The Quality Analysis of Shopee and Tokopedia Website to the User Satisfaction during Covid-19 Pandemic by Webqual 4.0 Method

Ivo Zola Vinola[1], Lana Sularto[2]

[1,2]Information Systems Management, Postgraduate Program, University of Gunadarma
Jl. Margonda Raya No. 100, Depok 16424, East Java
Email address: [1]ivozolavinola @ gmail.com, [2]lana @ staff.gunadarma.ac.id

Abstract— In this modern era, the internet development has progressed too rapidly, includs in the economic sector. All information and needs can be obtained just accessing by the internet. Since the Covid-19 pandemic, many people have fulfilled their daily needs by minimizing activities in the outside, and many people prefer to shop by using e-commerce from home. Researchers chose e-commerce research objects, such the Shopee, and Tokopedia website, by distributing questionnaires to respondents determine the website acceptance of user satisfaction during the pandemic in 2020 by the Webqual 4.0 method. To assess the acceptance of the website can be done using the Webqual 4.0 method has used three categories. The three categories are usability, information quality, and service interaction quality. This research used the multiple linear regression analysis techniques by SPSS 23 processing. By this research, it can be concluded that the quality of information didn't have effect on the partial test results on the Shopee website, but these three variables will simultaneously have an effect to the satisfaction for each user of Shopee, and Tokopedia website.

Keywords— Webqual 4.0 method, Shopee, Tokopedia, Covid-19 pandemic.

I. INTRODUCTION

In this modern era, the internet development has progressed too rapidly, includs in the economic sector. All information and needs can be obtained just accessing the internet on their respective gadget. The Association of Indonesian Internet Providers Service or commonly known as APJII announced that the number of internet users in Indonesia has increased to 73.7 percent of the population or the equivalent of 196.7 million users as of the second quarter of 2020. Nearly 200 million users by the population of the Republic of Indonesia is 266.9 million people, according to data by the Central Statistics Agency (BPS).

Jamalul Izza, Chairperson of APJII, explained that the increase in the number of users was due to several factors, such as fast internet or broadband infrastructure in Indonesia is increasingly evenly distributed by the Palapa Ring, digital transformation is getting denser due to online learning and work from home policies during the COVID-19 pandemic. It should be noted, since the time of the COVID-19 pandemic which spread widely to Indonesia in early March 2020, community activities have been limited in efforts to break the chain of COVID-19. Working communities are encouraged to work from home or commonly called WFH, students who are required to study online with teachers, transact without cash, and shop through the marketplace are now in great demand by the public during this pandemic.

Since the COVID-19 pandemic, it has had an effect on decreasing business income, transaction volume and smooth distribution of goods during 2020. 96.02% of businesses in the transportation and warehousing sector admit that their business income has decreased as a result of COVID-19, the higher the business scale (seen in terms of the number of workers) the COVID-19 pandemic has a decreasing impact when the volume of online transactions increases (Kusumatrisna et al., 2020). The reduction in labor makes the e-commerce business even more rapid, due to the efficiency of human resources and efficiency for consumers, as reported by the report We Are Social (a media company from the UK) released the latest report during 2020 during this pandemic, online transactions in Indonesia are increasing about 38% of the 175.4 million internet users or 64% of the population of Indonesia. This transaction can be seen from the number of online transactions for e-commerce payments via mobile banking by 46%, and followed by payment transactions via digital wallets of 3.1% (We Are Social, 2020).

To fulfill their daily needs by minimizing activities in the outside, many people prefer to shop online using e-commerce at home, apart from being practical, easy, saving time and effort, many choices of payment methods, making People now spend more and more time considering what needs to be purchased accessing by e-commerce websites from home. In addition to being beneficial for consumers, e-commerce website providers certainly get the same benefits, online shop owners on e-commerce websites do not need to pay for building rental or special sales, they can sell and promote merchandise only with an e-commerce website. . Even the reach can be further, wider, and not just a certain area.

In Indonesia there are many e-commerce sites are growing rapidly, currently the websites in the e-commerce category that are most in demand by people in Indonesia are the highest, namely Shopee and Tokopedia, based on iPrice which is a price comparison site for products sold on various e-commerce and online shop competition comparators in Indonesia.

In the increasingly fierce e-commerce competition, with the increase in e-commerce sites, of course Shopee and Tokopedia must be able to maintain the quality of the

company, especially the website quality to increase the interest of e-commerce website users.

According to Rosita et al. (2014), that the quality of e-commerce websites can affect business development, to determine the level of quality of a website, of course, refers to a standard, thus an organization must be able to do the best by improving website services to be able to continue to compete (Landaoe and Sari , 2018). Website quality has become one of the strategic issues in communication and transactions with customers. By the webqual method based on the concept of Quality Function Deployment (QFD), which is a process based on the "voice of customer" in the development and implementation of a product or service. From the QFD concept, the webqual is compiled based on the end user's perception of a website.

Webqual has undergone iterations in the preparation of categories and question items. The latest version of this method is webqual 4.0 which uses three categories. The three categories are usability, information, and service interaction. The usability category is based on studies on the relationship between humans, computers, and studies on the use of the web, including the ease of navigation, design suitability and the image conveyed to users. The information category is reviewed based on a general review of information systems, this category is related to the quality of website content, namely the appropriateness of information for user purposes, for example regarding the accuracy, format and relevance of the information presented. The service interaction category relates to the service interactions that users feel when engaging deeply with the website (Nugroho and Sari, 2016).

II. THEOROTICAL BASIC

A. E-Commerce

E-Commerce is part of an online business, which is a series of business activities using electronic facilities to achieve the goal of making a profit. The meaning of online business is freely described, namely trading activities using electronic media. Online can be said that a portal / media that can be accessed 24 hours a day, 7 days a week and 365 days a year and can be accessed anywhere and anytime as long as internet access is still in that area (Syah, 2018).

B. User Satisfaction

According to Purnomowati (2009), user satisfaction is a barometer of the success of an information system. Based on the International Organization for Standardization or ISO 11620-1998, user satisfaction ranks first of 29 indicators for measuring information system performance. Satisfaction can be defined as a condition in a person or group of people who have succeeded in getting something they need and want. Information user satisfaction is the level of compatibility between the needs to be fulfilled and the reality that is received. Sulastiyono such as quoted by Sumarno (2003) formulates satisfaction and compares between expectations and reality as follows:
1. If the expectation < reality then very satisfied
2. If the expectation = reality then satisfied
3. If the expectation > reality then unsatisfied

User satisfaction can be fulfilled by product quality (for example, search services, referral services, bibliographic services, information availability services, and price) and the suitability of user perceptions of information systems. This perception can be formed by the level of knowledge, experience, and user needs for services. Realizing user satisfaction is not an easy thing to do because user satisfaction is difficult to measure and requires special attention. Efforts to improve or improve service factors will be able to help provide satisfaction and added value and bring a good image to the company (Machmud, 2018).

C. Webqual 4.0

Webqual is a method of measuring the quality of a website by considering the recognition results of the end user. The Webqual method has been developed since 1998 and has undergone development in its dimensions and question points. The research instrument contained in the webqual was then developed by integrating the customer's point of view in the design process. This method is called Quality Function Development (QFD). As previously explained, webqual 4.0 is structured based on 3 (three) main dimensions, namely information quality, service interaction quality, and usability.

III. RESEARCH METHOD

A. Research Object

The research object is a problem used as a source of topics in writings. This research is analysis of 2 (two) quality e-commerce websites are Shopee, and Tokopedia by the webqual 4.0 method, whether it is a herpetofauna type or not.

B. Population and Sample

The population in this research is customers have done online shopping on the Shopee and Tokopedia website. The sampling method used in this study is convenience sampling, in which the sample is selected by consideration of convenience. In this technique is also called Accidental Sampling. Convenience Sampling is a non-probability sampling technique that tries to get a sample based on the availability of elements and the ease of obtaining them.

C. Research Variables and Operational Definitions

1. Research Variables
The variables in this study consisted of two kinds of variables, namely:
1. Independent variable (X)
Independent variable is a variable affects the dependent variable (Sudaryono, 2018). In this research, the independent variables used were Usability (X1), Information Quality (X2), and Service Interaction (X3).
2. Dependent Variable (Y)
Dependent variable is variable affected by independent variables or independent variables (Sudaryono, 2018). In this research, the dependent variable used is user satisfaction (Y) on the Shopee website and Tokopedia.
2. Definition of Operaional
The definition of operational in this research according to Barnes and Vidgen (2005) is as follows (Risyandi, 2017):

123

TABLE I. The definition of variable operational

Variable	Sub-variable	Indicator
Website Quality (X) (Alfajri, 2016)	Usability (X1)	Easy to learn and operate
		Obvious interaction and easy to understand
		Easy doing navigation
		Easy to use
		Attractive display
		Fit design
		Good competence
		Giving a positive experience
	Information Quality (X2)	Accurate information
		Reliable information
		Up to date information
		Rellevant information
		the Information is easy to understand
		Detail Information
		Information in the right format
	Service Interaction Quality (X3)	Website has a good reputation
		Has a safe feelings for doing transaction
		Security of data personal user
		Creates a sense personal or guaranted privacy
		Easy to communicate with company
		Convey a sense of community or social
		Giving rhe product or service as promised
User Ssatisfaction (Y) (Kotler and Keller, 2012)		Doing for transaction on the website happily
		Satisfied with the product offered
		Ofteing the website if doing shopping online

D. DataSource and Type

Data Type

The data type in this research is quantitative that data in the form of numbers or numerals. The quantitative method is usually uses deductive logic seeks to find order in human life, by separating the social world into empirical components called variables. In social research, quantitative methods are applied in 4 (four) methods, namely: survey, experiment, quantitative content analysis, and secondary data analysis (Sudaryono, 2018).

Data Source

Data source used in this research are:

Primary Data
Primary data is raw data that has not been processed. This data can be obtained from internal and external companies. To obtain primary data, it was done by distributing questionnaires, questionnaires, and interviews (Suryanto, 2017). Primary data obtained in this study were obtained by distributing questionnaires to respondents who had accessed the Shopee and Tokopedia websites.

Secondary Data
Secondary data is data obtained indirectly by the party conducting the research (Sugiarto et al., 2015). Secondary data used in this study were obtained from reference books, journals, and the internet related to the problem to be studied.

E. Data Collection Technique

Questionnaire
The questionnaire is a data collection tool containing a number of questions or statements that must be answered or responded to by respondents (Sudaryono, 2018). The data collection for the sample was carried out using a non-probability method, namely accidental sampling, by distributing questionnaires to consumers of 100 respondents via google forms media. The technique used in this analysis is multiple linear regression analysis, with simultaneous and partial hypothesis testing (Ghafiki, 2017).

Descriptive Analysis

According to Sugiyono (2017), descriptive analysis is a statistic used to analyze data by describing or describing the data that has been collected as it is without intending to make generalized conclusions or generalizations (Cahyono, 2019).

Likert Scale

Likert Scale developed by Rensis Likert, is the scale most often used by researchers to measure respondents' approval of the object of concern and to measure the respondent's approval or disagreement for each statement made by the researcher. Another name for the Likert scale is Summated Ratings Method. The Likert scale uses five scoring points, namely Strongly Agree weight 5, Agree weight 4. Neutral weight 3, Disagree weight 2, Strongly Disagree weight 1.

F. Analysis Technique

Research Instrument Test
Validity Test
The validity test is a test used to show the extent to measuring instrument used in a study measures what you want to measure.
Realibility Test
Reliability is closely related to consistency, accuracy and predictability of measuring instrument. Reliability refers to understanding that the instruments used in research to obtain the desired information can be trusted as means the collecting data and being able to reveal real information.
Classic Assumption Test
In this research, to manage research data using the Multiple Linear Regression method is used with the classical assumption test including normality test, heteroscedasticity test, and multicolonierity test.

G. Multiple Linear Regression Analysis

Multiple Linear Regression Equation
Simple linear regression basically consists of two variables, one dependent or dependent variable (Y) and one independent variable (X) (Arifin, 2017). In multiple linear regression there is one dependent variable and two or more independent variables, namely the following equation (Suryanto, 2017):

$$Y = a + b_1X_1 + b_2X_2 + b_3X_3$$

Note:
Y = dependent variable (user satisfaction)
a = constant, if all independent variables are zero
b = The coefficient value of the independent variable
X1 = The first independent variable is Usability
X2 = The second independent variable is Information Quality
X3 = The third independent variable is Service Interaction Quality

T Test and F test

The t test is used to test the independent variable partially on the dependent variable. Meanwhile the F test is to test the effect of the independent variables together on the dependent variable. The level of significance in this study was 5% (0.05). If sig t sig F is greater than 0.05, then H0 is accepted. Likewise, on the other hand, if sig t and sig F are smaller than 0.05, then H0 is rejected (Ghozali, 2016).

Determination Coefficient (R 2)

The coefficient of determination in essence measures how far the model's ability to explain the variation of the independent variables. The value of R square ranges from 0 to 1, the small value of R2 means that the ability of the independent variables to explain the dependent variable is very limited. A value close to one means that the independent variables provide almost all the information needed to predict the dependent variable (Ghozali, 2016).

IV. RESULT AND DISCUSSION

After conducting several usability tests (X1), information quality (X2), and service interaction quality (X3) with a significant level of 0.05 for each Shopee and Tokopedia website users. The following table summarizes the hypothesized decisions of the three companies, as follows:

TABLE II. Research Summary Results of E-Commerce Website User Satisfaction

Variabel Object	Website	
	Shopee	Tokopedia
Usability	Significant effect	Significant effect
Information Quality	Has no significant effect	Significant effect
Service Interaction Quality	Significant effect	Significant effect
Usability, Information Quality, dan *Service Interaction Quality*	Significant effect	Significant effect

Based on the summary in table II, there are two variables that affect user satisfaction on the Tokopedia and Shopee websites, namely usability, service interaction quality and information quality. On the Tokopedia website, there are three variables that have a significant effect on user satisfaction, namely ease of use, quality of information, and quality of interaction services. Based on this research, it can be concluded that the quality of information has no effect on the partial test results of the Shopee website, this shows that indicators such as timely, relevant, detailed and detailed information do not have a significant effect on website user satisfaction, but these three variables will have an effect simultaneously for the satisfaction of each user for Shopee and Tokopedia website.

V. CONLUSION

A. Conclusion

Based on the analysis previously described using the Webqual 4.0 method. In Shopee and Tokopedia e-commerce website users, there are several conclusions including:
1. Usability has a significant effect on Shopee and Tokopedia user satisfaction during the COVID-19 pandemic. In this research, it can be said that users have easy access to the three websites, a design that is in accordance with an attractive appearance makes the website understandable, understandable, and easy to use.
2. Quality Information only has a significant effect on Tokopedia website user satisfaction, but does not have a significant effect on Shopee website user satisfaction during the COVID-19 pandemic. In this research, the Tokopedia website has accurate, timely, relevant, detailed information and information in the right format for its users.
3. Service Interaction Quality has a significant effect on Shopee and Tokopedia user satisfaction during the COVID-19 pandemic. In this study, it can be said that the three websites have a good reputation for users, the website can guarantee user privacy, provide products or services as promised, and users feel safe in transactions.
4. Ease of User (Usability), Quality of Information (Information Quality), Quality of Service Interaction (Service Interaction Quality) together affect user satisfaction Shopee and Tokopedia websites. It can be said if all the dimensions are used in
5. The Webqual 4.0 method is put together, the acceptance of e-commerce websites is a significant influence on website user satisfaction.

B. Suggestion

Based on the results of research conducted by writing by analyzing user satisfaction on e-commerce websites using the Webqual 4.0 method. Therefore, the author will suggest suggestions that can be useful for the company, namely as follows:
1. Suggestions that can be given are based on the results of research on the quality of the e-commerce website, the Shopee website and the Tokopedia website, which are expected to improve the ease of use of the website. With clear website navigation, easy viewing position, appropriate design,

attractive appearance, making the website easier to understand, understand, and easy to use for users.

2. Based on this research, to maintain the quality of interaction services that have a significant effect on user satisfaction on the Shopee and Tokopedia websites, it is hoped that the three companies will maintain user personal data and security in transactions, such as layered security for password authentication through email and telephone numbers to create guaranteed privacy of website users.

3. We recommend that both e-commerce company websites provide a column of criticism and suggestions on the website to receive complaints and input from users which can be used as the main source that needs to be improved in developing the quality of the website in terms of easy usability, information quality, and service quality interaction.

REFERENCES

[1] Alfajri, A., Aryanti, M., and Zuliestiana, D. (2016). Analisis perbandingan website quality situs online travel agencies traveloka dan tiket.com menurut konsumen. E- proceeding of Management, 3(2), 1318-1325.
[2] Arifin, J. (2017). SPSS25 penelitian dan skripsi. Jakarta: Kompas Gramedia.
[3] Aryadita, H., Widyastuti, D., and Wardani, N. (2017). Analisis kualitas layanan website e-commerce terhadap kepuasan pengguna menggunakan metode webqual
[4] 4.0. Jurnal sistem informasi, 10(1), 29-35.
[5] Burnirma, R. and Aditya, W. (2017). Analisis kualitas website tiket.com. E- proceeding of management, 4(1), 745-754.
[6] Cahyono, M. and Wijaksana, T. (2019). Analisis perbandingan kualitas website lazada.co.id dan importance performance analysis (IPA). E- proceeding of management. 6(3), 5968-5975.
[7] Farmala, W., Suprapto, and Rachmadi, A. (2018). Analisis kualitas layanan website e-commerce berrybenka terhadap kepuasan pengunjung menggunakan metode webqual 4.0 dan importance performance anaylsis (IPA). Jurnal Pengembangan Teknologi Informasi dan Ilmu Komputer, 2(1), 175-183.
[8] Ghafiki, R. and Setyorini, R. (2017). Pengaruh kualitas website terhadap keputusan pembelian pada situs bukalapak.com. E-proceeding of management, 4(1), 678-686.
[9] Ghozali, I. (2016). Aplikasi analisis multivariete dengan program. IBM SPSS 23 (edisi 8). Semarang: Badan Penerbit Universitas Diponegoro.
[10] Iprice (2020). Telusuri persaingan toko online di Indonesia. [Online]. Available at: https://iprice.co.id/insights/mapofecommerce [Accessed 10 Desember 2020].
[11] Kusumatrisna, A., Rozama, N., Syakilah, A., and Wulandari, V. (2020). Statistik e- commerce 2020. Jakarta: Badan Pusat Statistik.
[12] Landaoe, E. and Sari, P. (2018). Analisis kualitas website e-commerce pada website shopee.co.id di Indonesia dengan menggunakan metode webqual 4.0. E-proceeding of Management, 5(3), 2988-2995.
[13] Machmud, R., (2018). Kepuasan penggunaan sistem informasi (studi kasus pada t3-online). Gorontalo: Ideas Publishing.
[14] Mandala, E. P. (2015). Programming project 1. Yogyakarta: CV Andi Offset.
[15] Mulyani. (2020). Belajar coding itu penting di era revolus industri 4.0. Yogyakarta: Pustaka Baru Press.
[16] Nugroho, A. and Sari, P. (2016). Analisis pengaruh kualitas website Tokopedia terhadap kepuasan pengguna menggunakan metode wequal 4.0. E-proceeding of Management, 3(3), 2930-2937.
[17] Priyastama, R. (2017). Buku sakti kuasai SPSS pengolahan data dan analisis data. Yogyakarta: PT Anak Hebat Indonesia.
[18] Pujileksono, S. (2015). Komunikasi. Malang: Kelompok Intrans Publishing.
[19] Ratminto, Shabrina, S., Yusuf, R. Laksana, L., and Wahyuni, S. (2017). Layanan prima. Yogyakarta: Gadjah Mada Univeristy Press.
[20] Risyandi, O. and Zulestiana, D. (2017). Pengaruh kualitas website traveloka terhadap kepuasan pengguna. E-proceeding of management, 4(3), 2244-2251.
[21] Ruslan, R. (2017). Penelitian public relations dan komunikasi. Jakarta: PT Rajagrafindo Persada.
[22] Sa'ad, M. I. (2020). Otodidak web programming membuat website edutainment. Jakarta: Elex Media Komputindo.
[23] Sastika, W. (2016). Analisis pengaruh kualitas website (webqual 4.0) terhadap keputusan pembelian pada website e-commerce traveloka (studi kasus: pengguna traveloka di kota bandung tahun 2015). Seminar Nasional Teknologi Informasi dan Komunikasi, 649-657.
[24] Shopee (2020). Shopee. [Online]. Available at: https://shopee.co.id/ [Accessed 10 Desember 2020].
[25] Sudaryono. (2018). Metodologi Penelitian. Depok: PT Rajagrafindo Persada.
[26] Sugiarto, Hendratono, T., Sudibyo, D. (2015). Metodologi Penelitian Hospitaliti & Pariwisata. Tangerang: Matana Publishing Utama.
[27] Sujono. (2017). Metode penelitian administrasi & manajemen. Yogyakarta: Deepublish.
[28] Supriyanta and Wahyudi, T. (2017). E-commerce untuk Indonesia lebih baik. Yogyakarta: Deepublish.
[29] Suryanto, M. H. (2017). Metode riset dan analisis saluran distribusi. Jakarta: PT Grasindo.
[30] Syah, M. I. (2018). Hukum bisnis online era digital. Jakarta: CV Campustaka.
[31] Tokopedia (2020). Tokopedia. [Online]. Available at: https://www.tokopedia.com/about/ [Accessed 10 Desember 2020].
[32] We Are Social (2020). Digital In 2020. [Online]. Available at: https://wearesocial.com/digital-2020 [Accessed 5 Desember 2020].