



## Effect of E-Service Quality on E-Satisfaction and E-Loyalty: Moderated by Purchase Frequency

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### ABSTRACT

**This study aims to analyze the effect of e-service quality on e-satisfaction and e-loyalty by moderating purchase frequency. Data were collected from respondents, namely GrabFood customers in Batam City. The data were analyzed using the multi-group model with AMOS 23. The results showed that e-service quality had a positive effect on e-satisfaction. Besides, e-satisfaction also has a positive effect on e-loyalty. Meanwhile, the multi-group test shows that the frequency of purchases strengthens the relationship between e-service quality and e-satisfaction. On the other hand, purchase frequency is not able to moderate the relationship between e-satisfaction and e-loyalty. It is recommended for further research to study how the impact of this GrabFood can increase sales from its customers.**

**Keyword:** e-service quality, e-satisfaction, e-loyalty, GrabFood

### INTRODUCTION

Technological developments have resulted in changes in consumer empowerment, physical stores are shifting towards online stores that can provide convenience to customers in shopping. According to Statista (2018a), Indonesia currently has around 28.2 million online shoppers and is projected to experience an annual increase of 3-4% in the coming years. The majority of users are in the age range of 25-34 years and reach 12.8 million users who shop online in Indonesia. With these technological changes, companies have been trying to gain a competitive advantage by using e-commerce to interact with customers (Lee & Lin, 2005). In online business, competition can easily enter the market due to low barriers to entry (Wang, Cavusoglu, & Deng, 2016). Thus, the competition is getting tougher which poses a challenge for the company. The biggest challenge of online shopping is how companies can deliver and maintain customer satisfaction. Companies must be able to provide superior service quality to their customers (Gounaris, Dimitriadis, & Stathakopoulos, 2010). Even this online-based company also requires good service quality through a website which is the key to the success of the online business (Sharma & Lijuan, 2014).

Service quality and customer satisfaction are two central issues in maintaining and increasing mop loyalty. Because there are many choices for customers, if customers are not satisfied with the service provider, they will not be loyal to the organization and will switch to its competitors.

In order to satisfy customers and keep them loyal, it is necessary to strictly emphasize the service quality of the organization as it has a great impact on customer satisfaction and customer loyalty.

A review of the literature on service marketing reveals that the direction of causality and the relationship between service quality, satisfaction, and customer loyalty is an important unresolved issue characterized by inconsistency and controversy. Some show a positive relationship, some are not significant. Some studies show that service quality is an antecedent of satisfaction where higher service quality leads to higher customer satisfaction (Gounaris et al., 2010; Kitapci, Akdogan, & Dortyol, 2014; Rantianti & Halim, 2020). The same thing is conveyed that the results of the study show that there is a positive relationship between service quality and customer satisfaction (Dawi, Jusoh, Streimikis, & Mardani, 2018; Ofosu-Boateng & Acquaye, 2020). E-service quality on e-satisfaction, that both are positively correlated (Wilis & Nurwulandari, 2020). On the other hand, some do not show a significant relationship. E-Service-Quality does not have criteria to judge online stores so it cannot properly explain customer dissatisfaction and their switching to other online stores. Physical evidence and assurance do not have a significant influence on customer loyalty (Stevano, Andajani, & Rahayu, 2018; Setyawan & Yani, 2017). Likewise, the relationship between customer satisfaction and loyalty found contradictory results. Customer satisfaction has a positive impact on customer loyalty (Rantianti & Halim, 2020; Karim, 2020; Nguyen et al., 2020). While satisfied customers are not always loyal (Rowley & Dawes, 2000) and not always linear (Söderlund, 1998).

Inconsistent relationships between two variables can be caused by contingency factors or moderating factors. When studying consumer behavior, causal relationships between variables need to consider moderating variables, because the strength of this relationship may apply to one group but not to another. In recent years, the use of moderating variables has increased in the management literature, including the marketing literature, especially in predicting consumer behavior. Several variables that can moderate the relationship include uncontrollable individual characteristics such as age, income, gender, and education (De Matos & Rossi, 2008), and situational characteristics such as perceived risk, shopping experience, and relationship length, continuance commitment, and brand connection (Sicilia, Delgado-Ballester, & Palazon, 2016).

This study attempts to fill the gap (the inconsistency of the effect of service quality on customer satisfaction and loyalty) by examining the moderating effect of service use intensity on the relationship between service quality and satisfaction and loyalty. This study contributes to the marketing literature related to consumer behavior, especially customer satisfaction and loyalty. Besides that, it is still very rare for previous studies to consider purchase frequency as a customer characteristic that can also affect customer satisfaction and loyalty.

## LITERATUR REVIEW AND HYPOTHESES

### **E-service quality**

Rust & Lemon (2001) explain that e-service quality is focused on the interactive flow of information between service providers and customers. E-services are intended to provide a superior experience in relation to the flow of information. The Internet provides fast two-way communication, creating many opportunities to market a product or service. In addition, companies can develop products collaboratively with customers, where websites can be

accessed quickly. Furthermore, companies can take advantage of unprecedented opportunities by developing partnerships for the company's key asset—its customers.

In the context of service, quality is often understood as the subjective perception of customers. Customer service quality is usually understood as the difference between expectations and perceived reality. This is what is often referred to as disconfirmation and has been accepted by many researchers in the field of service quality (Gronroos, 1978; Parasuraman, Zeithaml, & Berry, 1988; Bitner, Booms, & Tetreault, 1990). The disconfirmation paradigm shows that when performance is at the same level or higher than expectations, the service quality is good or very good. If the performance is at a lower level than expected, the service quality is lower or poor. When performance exceeds or equals expectations, the level of service quality is said to be good or very good. Conversely, if the performance is lower then the quality of service is not good. Thus, e-service quality can be conceptualized as an overall evaluation of the quality of electronic service delivery in the virtual marketplace (Lee & Lin, 2005). Furthermore, e-service quality is measured by the dimensions of electronic service quality which include website design, reliability, responsiveness, trustworthiness, and personalization (Lee & Lin, 2005).

### **E satisfaction**

E-satisfaction is defined as consumer satisfaction regarding previous purchase experiences with a particular retail-oriented website (Anderson & Srinivasan, 2003). E-satisfaction can be concluded as a user's attitude in evaluating a site that comes from previous purchasing experiences that will create customer satisfaction with electronic trading companies that come from the service factor of the online site and the online site itself.

### **E-loyalty**

E-service loyalty has a theoretical basis similar to the previous customer loyalty theory. Recently, the concept of loyalty has been the subject of many studies. A lot of diversity of models and results were found. This diversity is a form of material wealth in the learning of loyalty. Besides, it is also a source of dispersion for researchers and practitioners. In studying this loyalty found limitations, especially in the behavioral and attitude approach developed by the marketing literature, contemporary research in this concept tends to adopt a relational approach. Based on this approach, loyalty is conceptualized as an ongoing relationship that is built between the customer and the service provider. It is an expression of the emotional connection that connects consumers and is manifested in buying and consuming situations. Loyalty is a relationship development process in which the contributions of both partners, strengthen their mutual loyalty (Evans & Laskin, 1994). Loyalty to web merchants is the intention of loyalty, such as the intention to return to the same site, the intention to recommend to others for the site he visited, and the intention to buy the site. Thus, beyond the intention, consumer loyalty can be expressed in the form of behavioral concern. This behavior can be manifested in the form of a desire to always maintain good relationships.

### **E-Service quality and E-Satisfaction**

In online business, the component of e-service quality is something that must be created to form customer satisfaction (e-satisfaction). Several studies on soft quality programs in organizational settings indicate that e-service quality can affect customer satisfaction both directly and indirectly (Rantianti & Halim, 2020; Dawi, Jusoh, Streimikis, & Mardani, 2018;

Ofosu-Boateng & Acquaye, 2020). There is also a positive relationship between e-service quality and e-satisfaction (Wilis & Nurwulandari, 2020). Several older empirical studies confirm that higher levels of service quality are associated with higher levels of customer satisfaction (Chang & Wang, 2011; Deng, Lu, Kee Wei, & Zhang, 2010). Based on this study, it can be hypothesized as follows:

*H1: E-service quality has a positive effect on e-satisfaction.*

### **E-Satisfaction and E-Loyalty**

The correlation between customer satisfaction and loyalty has attracted the attention of scholars for a long time. According to previous literature, most scholars believe that satisfaction has a significant positive impact on loyalty. Satisfied customers who visit websites more often can increase loyalty because once online customers become accustomed to shopping at a particular site, the buying decision process becomes a habit (Alba & Hutchinson, 1987).

Hansen & Jonsson (2014) reviewed 45 articles related to loyalty, it was found that more than 30 articles (more than two-thirds of the literature) analyzed and verified the relationship between loyalty and satisfaction and emphasized that customer satisfaction is able to increase customer loyalty. This is also strong evidence to support that customer satisfaction as an important indicator of loyalty cannot be ignored when measuring loyalty. Similar to the context of e-commerce, it also shows that e-satisfaction has a positive impact on e-loyalty (Rantianti & Halim, 2020; Karim, 2020; Nguyen et al., 2020). Based on this study, the following hypothesis is proposed:

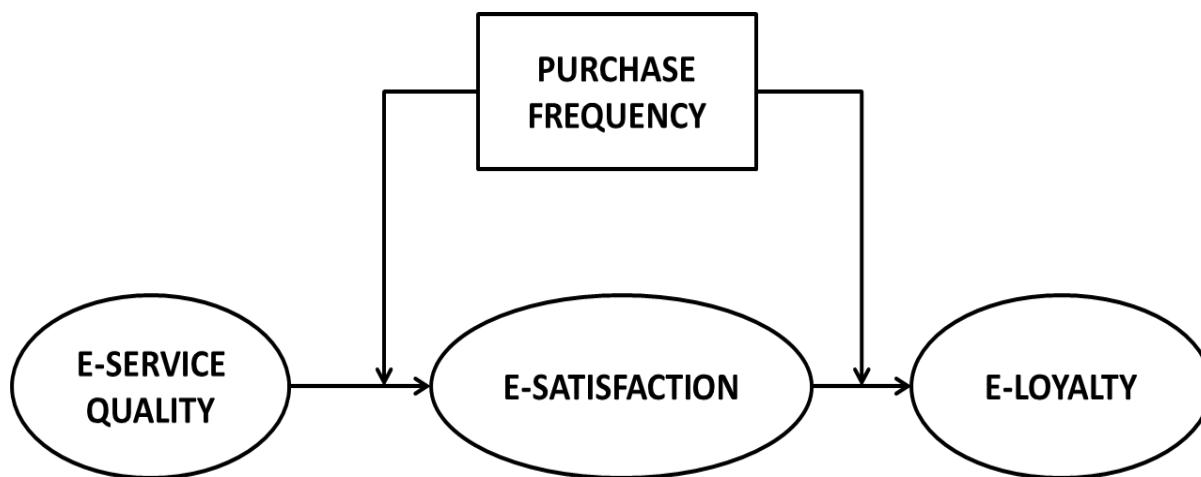
*H2: E-satisfaction has a positive effect on e-loyalty.*

### **Effect of Purchase Frequency**

Bryman & Cramer, (1999) stated that a moderating relationship occurs when a relationship is found for some sample categories but not for others. Purchase intensity is an indication of how often customers make purchases. The more often they make purchases, the more experience and knowledge they have of the services used. Thus it will affect the degree of satisfaction and loyalty. Due to the frequency of their purchases they are aware of the usual store marketing actions they go to (Berné, Cortiñas, Elorz, & Múgica, 2004) and developing brand loyalty for shoppers who shop more often than not regularly (Bawa & Ghosh, 1991). Furthermore, customers with high purchase frequency tend to be more satisfied and more loyal. Higher purchase frequency also increases their search behavior (Li, Dan, Chi, & Wang, 2021). Figure 2 shows how the purchase frequency moderates the relationship between e-service quality and e-satisfaction as well as the relationship between e-satisfaction and e-loyalty. Based on this study, the following hypotheses are proposed:

*H3a: Purchase frequency moderates the relationship between e-service quality and e-satisfaction.*

*H3b: Purchase frequency moderates the relationship between e-satisfaction and e-loyalty.*



**Figure1: Reseach Framework**

### METHODE

Primary data was collected online. The sample in this study is GrabFood customers in the city of Batam, Indonesia. Questionnaires were distributed to customers and 384 complete data were collected. Furthermore, the data were analyzed using AMOS 23. The structural model is assessed based on the strength of the relationship between the constructs represented by each standard path coefficient. To test the moderating effect, a multi-group analysis was carried out, namely by determining the value of the Critical Ratio for Difference between Parameters that was greater than the required value (1.960). The path structural estimates between the two groups were compared and then the value of the critical ratio for the difference between the parameters was used as a basis for assessing the significance of the moderating effect.

### RESULT AND SISCOSSION

#### Descriptive statistics

Table 1 shows the description of the respondents that include age, education, type of work, and frequency of purchase. Most of the respondents are women, graduate education, private employee job.

**Table 1: Characteric respondent**

Variables		Frequency	%
Gender	Male	102	26.56
	Female	282	73.44
Age groups	24-29	243	63.28
	30-34	81	21.09
	35-39	60	15.63
Education	High School	72	18.75
	Diploma	63	16.41
	Graduate	246	64.06
	Master	3	.78
Occupation	Private employee	192	50.00
	Civil servant	7	1.82
	Housewife	31	8.07
	Student	119	30.99
	entrepreneur	35	9.11
Purchase frequency	Rarely ( $\leq 12$ time in 1 year)	163	42.45
	Often ( $> 12$ time in 1 year)	221	57.55

## Measurement

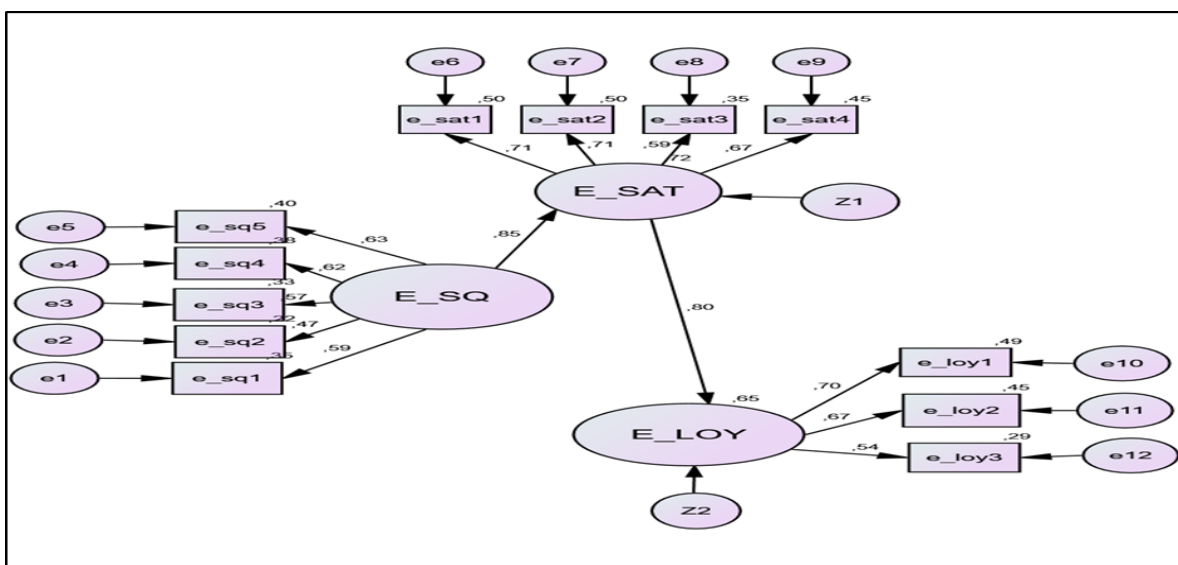
Table 2 shows the measurement results of each construct. First, E-service quality has a construct reliability value of .714 which is higher than the required  $>.500$  and all items (from e-sq1 to e-sq5) have a loading-factor value of  $>.500$ . Second, the E-Satisfaction construct which consists of 4 items has a construct reliability value of  $.766 > .500$ , and all the loading-factor values of each item show a value above  $>.500$ . Third, the E-Loyalty construct has a construct reliability value of  $.836$  and a loading-factor value of all items  $>.500$ . Thus, all variables used are valid and reliable.

**Table 2: CFA and Construc Reliability**

Constructs	Items	Mean	SD	Factor loadings	Construct Reliability
E-Service Quality	e_sq1	4.5469	.56244	.611	.714
	e_sq2	3.9714	.59301	.525	
	e_sq3	3.7344	.75601	.659	
	e_sq4	4.4557	.61582	.755	
	e_sq5	4.2786	.68780	.739	
E-Satisfaction	e_sat1	4.4557	.53895	.810	.766
	e_sat2	4.1979	.52349	.823	
	e_sat3	4.4818	.54527	.778	
	e_sat4	4.2135	.52730	.746	
E-Loyalty	e_loy1	4.4323	.61792	.689	.836
	e_loy2	4.0859	.67434	.814	
	e_loy3	3.5833	.92165	.595	

## Structural Model

The proposed model without a moderator (Purchase frequency) was further tested. Figure 2 shows the path coefficients of the proposed model. These results show the direct impact of the predictor variable on the consequence variable. The results of the significance test for the direct effect are shown in Table 4.



**Figure 2: Test results of the effect of E-Service Quality on E-Satisfaction and E-Loyalty**

Table 4 shows that none of the main hypotheses were rejected. This means that the effect of E-Service Quality on E-Satisfaction is positive and significant, as well as the effect of E-Satisfaction on E-Loyalty. Thus, H1 and H2 are supported. This means that the higher the E-Service Quality, the higher the degree of E-Satisfaction. This result is in line with previous research which shows that service quality has a positive impact on e-satisfaction (Dawi, Jusoh, Streimikis, & Mardani, 2018; Ofosu-Boateng & Acquaye, 2020; Rantyanti & Halim, 2020; Wilis & Nurwulandari, 2020). Furthermore, the higher the E-Satisfaction, the higher the E-Loyalty, this result is in accordance with previous research (Karim, 2020; Nguyen et al., 2020; Rantyanti & Halim, 2020).

**Table 4: Hasil Pengujian Hipotesis**

	Estimate	S.E.	C.R.	P	Conclusion
E-Service Quality → E-Satisfaction	.996	.203	4.900	***	H1: supported
E-Satisfaction → E-Loyalty	.663	.143	4.639	***	H2: supported

### Moderating Effect of Purchase Frequency

Testing the moderating effect of Purchase Frequency on the relationship between E-Service Quality and E\_Satisfaction. as well as the moderating effect of Purchase Frequency on the relationship between E\_Satisfaction and E\_Loyalty was carried out by comparing the estimation results in the often and rarely group.

**Table 5: Multi group test results from the variable Purchase Frequency**

Proposed hypothesis	Often		Rarely		Critical Ratio for Differences between Parameters	Conclusion
	Estimate	CR	Estimate	CR		
E-Service Quality → E-Satisfaction	.841	4.992	.836	7.334	1.994	H3a: supported
E-Satisfaction → E-Loyalty	.786	6.369	.818	7.623	-.991	H3b: rejected

Table 5 shows that the relationship between E-Service Quality and E-Satisfaction is stronger in the group with frequent purchases than in the rarely purchasing group (estimate .841>.836) with a significant difference of 1.994 which is greater than the required (1.960). Therefore H2a is supported. This implies that the higher the purchase frequency, the stronger the positive relationship between e-service quality and e-satisfaction. On the other hand, the moderating effect of purchasing frequency on the relationship between e-satisfaction and e-loyalty shows that it is not significant where the critical ratio for differences between parameters is -.991<1.960. Therefore H2b is rejected. Thus, the higher the purchase frequency does not strengthen the relationship between e-satisfaction and e-loyalty.

### CONCLUSION

From the discussion, it can be concluded that e-service quality has a positive impact on e-satisfaction. Furthermore, e-satisfaction has a positive impact on e-loyalty. Therefore, to improve both e-satisfaction and e-loyalty, it can be done by improving e-service quality.

Companies can try to minimize the complaints that have occurred so far by improving services that have been felt to be lacking for customers.

Meanwhile, the frequency of purchases can significantly strengthen the relationship between e-service quality and e-satisfaction. Thus, increasing the frequency of purchases is very important in the marketing strategy as one of the market penetration strategies, namely increasing consumption in the current market with the products/services currently owned by the company. For further research, it is necessary to study how the impact of this Grabfood service on increasing sales from customers/platforms that have collaborated.

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