

## **2. THEORETICAL FRAMEWORK**

### **2.1 Overview of the Literature**

As described in the first chapter, the researchers have explained the research background, research questions, and research objectives. In this chapter, the researchers will elaborate more on the definition and explanation of customer loyalty of Tokopedia as the dependent variable, system quality and service quality as the independent variables, and customer satisfaction as the mediating variable, by referencing researches done in the past. Additionally, the researchers will also connect the relationship of the variables through a theoretical framework and explain the possible hypotheses.

### **2.2 Customer Loyalty**

A study on customer loyalty has been conducted by many past researchers and evolved over the years. A research by Dick and Basu (1994) on customer loyalty defined customer loyalty as the degree of relationship between a customer's attitude and repeat patronage. In terms of loyalty in regards to e-commerce, Srinivasan et al. (2002) defined e-loyalty as the favorable behaviors of a customer toward e-business that results in repeated buying behaviors. A more complete definition of loyalty by Oliver (1999) defined loyalty in the context of online shopping as the commitment that results in repeated purchases that the customers develop toward a particular brand as a result of their activities with that brand. As this study is trying to measure the loyalty of Tokopedia customers, the researchers consider the definition of Oliver (1999) to be the most complete and fitting to what this study is trying to achieve.

From the definition of Oliver (1999), four elements of customer loyalty were created to properly measure loyalty in the context of online shopping. These four elements consist of cognitive, affective, conative and action. Cognitive refers to the preference that the customers develop over alternative brands. Affective refers to the positive attitudes resulting from the preference that the customers have developed. Conative refers to the act of revisiting a brand's platform but not conducting any transaction. Lastly, Action refers to the revisit of the customers to the brand's platform and at the same time engaging in a purchase activity or making a repeat purchase. This study will use these four elements to measure the loyalty of Tokopedia customers considering the relevance of the dimensions to the subject of the study. Therefore, the elements used to measure this study's customer loyalty are listed in Table 2.1.

Table 2. 1

Elements of Customer Loyalty

Elements	Scholar(s)	Definition
Cognitive	Oliver (1999)	The preference that customers have toward a particular brand over its alternatives.
Affective	Oliver (1999)	The positive attitudes that customers develop toward a particular brand e.g. suggesting a particular brand to other people.
Conative	Oliver (1999)	The return of customers to access a brand's application, but not necessarily engaging in a purchase activity.
Action	Oliver (1999)	The return of customers to access a brand's application to engage in a purchase activity.

Source: Oliver, R. L. (1999). Whence Consumer Loyalty? *Journal of Marketing*, 63(1), 33-44.

### 2.3 System Quality

According to Nelson et al. (2005), system quality refers to the quality of the information processing system needed to bring out the output. Meanwhile, in their updated study, DeLone and McLean (2016) defined system quality as the desired characteristics of an application's information system. The definition from Nelson (2005), combined with DeLone and McLean (2016) are chosen as the best explanation to what the study is trying to examine as this study aims to measure whether the information processing system in the Tokopedia application's system meets the customers' desires.

Many studies on system quality have been conducted in the past, and some dimensions have been chosen to measure system quality. A study on system quality, grouped system quality attributes into two major categories: system flexibility and system sophistication (Gorla et al., 2010). System flexibility refers to the system's features that are seen from the perspective of the system designer. In contrast, system sophistication refers to the system's features that are used by the end-users. Since this study aims to measure the end-users of Tokopedia, the researchers will focus more on the system sophistication. From previous research, Gorla et al.

(2010) compiled the dimensions of system quality from the end-users perspective. They came up with the following dimensions for system sophistication: user-friendly, easy to use, integrated, and quick turnaround time. To measure these dimensions, Gorla et al. (2010) used items similar to Nelson et al. (2005).

According to Nelson et al. (2005), system quality consists of five different aspects, which are accessibility, reliability, response time, flexibility, and integration. Accessibility is defined as the degree to which customers can access a system and its information with minimum effort. Reliability refers to how dependable a system is over time. Response time is defined as the degree to which a system can provide quick task-related responses to customers' requests. Flexibility is the extent of adaptation that a system can do, based on the variety of user needs and changing conditions. On the other hand, integration is described as the degree to which a system can combine information from different places (Nelson et al., 2005).

In the latest update on Information Systems Success Measurement study by DeLone and McLean (2016), several measures are recommended to measure the system quality of an application similar to those of Nelson et al. (2005). DeLone and McLean recommended two more dimensions considering the current Internet and Web 2.0 era: personalizability and interactivity. Personalizability refers to the ability of the information system to recommend products to users based on their viewing history. Meanwhile, interactivity refers to how the information system facilitates a reciprocal interaction between users and the system. In this study, the researchers will use the dimensions developed by Nelson et al. (2005) and additional dimensions suggested by DeLone and McLean (2016), which are personalizability and interactivity. The list of system quality's dimensions can be seen in Table 2.2 below.

Table 2. 2  
Dimensions of System Quality

<b>Dimensions</b>	<b>Scholar(s)</b>	<b>Definition</b>
Accessibility	Nelson et al. (2005)	The degree to which information in the system can be accessed with relatively low effort.

Table 2. 2

Dimensions of System Quality (Continued)

Reliability	Nelson et al. (2005)	The degree to which a system is dependable over time i.e. not crashing.
Response time	Nelson et al. (2005)	The degree to how quick a system can offer responses to requests from users.
Flexibility	Nelson et al. (2005)	The degree to which a system can adapt to a variety of user needs.
Integration	Nelson et al. (2005)	The degree to which a system facilitates the combination of information from various areas in the company.
Personalizability	DeLone and McLean (2016)	The degree to which a system could suggest products based on the viewing history of the users.
Interactivity	DeLone and McLean (2016)	The degree to which a system provides logical responses to requests from users.

Source: Data from DeLone, W. H., & McLean, E. R. (2016). Information Systems Success Measurement. *Foundations and Trends R in Information Systems*, 2(1), 1-116.

## 2.4 Service Quality

Many studies on service quality have been based on the disconfirmation model developed by Oliver (1980). Service quality is defined as customers' judgment of services they receive based on their expectations (Oliver, 1980). However, the study on service quality has continued to evolve and many researchers start to come up with different definitions according to the changing nature of the service industry. Parasuraman et al. (1988) define service quality as the evaluation of a service firm that results from comparing that firm's performance to others in the industry. Service quality is also described as the attempt to uphold efficiency and effectiveness in the shopping experience that involves purchase, shipping process, and the services review (Zeithaml et al., 2002). Meanwhile in the context of e-commerce, Blut et al. (2015) did an analytic review of previous e-service quality studies and came up with the following definition: the quality of service that customers experience when using online

channels. The definition of service quality by Blut et al. (2015) is chosen as the one that best describes what this study tries to examine as it directly relates to service quality in the context of online customers.

In regards to measurements, many attributes to measure service quality have been used, developed and adjusted to the different conditions of each of the researcher’s studies. Blut et al. (2015) assembled previous reliable studies on service quality such as the studies by Parasuraman et al. (1988), Wolfinbarger and Gilly (2003) as well as Parasuraman et al. (2005) and grouped the attributes that those studies used into four main dimensions which are website design, fulfillment, customer service, and security. In Blut et al. (2015)’s study, each of the dimensions consists of several attributes that other previous researchers had come up with which consisted of both service firm and goods firm. The attributes used in this study therefore will be adjusted according to the subject of this study which is Tokopedia as a service firm in the context of using an application as the online channel. In this study, the researchers will use measurement items that are taken from each of the dimensions’ definitions as well as the attributes and at the same time adjusting these measurement items to fit the current context of this study, meaning not all attributes will be used. The term “website design” will be changed to “application design” together with adjusted attributes to better measure the application of Tokopedia. Application design refers to all the experience that the customer encounters on the application. The attributes used for this dimension have been adjusted to better measure service quality in the context of application which are information search, shipment tracking, order processing, product offering and price offering. Furthermore, fulfillment refers to the degree of how accurate the information in regards to the product matches with what the customers experience. The attributes for fulfillment in the context of information on the application include the timeliness of delivery and the billing accuracy. The third dimension is customer service, described as how helpful and responsive the service is in aiding customers' problems during or after the transaction. The last dimension is security, defined as how safe the payments are and the degree of privacy of the personal information shared during and after the transaction process. The list of service quality dimensions and their elements can be seen in Table 2.3 below.

Table 2.3  
Elements of Service Quality

Dimensions	Elements	Scholar(s)	Definition
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Table 2. 3

Elements of Service Quality (Continued)

App Design	Information Search	Blut et al. (2015)	The degree of how accurate the information search feature on the app works.
	Shipment Tracking		The degree of how accurate the shipment tracking feature on the app works.
	Order Processing		The degree of how consistent the order processing notifications show up on the app.
	Product Offering		The degree of how consistent the product offerings show up on the app.
	Price Offering		The degree of how consistent the price offerings show up on the app.
Fulfillment	Delivery Timeliness	Blut et al. (2015)	The degree of how accurate the delivery time frame promised matches the actual delivery arrival.
	Billing Accuracy		The degree of how accurate the billing order matches the actual payment made.
Customer Service	Helpfulness	Blut et al. (2015)	The degree of how well customer service helps solve the customers' problems.
	Responsiveness		The degree of how quick customer service responds to customers' requests.
Security	Secure	Blut et al. (2015)	The degree of how secure the payment method is.
	Privacy		The degree of how confidential the information related to the payment is being used.

Source: Data from Blut, M., Chowdhry, N., Mittal, V., & Brock, C. (2015). E-Service Quality: A Meta-Analytic Review. *Journal of Retailing*, 91(4), 679-700.

## **2.5 Customer Satisfaction**

Hallowell (1996) stated that customer satisfaction is the values perceived by customers as a result of a transactional activity or relationship with sellers. Moreover, Kotler (2000) described customer satisfaction as the degree to how close the customer's expectations are toward the product's performance. If the performance falls below the customer's expectations, the customers will be disappointed. If it meets the expectations, the customers will be satisfied, and if it exceeds the expectations, the customers will be delighted. In e-commerce, customer satisfaction is referred to as user satisfaction which is defined as the reactions or sentiments that the e-commerce customers develop as a result of their experience using an e-commerce system (Molla & Licker, 2001). Meanwhile, Chen et al. (2020) in their study on online platforms satisfaction, defined customer satisfaction as the pleasure or disappointment formed by the users resulting from the comparison of the perceived effect of a product or service with the expected value. The definition by Chen et al. (2020) is chosen as it best describes this study's objective which is measuring the degree of pleasure or disappointment of the customers from their actual and expected online experience.

In regards to the measurement of customer satisfaction, Chen et al. (2020) gathered many previous researchers on customer satisfaction done in the past and it can be divided into two major categories which are the macro model and micro model. Macro model refers to a satisfaction index that is generated by countries as a macroeconomic indicator to measure a product or a service in that specific country. Meanwhile the micro model refers to the satisfaction index that is used to measure micro fields such as e-commerce and education. The examples of these micro models gathered by Chen et al. (2020) include the general model for measuring subjective inconsistencies by Oliver (1980), the customer model with service level by Sasser et al. (1974) as well as the SERVQUAL scale to evaluate service quality by Parasuraman et al. (1993). Taking into account these previous researches, Chen et al. (2020) came up with the following elements to measure satisfaction in online platforms: Fulfilling Shopping Needs, Use Feeling and Attractiveness. Fulfilling Shopping Needs refers to the degree of whether the functions of the platform meet the needs of consumers. Meanwhile, Use Feeling refers to the overall satisfaction feeling that the customers have when using the platform. Lastly, Attractiveness refers to whether using the platform makes online shopping more attractive

compared to offline shopping. Therefore, the elements used to measure this study's customer satisfaction are listed in Table 2.4 below.

Table 2. 4  
Elements of Customer Satisfaction

Elements	Scholar(s)	Definition
Fulfilling Shopping Needs	Chen et al. (2020)	The degree of how well the e-commerce platform's functions fulfill customers' shopping needs.
Use Feeling	Chen et al. (2020)	The overall level of satisfaction that customers feel when using the platform.
Attractiveness	Chen et al. (2020)	The level of attractiveness in conducting online shopping compared to offline shopping as a result of using the e-commerce platform.

Source: Chen, T., Peng, L., Yin, X., Rong, J., Yang, J., & Cong, G. (2020). Analysis of User Satisfaction with Online Education Platforms in China during the COVID-19 Pandemic. *Healthcare*, 8(200), 1-26.

## 2.6 Theoretical Framework

In the previous section, the theories from past studies have been discussed to define the four variables used in this study. In this section, the researchers will further explain the theoretical framework used in this study and past studies concerning the relationship between the variables. The framework used in this study can be seen in Figure 2.1 below.



Figure 2. 1 Theoretical Framework

Source: Data from Napitupulu, P. E., Pangastuti, R. D., & Hoediono, C. R. (2019). Effect of System and Service Quality to Customer Loyalty through M-BCA User Satisfaction in Surabaya, Indonesia. *The International Journal of Business & Management* 7(4), 59-69.

In this particular study, the researchers adopted the framework based on a study by Napitupulu et al. (2019) measuring the customer loyalty of M-BCA users regarding system quality and service quality with user satisfaction as the mediating variable. This framework itself was developed by Napitupulu et al. (2019) after examining two previously existing frameworks that are most commonly used in regards to measuring information systems success which is the Technology Acceptance Model by Davis (1989) and the Information Systems Success Model by DeLone and McLean (2003). The framework consists of three different aspects; independent, mediating, and dependent variables. The independent variables, i.e., system quality and service quality, are what the researchers considered will affect customer satisfaction, which will then affect the customer loyalty from their experience using the application (Napitupulu et al., 2019). The researchers deemed that this framework is the most appropriate for this study as this framework has been developed and modified by Napitupulu et al. (2019) in line with the latest situation of the information technology industry.

Moreover, this framework was modified, taking into account a business providing service to its customers via online manners. This situation aligns perfectly with what this study is trying to achieve, which measures the factors affecting Tokopedia currently as a platform that provides online service to its customers. Additionally, this framework has taken into account that the customers are measured from their experience using an application and not a website, unlike the past models of Davis (1989) and DeLone and McLean (2003).

### **2.6.1 Relationship between System Quality and Service Quality with Customer Satisfaction**

The first relationship in this framework is between system quality and service quality with customer satisfaction. It can be divided into two different relationships: system quality with customer satisfaction and service quality with customer satisfaction. In a study conducted by Dreheeb et al. (2016), it was found that system quality factors, specifically within the end-user perspective, significantly influence user satisfaction. In e-commerce, Lin (2007) conducted a study trying to determine the impact of a B2C system quality on customer satisfaction. Lin (2007) found system quality to be a significant determinant of customer satisfaction, specifically the design of the information system and interactivity.

Regarding service quality and its relationship with customer satisfaction, Zeithaml et al. (1996) stated that one successful strategy in improving customer satisfaction is the service quality concept. Another study by Swaid and Wigand (2007) concluded that the dimensions of service quality significantly influenced customer satisfaction. Additionally, according to Napitupulu et al.'s (2019) research, system quality and service quality positively affect customer satisfaction. Based on these past researches, it can be concluded that both system quality and service quality have positive relationship towards customer satisfaction. It means that if a particular information system has a good quality of the system and a good quality of service, customers will most likely be satisfied with the particular brand.

### **2.6.2 Relationship between Customer Satisfaction with Customer Loyalty**

The following relationship in this study's framework is the connection between customer satisfaction and loyalty using Tokopedia's application. Research conducted by Leninkumar (2017) indicated that customer satisfaction has a high level of significance with customer loyalty. Another research by Ibojo and Asabi (2015) on the same relationship also found the same conclusion. Furthermore, a study conducted by Napitupulu et al. (2019) also found that customer satisfaction has a significant relationship with customer loyalty in a more relatable context, in which they conducted research regarding the use of an application. Based on this past research, it can be concluded that customer satisfaction and customer loyalty have a positive relationship. Should the customer feel satisfied with a particular brand, they are more likely to stay loyal in using the service offered by that specific brand.

### **2.7 Hypothesis**

In the previous section, the researchers have explained the framework used in this study and the relationship between each of the variables. In this section, the researchers will hypothesize the relationship between the variables in line with the framework used to answer the research questions.

The first research question, which intends to identify whether system quality significantly influences the customer satisfaction of Tokopedia users in Indonesia, is hypothesized as follows:

H<sub>1</sub>: System Quality significantly influences Customer Satisfaction.

The second research question, which intends to identify whether service quality significantly influences the customer satisfaction of Tokopedia users in Indonesia, is hypothesized as follows:

H<sub>2</sub>: Service Quality significantly influences Customer Satisfaction.

The third research question, which intends to identify whether customer satisfaction mediates system quality and service quality toward customer loyalty of Tokopedia users in Indonesia, is hypothesized as follows:

H<sub>3</sub>: Customer Satisfaction mediates System Quality and Service Quality with Customer Loyalty.

The fourth research question, which intends to identify whether customer satisfaction significantly influences customer loyalty of Tokopedia users in Indonesia, is hypothesized as follows:

H<sub>4</sub>: Customer Satisfaction significantly influences Customer Loyalty.