108/09590550510581485>
- [5] N. Agustina, "Kualitas Layanan Website E-Commerce Lazada.co.id Menggunakan Teknik Pengukuran WebQual," *J. Inf. Syst. Educ. Prof.*, vol. 1, no. 1, pp. 42-54, 2016.
- [6] Muliansah, R., and Budihartanti, C. Analisa Pemanfaatan e-Puskesmas di Loket Pendaftaran pada Puskesmas Kecamatan Pademangan dengan Metode PIECES. *JCSE (Journal of Computer Science and Engineering) 1(1)*, 17-29, DOI: <https://doi.org/10.36596/jcse.v1i1.22>
- [7] Anderl, Eva, Schumann, Jan Hendrik, and Kunz, Werner (2016), "Helping Firms Reduce Complexity in Multichannel Online Data: A New Taxonomy-Based Approach for Customer Journeys," *Journal of Retailing*, 92 (2), 185-203.
- [8] D. Fauziah and D. Wulandari, "Pengukuran Kualitas Layanan Bukalapak.com Terhadap Kepuasan Konsumen dengan Metode Webqual 4.0," *J. Ilmu Pengetah. Dan Teknol. Komput.*, vol. 3, no. 2, pp. 173-180, 2018.
- [9] R. Fathur and K. Didik, "Pengukuran Kualitas Website Badan Nasional penanggulangan Bencana Menggunakan Metode Webqual 4.0," *Ilmu Pengetah. dan Teknol. Komput.*, vol. 3, no. 1, pp. 31-38, 2017.
- [10] Beckers, Sander F., Risselada, Hans, and Verhoef, Peter C. (2014), "Customer Engagement: A New Frontier in Customer Value Management," in *Handbook of Service Research*, Rust, R. T. and Ming, H. H., eds. Cheltenham, MA: Edward Elgar.
- [11] S. R. Arifin, E. Nugroho, and B. S. Hantono, "Analisis Kualitas Layanan Website Universitas Hasanuddin Dengan Metode Webqual 4.0 Modifikasi," *J. TEKNOLOGI*, vol. 8, no. 1, pp. 81-92, 2015.
- [12] M. Nazir, *Metode Penelitian*. Jakarta: Ghalia Indonesia, 2005.
- [13] S. Barnes dan R. Vidgen. 1998. WebQual : An Exploration of Web-site Quality.
- [14] Barnes, S. J. and Vidgen R. "WebQual: an exploration of Web site quality." *European Conference in Information Systems*, Vienna 2000.
- [15] Barnes, S. J. and Vidgen R. "Assessing the quality of auction Web sites." *Hawaii International Conference on Systems Sciences* 2001a.
- [16] Barnes, S. J. and Vidgen R. "An evaluation of cyberbookshops: the WebQual method." *International Journal of Electronic Commerce* (6:1) 2001b, pp 11-30.
- [17] Barnes, S. J. and Vidgen R. An integrative approach to the assessment of e-commerce quality. Bath, UK, University of Bath 2001c.
- [18] Barnes, S. J., K. Liu, and R. T. Vidgen, Evaluating WAP News Sites: the WEBQUAL approach, *Proceedings of the Ninth European Conference on Information Systems*, Bled, Slovenia, June 27-29, 2001
- [19] Phadermrod, B., Crowder, R.M., & Wills, G.B. (2019). Importance-Performance Analysis based SWOT analysis. *International Journal of Information Management*, 44, 194-203.
- [20] B.A.R. Tulodo and A. Solichin, "Analisis Pengaruh Kualitas Sistem, Kualitas Informasi dan Perceived Usefulness Terhadap Kepuasan Pengguna Aplikasi CARE dalam Upaya Peningkatan Kinerja Karyawan," *JRMSI - J. Ris. Manaj. Sains Indones.*, vol. 10, no. 1, pp. 25-43, 2019.
- [21] Sugiyono. 2011. *Metode Penelitian Kuantitatif, Kualitatif dan R&D*. Bandung: Afabeta