# The Mediation Effect of Customer Satisfaction on the Relationship between Product Quality, Perceived Price Justice and Customer Loyalty

**Jose Fernandes da Silva, Esatanislau Sousa de Saldanha, and Domingos M.B. Barreto**
*Graduate School-MBA Program, Dili Institute of Technology (DIT), Timor-Leste*
*Email: josefernandesdasilva27@gmail.com; estanislausaldanha@yahoo.com; domingosmb.barreto@gmail.com*

## ABSTRACT

This study aimed to examine the effect of mediation, satisfaction, and the relationship between product quality, perceived fair prices, and customer loyalty. With a sample size of 400, the study was conducted at Telkomcel in Dili, Timor-Leste. The data collection of this study used a questionnaire adopted by previous studies, and data analysis used SMART-PLS 3.0. The findings of this study indicated that product quality has no significant effect on the loyalty of the customer. Still, the perception of a fair price that is satisfied by the customer significantly affects the loyalty of the customer. The customer is satisfied with the significant mediating effect on the relationship between product quality and fair perception of the customer's loyalty. This research has implications for product quality, perception of reasonable prices, and customer loyalty.

**Keywords**: Product Quality, Fair Perception, Customer Satisfaction, and Customer Loyalty.

## 1. Introduction

Customer loyalty is essential so businesses can provide high-quality products that meet their needs (Caesar, 2016). When a company provides high-quality products, customer satisfaction increases, leading to customer loyalty. Numerous empirical studies revealed that product quality directly affects customer loyalty (Peter bad El., 2014; Ahmed, 2014; Howat, 2013) through customer satisfaction (Gok et al., 2019; visibility et al., 2019).

Customer satisfaction is the primary goal of organizations offering goods and services. The customer will buy from the company if the price is reasonable and fair. Therefore, the price of goods greatly influences customer satisfaction, leading to customer loyalty (Asadi et al., 2014). Customer loyalty was affected by price justice and price equity (Mahmud et al., 2013; Wantara & Tambrin, 2019; Rua, 2020). Numerous studies also confirmed the positive relationship between perceived price justice, product quality and loyalty (Basey, 2014; Ha and Jang 2010; Wu et al., 2014).

Giving the variety results of empirical studies on the relationship among product quality, perceived fair price, customer satisfaction and loyalty, continues empirical studies are needed to ensure different industries provided product/services to meet customer demands and satisfaction. This study examines and explains the effect of product quality, perceived fair price, and customer loyalty satisfaction. Examine and explain the mediator's influence between product quality, perceived fair price, and customer loyalty on customer satisfaction.

## 2. Theoretical Frameworks, Research Model and Hypothesis
### 2.1 Theoretical Framework
### 2.1.1 Product Quality

Quality is the more excellent value of the goods the customer wants. According to Colors and Celler (2013), quality is the total characteristic of a product or service that meets customer needs. Product quality is influenced by quality (quality), appearance (figures), choice (option), style, brand, packaging, size (size), and product type (Assauri , 2007). For a customer to buy a product, the quality of the product must meet customer expectations.

To measure product quality, different dimensions and indicators are recommended by previous authors. According to Lupiyoadi (2013), product quality is measured by product performance, product characteristics, reliability, suitability, durability, serviceability, and perceived quality. Kotler and Armstrong (2004) measured product quality based on the products meet customer demand. In addition to duality, confidentiality, strength, the facilities packaging, and co-production, the definition of the product's quality describes a product's capacity to perform its intended function. Thus, a well-executed product can be considered high quality; however, the author generally agrees that product quality is measured by indicators such as durability, service skills, performance, and prestige (Brucks, Zeithaml, & Naylor 2000).

### 2.1.2. Perceived Price Justice

Price is one of the most important factors in customers' decision-making period (Petrick,1999). Price comprises of two types namely actual price and perceived price. Bei and Chiao (2001) define price perception as customers' point of view of the price they pay in return for goods/services they buy. Consumers decide what they will buy and how much they will pay for each product depending on its price. In addition, product quality and image will be dictated by its price. To this, price is mostly perceived as a quality indicator and prestige factor (Meredith and Maki, 2001).

Mazumdar et al. (2005) proposed that contextual components and reference prices should be considered. Viglia and Abrate (2014) stated that reference prices can be affected by numerous factors namely: First, the average and the last price seen; the highest and the lowest price; the variability and trend of the sequence of prices. Haes and Bearden (2016) state that the awareness that another similar customer paid a lower price appears to be a particularly potential source of perceived unfairness. In other words, customers consider the same price information, and if the source is social, then consumers want to pay less (Viglia and Abrate, 2014). When they pay more than others, their perceived price of justice is weakened. (Liu and Jang, 2009).

According to Viglia and Abrate (2014), the reference price can be modified by several variables. The first, average, and last prices to pay attention to, as well as highs and lows, as well as price variability and trends, are all aspects to consider. Reference prices are also affected by social comparisons. Haes and Bearden (2016) found that customers' perceptions of injustice were exacerbated when they learned that other similar customers were paying less. In other words, when pricing information is social, buyers prefer to spend less (Viglia and Abrate, 2014). Customers become more difficult to get a fair deal if they pay more than anyone else in the market (Liu and Jang, 2009). Therefore, the increase in commodity prices must have a strong reason (Martin et al., 2009). Customers will not repurchase or recommend products if they buy a product/service with an unfair price. Perceived fair price are associated with quality and customer satisfaction (Bassey, 2014).

Two main dimensions of perceived price justice namely: 1). Monetary sacrifice, namely nominal cash used for goods and services, and little cash used for maintenance (Korda & Snoj, 2007; Zeithaml, 1988). 2) Non-monetary physical time and effort expended in producing and serving a good or service. Perceived price fairness was measured by three items in another Food Service survey (Martin et al., 2009).

### 2.1.3 Customer Satisfaction

By manipulating expectations and perceptions, a person can create feelings of satisfaction or pressure (service). Customers would be happy if the services provided meet their expectations (Kotler and Keller, 2013). According to Dominici & Guzzo (2010), customers are satisfied when they believe that the goods or services, they purchased have met their expectations based on their current location. To find out how satisfied customers are, they can compare their experiences with the same products or services (Kasmir, 2018).

The first sign of a successful business is the level of customer satisfaction. Therefore, the industry needs to pay more attention to customer needs to create loyal customers. Customers are happy to buy products because they know their customers are a loyalty source (Ranabhat, 2018). Customer satisfaction is the most important indicator for customer loyalty (Poin and Quilken, 2005) which influenced by service quality (Van Es, 2012). Customer satisfaction will help the industry to make more money. According to Budi (2014), the importance of customer satisfaction can lead to (1) customer loyalty, (2) increased product purchases, (3) free word `of mouth advertising, and (4) profits in the industry.

Fraering and Minor (2013) stated that customer satisfaction is primarily an affective and cognitive variable. Cognitive measures include confirmation and expectations, indicators, and other performance measures (Oliver, 1999). Fairness (Oliveira and Swan, 1998) needs fulfilment (Oliver and Swan, 1999). According to Cater and Cater (2009), the concept of customer satisfaction is related to the following seven factors: (1) direct product costs, (2) product quality, (3) delivery performance, (4) knowing how to serve, (5) time to market, (6) service support, and (7) personal interaction.

### 2.1.4. Customer Loyalty

Customer loyalty is a customer's attitude toward service, brand, or business (Mosahab et al., 2010) or a customer's intention to continue his/her relationship with the business or brand (Cyr et al., 2006). It depends on product quality and level of customer satisfaction (Oliver, 1999; Emanuel *et al.*, 2020).

Fraering and Minor (2013) stated that customer loyalty is affected by the commitment to purchase, positive words about the product, and recommendations to other people. Jung and Yoon (2013) stated that the loyal character of a customer involves: (1) repeat buyer, (2) purchase or not purchase the new product, (3) recommend a product to other people, (4) not tempted to fall into the other products. Išoraitė (2016) states that customers loyalty may consider the following aspects: (1) continue to be loyal to the business, (2) buy a new product that the company offers, (3) create a positive image of the company, attract other friends to purchase, (4) do not fall into other products, (5) do not question when there is a change in the price, (6) tolerate errors that may happen, (7) voluntarily offer information to other people, and (8) ready to offer suggestion and idea to increase the quality of product and service.

Factors that affect customer loyalty consist of three aspects: (1) Loyalty factor that affect an enterprise's

product or service; a) quality, the maximum value that customer receives and have the interest to return and buy more, b) price from the product and service become a factor that influences customer loyalty due to the price including natural process of purchase, c) customer loyalty program. (2) Factor that influences the loyalty concerning development; a) Quality based on the relationship with the previous experience, b) Trust. 3) Factor that influences loyalty to the customer's behaviour. Personal characteristics also impact customer loyalty even though some research recognizes that other people are not loyal, such as gender, age, income, risk being taken, attitude, and expectation. Seven aspects determine loyalty such as; a) security in the industry, b) variety of industry, c) quality product, d) service from employees, and e) teamwork (Išoraitė, 2016).

Japarianto *et al*. (2007) stated that factors that influence customer loyalty to involve; 1) caring and customer treatment will satisfy the industry, which leads to the loyalty of the customers. (2) Trust occurs over a long process until customers begin to trust the industry until the part of the customer and the industry trust each other. (3) Industry must protect its customers, such as quality products, better services, attend customers complex, so the customer believes that the company has given maximum attention to them. (4) accumulated satisfaction is the value of all goods and services for some time. According to Abdullah et Al. (2012), customer loyalty is important in satisfying customers because customer attitude and behaviour rely on products and services. When behaviour from a customer is positive, it is considered that the customer is loyal.

Kan, Alejandro, and Groza (2015) present five dimensions of customer loyalty. (1) satisfied business with the company. (2) to create relationships with companies. (3) buy more. (4) willing to recommend others, with (5) not moving to other products.

## 2.2 The Conceptual Framework

Product quality, perceived price justice, customer satisfaction and loyalty are determinant factors in a profitable business organization. Service quality and customer satisfaction have been well-known as antecedent variables for customer loyalty (Berry et al., 1988; Parasuraman et al., 1994). This modelled is built based on the ground that product quality and perceived price justice have great impact on satisfaction, which in turn enhances customer loyalty (Figure 1).

To measure the variable, indicators were adapted from Brucks, Zeithaml, & Naylor (2000) for product quality, Korda & Snoj (2007) for perceived price value, and Zeithaml (1988) for customer satisfaction and loyalty from Özkan et al. (2019), Parasuraman et al. (1994), Pedro et al. (2018).
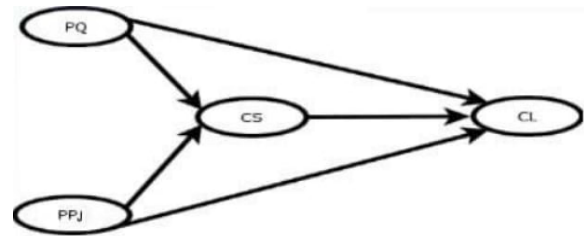


**Figure 1.** Conceptual Framework Research

(PQ=Product quality; PPF= Perceived price justice; CS= Customer satisfaction; CL= Costumer loyalty).

## 2.3 Hypothesis
### 2.3.1. Quality Product and Customer Legality

Product quality is defined as a useful, durable product, and meets customer's expectation. Product quality will influence customer loyalty. Customers will shift to other products if corporate fails to provide goods with good quality. Numerous empirical studies revealed that product quality has a significant effect on the customer loyalty (Devaraj et al., 2021; Djumarno et al., 2018; Gunawan et al., 2019). Therefore, the hypothesis for this research could be as follows:
$H_1$: product quality has positive and significant impact on customer loyalty.

### 2.3.2. Perceived Price Justice and Customer Loyalty

Theoretically, companies may collect the price difference according to their preference. However, when customers receive unfair prices, it will impact customer loyalty. They will also spread bad words about the company in the future (Kim and Han (2008); Meng and Eliot, 2008; Han and Ryu (2009). Perceived price justice influences the product value and acceptance. It implies a positive perception that will lead to positive responses and behaviour such as loyalty (Bassey, 2014). Therefore, the hypothesis of this research was formulated as follows:
$H_2$: Perceived price Justice has a positive and significant impact on customer loyalty.

### 2.3.3. Product Quality and Customer Satisfaction

Product quality is a measure to identify how the product and service meet the customers' expectations. Therefore, product quality influences on customer satisfaction. When customer satisfies with product quality, it will lead them to purchase the product (Subrahmanyam, 2017). This has been confirmed by numerous empirical studies that the product quality influences positively on the customer satisfaction (Gunawan et al., 2019, Ozkan et al, 2019). Therefore, the hypothesis of this research can be formulated as follows:

$H_3$: The product quality has a positive and significant influence on the customer satisfaction.

### 2.3.4. Perceived Price Justice and Customer Satisfaction

Price perceptions play an important role in satisfying customers as well as their behavior in the future (Heo and Lee, 2011). However, perceived price justice can lead to positive behaviors such as satisfaction (Bassey, 2014; Liu and Jang, 2009). Injustice in prices can cause negative behavior such as; negative attitudes, complaints and dissatisfaction (Gummeson, 2002; Liu and Jang, 2009). Therefore, this research could be as follows:
H4: Quality services are positive and significant for the satisfaction of customers.

### 2.3.5. Customer Satisfaction and Loyalty

Customer satisfaction is an antecedent variable for customer loyalty (Oliveira, 1999; Bowen and Chen, 2001; Han and Hyun, 2018). Therefore satisfaction can be accepted as part of the loyalty background. To this, firms try to increase customer satisfaction, aiming to ensure customer loyalty. Numerous empirical studies revealed that customer satisfaction has significant impact on customer loyalty (Asnawi, Sukoco, and Fanani, 2019). Therefore, the hypothesis of this research could be as follows:
$H_5$: Customer Satisfaction has a positive and significant influence on customer loyalty.

### 2.3.6. The Product Quality, Satisfaction and Customer Loyalty

Satisfied customer will rebuy products from a company. Product quality will determine level of customer satisfaction. When a customer wants to buy quality goods or services, the customer must be satisfied first. In addition, customers are seeking to repurchase, help to promote and recommend to others to buy through the word of mouth. Therefore, customer satisfaction plays an important role in mediating product quality and customer loyalty (Delcourt, Gremler, Van Riel, & Van Birgelen, 2013; Fuentes-Blasco, Moliner-Velázquez, & Gil-Saura, 2017). Therefore, the hypothesis of this research could be as follows:
$H_6$: Customer satisfaction has a significant effect on the relationship between product quality and customer loyalty.

### 2.3.7. Perceived Price Justice, Customer Satisfaction, and Customer Loyalty

Extensive empirical studies on perceived price justice, customer satisfaction, and legality have been carried out and widely available in marketing literature. Perceived price justice affects customer satisfaction, leading to customer loyalty (Bassey, 2014; Ha and Jang, 2010). Wu et al. (2014) confirmed that perceived price justice and customer satisfaction has significant contribution to customer loyalty. Therefore, in this research, the hypothesis can be formulated as follows:
$H_7$: Customer satisfaction has a significant effect on the relationship between perceived price justice and customer loyalty.

## 3. Methods
### 3.1. Population and Sampling

The study was conducted at Telkomsel, Dili Municipality to obtain primary data on respondents' perceptions of product quality, perceptions of fair prices, legality, and satisfying customers. The research period has been carried out for two months from October to December 2021. The research target population is customers who use products/services from the Telekomsel company in Dili Municipality with the total number of 467,000 people (Telekomsel marketing, 2021). From this, sample was calculated used Slovin Formula with the 5% margin of errors. This sample size is sufficient because Hair et al. (2014) a minimum of 30 to utilize SMART-PLS. This study used the accidental sampling method to select respondents who filled up the questionnaire.

### 3.2. Data Collection

This study uses a questionnaire to purchase or collect data. The questionnaire was developed based previous empirical studies from Brucks, Zeithaml & Naylor (2000) for product quality, Korda & Snoj (2007) for perceived price value, and Zeithaml (1988) for customer satisfaction and loyalty from Özkan et al. (2019), Parasuraman et al. (1994). The questionnaire designed in Five Likert Scale, ranging from 1 (Strongly Disagree) 2 (Disagree) 3 (neutral) 4 (Agree) and 5 (Strongly agree). The survey questionnaires were divided into three (4) parties: product quality, perceived price Fairness, customer satisfaction and loyalty. The questionnaires were distributed to respondents via direct distribution and via Google Forms.

### 3.3. Data Analysis

This research used the SMART-PLS 3.0 to analyse data as it commonly uses in business and management research, small sample size, multivariable test, reflective/formative indicator (Hair et al., 2014; Saldanha et al., 2019). The SMART-PLS 3.0 test used two stages: First, test the relationship between indicators and variables (outer model measurement) consist of reliability and validity teste. Reliability test used Cronbach of Alpha (CA) with the minimum allowable value is 0.7, only exploratory research, the minimum CA and CR values are above 0.6 (Hair et al, 2014; Hair et al, 2017). The validity test was divided into convergent validity and discriminant validity. Convergent validity uses outer loading (OL) and average variance extracted (AVE) of which all items' values are much higher than the threshold value of 0.7 and 0.5 respectively. Second

the relationship between variables (inner model measurement) was tested by using path coefficient (T and P value) of which the minimum T value is higher than

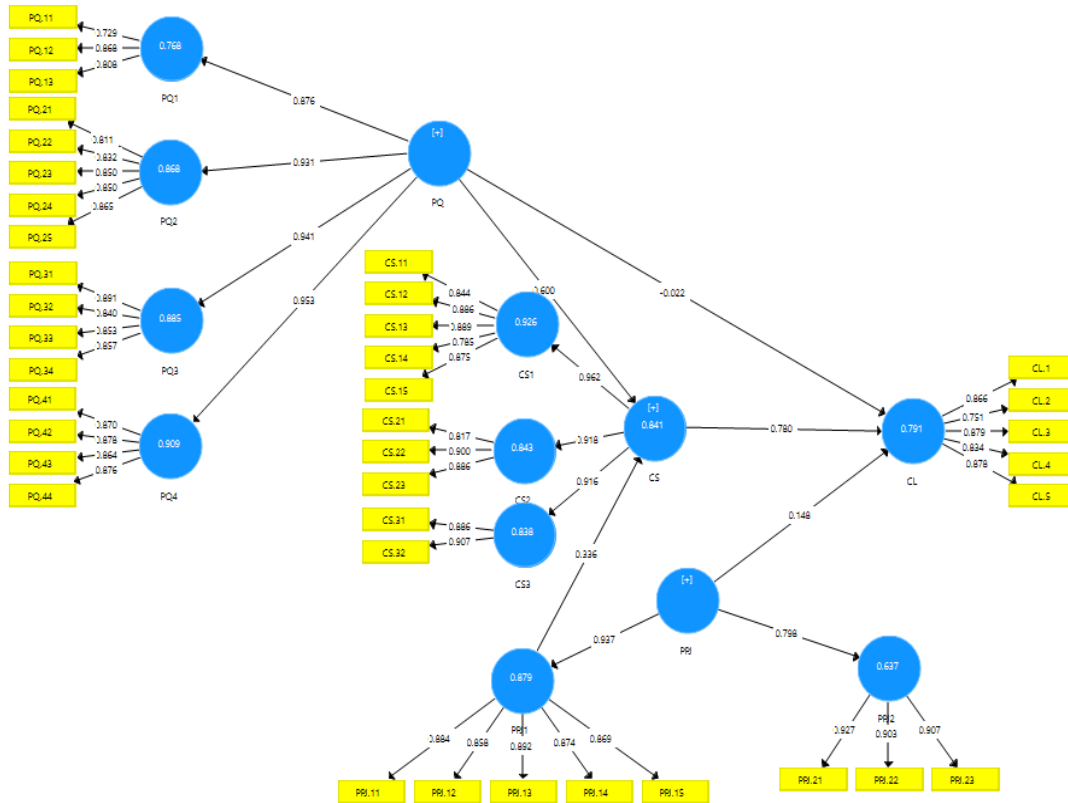1.96, while the maximum P value is less than 0.05 (Hair et al., 2017; Saldanha et al., 2019).



**Figure 2.** Outer Loading for Convergent Validity Test.

## 4. Results and Discussion
### 4.1. Validity and Reliability Test

The reliability test was used to observe the internal consistency of the relationship between indicators and variables in the research model. Cronbach Alpha (CA) and composite reliability (CR) were used to observe reliability (Hair et al., 2014). Table I shows that the CA and CR values the results of reliability test. All items comply with the minimum threshold value of 0.7 as recommended by Hair et al. (2014).

The validity test was designed to see the accuracy of the tools used in the model. There are two types of validity tests, namely convergent validity and discriminant validity. Convergent validity was observed using the outer loading (OL) and the average variance extracted (AVE). On the other hand, discriminant validity uses the Fornell-Larcker (FL) Criterion and Heterotrait-Monotrait (HTMT) (Hair et al., 2014,).

From the convergent validity, the results show that the OL values of all items are higher than 0.7 (Figure 2), and the average variance extracted (AVE) are above 0.5 (Table II) which are complying with the threshold value of 0.7 and 0.5 respectively as recommended by Hair et al. (2014). From discriminant validity, the results as shown in the Table II indicated that the Fornell-Larcker (FL) criterion (Table II) complies with the rule from Hair et al. (2014), while Heterotrait-Monotrait (HTMT) values comply with the rule of Henseler et al. (2015) (Table III).

### 4.2. Results of Hypotheses Test

The first hypothesis was tested to observe the influence of Product quality (PQ) on customer loyalty (CL). The result shows that the P value (0.267) is lower than the minimum threshold value of 1.96, and P value (0.790) is higher than the minimum allowable value of 0.05 as recommended by Hair et al. (2014) (Table 4.8). This shows that product quality (PQ) is not significant in

influencing customer Loyalty. Therefore, H1 is not supported.

**Table I.** Test Results of variability and Reliability uses SMART-PLS 3.0

| Item | CA | CR | AVE |
|------|------|------|------|
| CL | 0.898 | 0.924 | 0.711 |
| CS1 | 0.909 | 0.932 | 0.734 |
| CS2 | 0.836 | 0.902 | 0.754 |
| CS3 | 0.756 | 0.891 | 0.804 |
| PPJ1 | 0.924 | 0.942 | 0.766 |
| PPJ2 | 0.900 | 0.937 | 0.833 |
| PQ1 | 0.726 | 0.845 | 0.647 |
| PQ2 | 0.897 | 0.924 | 0.709 |
| PQ3 | 0.883 | 0.919 | 0.740 |
| PQ4 | 0.895 | 0.927 | 0.760 |

**Table II.** Fornell-Larcker Criterion

| Item | CL | CS1 | CS2 | CS3 | PPJ1 | PPJ2 | PQ1 | PQ2 | PQ3 | PQ4 |
|------|------|------|------|------|------|------|------|------|------|------|
| CL | 0.843 | | | | | | | | | |
| CS1 | 0.830 | 0.857 | | | | | | | | |
| CS2 | 0.780 | 0.718 | 0.868 | | | | | | | |
| CS3 | 0.834 | 0.822 | 0.731 | 0.896 | | | | | | |
| PPJ1 | 0.808 | 0.767 | 0.818 | 0.776 | 0.875 | | | | | |
| PPJ2 | 0.512 | 0.529 | 0.536 | 0.433 | 0.542 | 0.913 | | | | |
| PQ1 | 0.669 | 0.777 | 0.694 | 0.697 | 0.772 | 0.376 | 0.804 | | | |
| PQ2 | 0.740 | 0.735 | 0.786 | 0.703 | 0.776 | 0.512 | 0.769 | 0.842 | | |
| PQ3 | 0.774 | 0.723 | 0.837 | 0.746 | 0.835 | 0.490 | 0.779 | 0.747 | 0.860 | |
| PQ4 | 0.789 | 0.771 | 0.830 | 0.776 | 0.785 | 0.571 | 0.771 | 0.756 | 0.763 | 0.872 |

**Table III.** Heterotrait-Monotrait Ratio (HTMT)

| | CL | CS1 | CS2 | CS3 | PPJ1 | PPJ2 | PQ1 | PQ2 | PQ3 | PQ4 |
|------|------|------|------|------|------|------|------|------|------|------|
| CL | | | | | | | | | | |
| CS1 | 0.814 | | | | | | | | | |
| CS2 | 0.892 | 0.794 | | | | | | | | |
| CS3 | 0.627 | 0.788 | 0.817 | | | | | | | |
| PPJ1 | 0.885 | 0.544 | 0.726 | 0.826 | | | | | | |
| PPJ2 | 0.575 | 0.582 | 0.612 | 0.525 | 0.594 | | | | | |
| PQ1 | 0.813 | 0.742 | 0.886 | 0.734 | 0.832 | 0.441 | | | | |
| PQ2 | 0.820 | 0.825 | 0.703 | 0.849 | 0.761 | 0.568 | 0.839 | | | |
| PQ3 | 0.864 | 0.817 | 0.883 | 0.708 | 0.823 | 0.548 | 0.665 | 0.748 | | |
| PQ4 | 0.876 | 0.664 | 0.757 | 0.641 | 0.774 | 0.636 | 0.845 | 0.853 | 0.770 | |

The Second hypothesis was tested to observe the influence perceived price justice (FPJ) on customer Loyalty (CL). The results show that the P value (2.387) is well above the minimum standard value of 1.96, and the P value (0.017) is above the maximum value of 0.05 (Table 4.8). This shows that the perceived price justice (FPP) significantly influences the customer loyalty (CL). Therefore, $H_2$ is supported.

The third hypothesis was tested to understand the influence of product quality (PQ) on customer satisfaction (CS). The results show that the P value (10.539) is well above the minimum standard value of 1.96, and the P value (0,000) is below the maximum threshold of 0.05 (Table IV). This shows that the product quality (PQ) significantly influences on customer satisfaction (CS). Therefore, $H_3$ is supported.

The fourth hypothesis was tested to know the influence of perceived price justice (PPJ) on the customer

satisfaction (CS). The results showed that the T value (5.729) is well above the minimum standard value of 1.96, and P value (0,000) is below than the maximum allowable value of 0.05 (Table IV). This shows that the perceived price justice (PPJ) significantly influences on satisfaction of customers (CS). Therefore, H4 is supported.

The fifth test of the hypothesis to know the influence of customer satisfaction (CS) on customer loyalty (LC). The results showed that the T value (10.942) is well above the minimum standard value of 1.96, and the P value (0,000) is below the maximum value of 0.05 (Table IV). This shows that customer satisfaction (CS) significantly influences customer Loyalty (LC). Therefore, H4 is supported.

**Table IV.** Path Coefficient (Direct effect) for the Hypothesis Test

|  | OS | SM | STDEV | TS | P V | Note |
|---|---|---|---|---|---|---|
| **PQ -> CL** | -0.022 | -0.015 | 0.083 | 0.267 | **0.790** | Not Significant |
| **PPJ -> CL** | 0.148 | 0.149 | 0.062 | 2.387 | **0.017** | Significant |
| **PQ -> CS** | 0.600 | 0.611 | 0.057 | 10.539 | **0.000** | Significant |
| **PPJ -> CS** | 0.315 | 0.307 | 0.055 | 5.729 | **0.000** | Significant |
| **CS -> CL** | 0.780 | 0.774 | 0.071 | 10.942 | **0.000** | Significant |

**Table V.** Path Coefficient- Indirect effect for mediation test.

|  | OS | SM | SD | TS | P V | Note |
|---|---|---|---|---|---|---|
| PQ -> CS -> CL | 0.468 | 0.473 | 0.061 | 7.635 | 0.000 | Significant |
| PPJ -> CS -> CL | 0.262 | 0.253 | 0.051 | 5.108 | 0.000 | Significant |

The Sixth hypothesis was tested to observe the mediation effect of customer satisfaction (CS) on the relationship between product quality (PQ) and customer loyalty. The result indicated that T value (7.635) and P value (0,000). T value exceeds 1.96 and P value is lower than 0.05 (Table V). This means that customer satisfaction has significant effect the relationship between product quality and customer loyalty. Therefore, H6 is supported.

The seventh hypothesis was tested to see the mediation effect of customer satisfaction (CS) on the relationship between perceived price justice (PPJ) and customer loyalty (CL). The results indicate that the T value (5.108) and the P value (0,000). The T value exceeds 1.96 and P value is lower than 0.05 (Table V). This shows that the customer satisfaction has significant effect on the relationship between the perceived price justice customer loyalty. Therefore, H7 is supported.

**5. Discussion**

The first objective of this research was to test the influence of product quality (PQ) on the customer loyalty (CL). The result shows that good product quality has a positive effect but not significant on the customer loyalty. This means that even if the company improves the product quality, it will not help to increase the customer loyalty. This study confirms previous empirical studies that product quality has insignificant influence on the customer loyalty (Sunday, 2009; Sembiring et al., 2014). However, numerous empirical studies also show that product quality has significant influence on customer loyalty (Pongoh, 2013).

The second objective of this research was to test the influence of perceived price justice (PPJ) on the customer loyalty (CL). The results show that the perceived price justice influences positively and significantly on customer loyalty because the company offered varies and reasonable price based on the quality and function of the product. This study confirms some empirical studies that

the perceived price justice influences positively and significantly on customer Loyalty (Suhendar & Ruswati, 2019), while asymmetric with the study of Yakub et al. (2019) that the perceived price justice has no significant impact on the customer loyalty.

The third objective of this research was to test the influence of product quality (PQ) on customer satisfaction (CS). The results show that the quality of the product has a positive and significant impact on the customer satisfaction, which means that improving the product quality will lead to enhance customer satisfaction. This study confirms previous empirical studies that product quality has positive and significant impact on the customer satisfaction (Sembiring et al., 2014; Anggraeni *et al* 2014; Ishaq *et al* 2010).

The fourth objective of this research was to test the influence of perceived price justice (PPJ) on customer satisfaction (CS). The results show that the perceived price justice has a positive and significant impact on the customer satisfaction because price was setting up at the reasonable and meet the expectation of the customers and ultimately leading to the customer satisfaction. This study confirms the previous empirical studies that the perceived price justice has positive and significant impact on the customer satisfaction (Hassan *et al.,* 2013).

The fifth objective of the research is to test customer satisfaction (SK) for customer loyalty (CL). The Smart-PLS tests 3.0 show that the customer has a positive and significant satisfaction with his or her customer. The result can be explained that when the customer feels satisfied, they will do wrong to the company. The study was confirmed by some empirical studies which demonstrate the satisfaction of the customer's positive and significant influence on customer loyalty (Aryani, 2010). The customer is pleased to have a long timeline with a marked product brand. However, some previous research findings show that the satisfaction of the customer has not given a significant influence on the fulfilment of the customer's inability to have a strong relationship with his customer (Khairawati, 2020; Asnawi, et al, 2019; Chandra et al., 2019) This means that when a company does not pay close attention to the satisfaction of customers it will have a negative impact on the customer's confidence.

The sixth objective of the research is to test the influence of the customer on the relationship between the quality of products and the quality of customers. The result of the Smart-PLS 3.0 tests shows that the satisfaction of the customer has a positive and significant effect on the relationship between the quality of output and the customer's ability to produce. The quality of products is influenced by the sensitivity of customers. A good quality product will make the customer happy, thus seeking to buy the products. When a customer wants to buy quality products or services, the customer must be satisfied first. When the customer is satisfied with the quality of a product, the customer is still loyal to the products or jobs. In addition, customers are seeking to

buy, promote and recommend others to buy. Accordingly, the satisfaction of the customer has an important role in mediating the relationship between the quality of products and liabilities of the customer The study was confirmed by some empirical studies which show that there is a significant effect of the satisfaction of the customer's relationship to the quality of output and the customer (Delcourt et al., 2013; Fuentes-Blasco, Moliner-Vulz & Gilaura, 2017).

The seventh objective of the research is to test the influence of the relationship between perceived price justice and the sensitivity of customers. The results of the Smart- PLS 3.0 tests show that there is a significant positive effect on the customer's satisfaction with the perception of fair pricing with the customer's sensitivity to the internet products offered by the operator Telkomsel customers. The study was confirmed by several empirical studies showing that there is a significant positive effect on the customer's satisfaction in the relationship between perceived price justice and customer sensitivity (Wu et al., 2011).

## 6. Conclusion and Implications

The product quality, perceived price justice, customer satisfaction and customer loyalty are important factors for marketing and business application because they determine firm competitive advantages and sustainable performance. Empirical studies were undertaken to test the relationship between these variables to help increase market share, profitability and sustainability of a company. However, numerous studies indicate that the relationship between these variables is positive and significant, but others are not significant.

This study implies that managers need to pay attention to improve quality of product with fair price in order to enhance customer satisfaction and ultimately retain customer loyalty. Nonetheless perceived price justice is the most important factor contributing to retain customer satisfaction and loyalty.

## 7. Limitations and Further Research

This research offers significant benefits empirically and practically. However, the study also provides several limitations. These limitations are: (1) the survey only considered from demand perspectives. Future research needs to consider supply perspectives in order to make a better generalization. (2) This research only uses product quality, and perceived price justice to predict customer satisfaction and loyalty. Future studies may consider quality services and market orientation to observe customer satisfaction and loyalty. (3). The survey only used questionnaire to collect data. Future research needs to include in-depth interviews, focus group discussions and observation for more comprehensive data collection.

## Reference

Akbar, M. M., & Parvez, N. (2009). Impact oF Service Quality, Trust, and Customer Satisfaction on Customers Loyalty. *ABAC Journal*, *29*(1), 15.

Amissah, E. F. (2013). Tourist Satisfaction with Hotel Services in Cape Coast and Elmina, Ghana. American Journal of Tourism Management, 2(1A), 26–33.

Angraeni, D.P., Kumadji, S., Sunarty (2016). Pengaruh Kualitas Produk terhadap Kepuasan dan Loyalitas Pelanggan. jurnal AB Vol. 37 No. 1

Aryani, Dwi. 2010. Pengaruh Kualitas layanan terhadap Kepuasan Pelanggan dalam Membentuk Loyalitas Pelangga. Jurnal Ilmu Administrasi dan Organisasi. (Vol.17 No.2 2010)

Asadi, A., Pool, J. K & Jalilvand. M. R (2014) The effect of perceived price fairness through satisfaction and loyalty on international tourists' price acceptance of Islamic-Iranian art products. Education, Business and Society: Contemporary Middle Eastern Issues, 7(4), 201–215.

Asnawi, N., Sukoco, B. M., & Fanani, M. A. (2019). The role of service quality within Indonesian customers satisfaction and loyalty and its impact on Islamic banks. Journal of Islamic Marketing.

Assauri, S. (2007). Manajemen Pemasaran. Jakarta: PT. Raja Grafindo Persada

Assauri, S. (2008). Manajemen Pemasaran, Dasar Konsep Dan Strategi. Jakarta: Raja Grafindo.

Bachamid Abdurrahman Fauzi Et Al. 2016. Analisis Kualitas Produk, Promosi, Dan Harga terhadap Keputusan Pembelian Kartu Telkomcel 4G LTE Di Manado (Studi Kasus:Fakultas Ekonomi dan Bisnis Di Universitas Sam Ratulangi). Jurnal EMBA Vol.4 No.4. Universitas Sam Ratulangi: Manado

Bassey, F.O. (2014), "The effect of perceived price fairness on customer satisfaction and loyalty", Master of Science in Tourism Management, Eastern Mediterranean University, azimagusa, North Cyprus.

Bei, L.T. and Chiao, Y.C. (2001), "An integrated model for the effects of perceived product, perceived service quality, and perceived price fairness on consumer satisfaction and loyalty", Journal of Consumer Satisfaction, Dissatisfaction and Complaining Behavior, Vol. 14, pp. 125-140

Brucks, M., Zeithaml, V. A., & Naylor, G. (2000). Price and Brand Name as Indicators of quality dimension for Consumer Durables. Journal of Academy marketing science, 28 (3).

Čater, B., & Čater, T. (2009). Relationship-Value-Based Antecedents of Customer Satisfaction and Loyalty in Manufacturing. Journal of Business and Industrial Marketing, 24(8), 585–597.

Chandra, T., Hafni, L., Chandra, S., Purwati, A. A., & Chandra, J. (2019). The influence of service quality, university image on student satisfaction and student loyalty. Benchmarking:An International Journal, 8.

Cyr, D., Hassanein, K., Head, M. and Ivanov, A. (2006), "The role of social presence in establishing loyalty in e-service environments", Interacting with Computers. International Journal of Marketing Studies,07 (2).

Delcourt, C., Gremler, D. D., Van Riel, A. C. r., & Van Birgelen, M. (2013) Effects of perceived employee emotional competence on customer satisfaction and loyalty: The mediating role of rapport. Journal of Service Management, 24(1), 5–24.

Dominici, G., & Guzzo, R. (2010). Customer Satisfaction in the Hotel Industry: A Case Study from Sicily. International Journal of Marketing Studies, 2(2), 2–12.

Fraering, M., & Minor, M. S. (2013). Beyond loyalty: Customer satisfaction, loyalty, and fortitude. Journal of Services Marketing, 27(4), 11.

Fuentes-Blasco, M., Moliner-Velázquez, B., & Gil-Saura, I.(2017).Analyzing heterogeneity on the value, satisfaction, word-of-mouth relationship in retailing. Management Decision, 55(7), 1558–1577

Garvin, D. A. (2005). Product quality: An important strategic weapon. Business Horizons, 27(3), 40–43.

Ha, J. and Jang, S. (2010), "Perceived values, satisfaction and behavioral intentions: the role of familiarity in Korean restaurants", International Journal of Hospitality Management, Vol. 29 No. 1, pp. 2-13, doi: 10.1016/j.ijhm.2009.03.009.

Hair, J.F., Sarstedt, M., Hopkins, L., & Kuppelwieser, V. G. (2014). Partial least squares structural equation modeling (PLS-SEM). European Business Review, 26(2), 106–121.

Hair, Joseph F., Hult, G. T. M., Ringle, C. M., & Sarstedt, M. (2014). Partial Least Squares Structural Equation Modeling (Pls-Sem). London: SAGE Publication LTD.

Hassan, M, Hassan, S., Nawaz, M.S. & Ibrahim (2013). Measuring Customer Satisfaction and Loyalty Through Service Fairness, Service Quality and Price Fairness Perception: an Empirical Study of Pakistan Mobile Telecommunication Sector. Pakistan: Sci.Int.(Lahore),25(4),971-980.

Henseler, J., Ringle, C. M., & Sarstedt, M. (2015). A new criterion for assessing discriminant validity in variance-based structural equation modeling. Journal of the Academy of Marketing Science, 43(1), 115–

135.

Hutapea, R.A. (2016). Pengaruh Kualitas Produk Dan Harga Terhadap Kepuasan kartu prabayar Telkomcel Pada Mahasiswa Fakultas Ekonomi Universitas Asahan, Tesis universitas terbuka: Jakarta.

Ishak, F., & Ghani, N. H. A. (2010). A Review of the Literature on Brand Loyalty and Customer Loyalty. Conference on Business Management Research 2013, 13. Retrieved from http://repo.uum.edu.my/16316/

Išoraitė, M. (2016). Customer Loyalty Theoretical Aspects. Ecoforum, Vol 5(2).

Japarianto, E., Laksmono, P., & Ainy, K. (2007). Pelanggan Hotel Majapahit Surabaya dengan Pemasaran Relasional sebagai variabel Intervening. 9.

Jung, H. S., & Yoon, H. H. (2013). Do employees' satisfied customers respond with an satisfactory relationship? The effects of employees' satisfaction on customers' satisfaction and loyalty in a family restaurant. International Journal of Hospitality Management, Vol. 34, pp. 1–8.

Kang, J., Alejandro, T. B., & Groza, M. D. (2015). Customer-company identification and the effectiveness of loyalty programs. Journal of Business Research, Vol. 68, pp. 464–471.

Kasmir. (2017b). Customer Service Excelent Teori dan Praktik. Indonesia Khairawati. (2020). Research in Business & Social Science Effect of customer the loyalty program on customer satisfaction and its impact on customer loyalty,9 (1), 15–23.

Korda, A. P., & Snoj, B. (2007). Direct and indirect effects of perceived price on perceived mobile. ANN. TELECOMMUN, 62 (9- 10), 967-989.

Kotler, & Armstrong, G. (2012). Principles of Marketing 14th Edition New Jersey: Pearson Prentice Inc.

Kotler, P. Keller, D., and Kevin, L. (2009). Manajemen Pemasaran, Edisi Ketigabelas alih bahasa : Benyamin Molan. Indeks: Jakarta.

Kotler, P. dan Armstong, G. (2007). Dasar-Dasar Pemasaran. Indeks: Jakarta.

Kotler, P., & Keller, K. (2013). Marketing management 14th edition. Prentice Hall.

Liu, Y. and Jang, S. (2009), "Perceptions of Chinese restaurants in the US: what effects customer satisfaction and behavioral intentions?", International Journal of Hospitality Management, Vol. 28 No. 3, pp. 338-348, doi: 10.1016/j.ijhm.2008.10.008

Lupiyoadi R. 2013. Manajemen Pemasaran Jasa (Praktik dan Teori). Jakarta: PT. Salemba Empat

Mahmud, A., Jusoff, K., & Hadijah, S. T. (2013). The effect of service quality and price on Satisfaction and Loyalty of Customers of the commercial flight service industry. World Applied Sciences Journal, 23(3), 354–359.

Martin, W.C., Ponder, N. and Lueg, J.E. (2009), "Price fairness perceptions and customer loyalty in a retail context", Journal of Business Research, Vol. 62 No. 6, pp. 588- 93, doi: 10.1016/j.jbusres.2008.05.017.

Maulana, A. S. (2016). Pengaruh Kualitas Pelayanan Dan Harga Terhadap Kepuasan pelangan Pt. Toi. Jurnal Ekonomi Volume 7 Nomor 2.

Mazumdar, T. and Papatla, P. (1995), "Loyalty differences in the use of internal and external reference prices", Marketing Letters, Vol. 6 No. 2, pp. 111-122

Meesala, A., & Paul, J. (2018). Service quality, consumer satisfaction and loyalty in hospitals: Thinking for the future. Journal of Retailing and Consumer Services, 40(November 2016), 261–269.

Meredith, L. and Maki, D. (2001), "Product cannibalization and the role of prices", Applied Economics, Vol. 33 No. 14, pp. 1785-1793, doi: 10.1080/00036840010015769

Mosahab, R., Mahamad, O. and Ramayah, T. (2010), "Service quality, customer satisfaction and loyalty: a test of mediation", International Business Research, Vol. 3 No. 4, pp. 72-80.

Oliver, R. and DeSarbo, W. (1988), "Response determinants in satisfaction judgements", Journal of Consumer Research, Vol. 14 No. 4, pp. 495 07, doi: 10.1086/209131.

Oliver, R.L. (1999), "Whence consumer loyalty?", Journal of Marketing, Vol. 63 No. S4, pp. 33-44, Fundamental Issues and Directions for Marketing, doi: 10.2307/1252099.

Özkan, P., Süer, S., Keser, İ. K., & Kocakoç, İ. D. (2019). The effect of service quality and customer satisfaction on customer loyalty: The mediation of perceived value of services, corporate image, and corporate reputation. International Journal of Bank Marketing.

Petrick, J.F. (1999), "An examination of the relationship between golf travelers satisfaction, perceived value and loyalty and their intention to revisit", Unpublish PhD thesis, Clemson University, Clemson S.C.

Poin, M., & Quilken, L. M. (2005). An Empirical Investigation of customer satisfaction and Loyalty a cross two divergent Bank segments.

Saldanha, E. D. S., Rahyuda, I. K., Yasa, N. N. K., & Sukaatmadja, I. P. G. (2019). Persaingan Industri, Strategi Bisnis, dan Kinerja Industri. Denpasar: Udayana University Press.

Sari, Dessica D., & Utama, Agung. 2016. Analisis Pengaruh Kualitas Produk, Kualitas pelayanan Dan Harga Terhadap Kepuasan Konsumen (Studi Kasus Pada

Sugiyono. 2014. Metode Penelitian Manajemen. Cetakan Kedua. Penerbit CV Alfabeta. Bandung.

Stavkova, J., Stejkal, L., & Toufarova, Z. (2008). Factors influencing consumer behaviour. (6), 9.

Suriyani. 2017. Pengaruh Bauran Pemasaran Terhadap Kepuasan Konsumen Pengguna Layanan 4G Telkomcel Di Samarinda Seberang. Ejournal Adiminstrasi Bisnis Vol.5 No.2. Universitas Mulawarman : Samarinda.

Van Es, R. A. J. (2012). The Relationship between Service Quality and Customer Loyalty, and its Influence on Business Model Design. Thesis Universiteit Twente, (September), 1–85.

Viglia, G., Mauri, A. and Carracano, M. (2016), "The exploration of hotel reference prices under dynamic pricing scenarios and different forms of competition", International Journal of Hospitality Management, Vol. 52, pp. 46-55.

Wantara, P., & Tambrin, M. M. (2019). The Effect of Price and Product Quality Towards Customer Satisfaction and Customer Loyalty on Madura Batik. International Tourism and Hospitality Journal (ITHJ), 1–9.

Wu, C. C., Liao, S. H., Chen, Y. J., & Hsu, W. L. (2011). Service quality, brand image and price fairness impact customer satisfaction and loyalty.IEEE International Conference on Industrial Engineering and Engineering Management, 1160–1164.

Zeithaml, V. A. (1988). Consumer Perceptions of Price, Quality, and Value: A Means-End Model and Synthesis of Evidence. Journal of Marketing, 52 (3), 2-22.

## Appendix

### A: Questionnaire

### I.  General Information

| | | |
|---|---|---|
| 1. | Name | : |
| 2. | Age | : a. 15-25    b. 26-35 c. 36-46 d. 56-70 |
| 3. | Sex | : a. Male    b. Female |
| 4. | Education Level | : a. Junior High School b. Secondary High School c. Diploma d. Bachelor's Degree    e. Master's Degree   f. PhD |
| | 5: | |

### II.      Variable Product Quality

Please set an X mark on the number we think most about selecting the following statements. Please select the correct number of votes by making the X on the number you choose.

1= Strongly Disagree (SD), 2= Disagree (D), 3= Neutral (N), 4= Agree (A) and 5= Strongly Agree (SA).

### III.      Variable product quality. X1

| CODE | Questions | Scale | | | | |
|---|---|---|---|---|---|---|
| | | **1** | **2** | **3** | **4** | **5** |
| PQ1 | **Duration** | | | | | |
| DBY1 | The duration of the Internet that I use is according to the package I bought. | | | | | |
| DBY2 | The internet-related products provided by Telkomcel are trustworthy and of high quality. | | | | | |
| DBY3 | The internet output offered by Telkomcel has a good speed | | | | | |
| PQ2 | **Service Ability** | 1 | 2 | 3 | 4 | 5 |
| SA1 | Customer service is very accessible. | | | | | |

| | | | | | | |
|---|---|---|---|---|---|---|
| SA2 | Telkomcel support can immediately solve the problem that I am experiencing. | | | | | |
| SA3 | Telkomcel staff can solve my problem better | | | | | |
| SA4 | Ease of accessing internet products offered by Telkomcel | | | | | |
| SA5 | The information provided is easy to understand and helps me | | | | | |
| PQ3 | **Performance** | 1 | 2 | 3 | 4 | 5 |

| | | | | | | |
|---|---|---|---|---|---|---|
| PFC1 | **I feel comfortable when using internet products from Telkomcel** | | | | | |
| PFC2 | Internet products that offer good quality according to what they promise | | | | | |
| PFC3 | The internet products offered by Telkomcel help me in carrying out my activities. | | | | | |
| PFC4 | Good internet connection compared to other operators | | | | | |
| PQ4 | **Prestige** | 1 | 2 | 3 | 4 | 5 |
| PSG1 | The internet products offered by Telcomcel are very innovative and attractive | | | | | |
| PSG2 | The internet products offered by Telkomcel are unique and easily recognizable | | | | | |
| PSG3 | Internet connection offered under my wish and expectation | | | | | |
| PSG4 | Internet products offered as people's favourite products | | | | | |

## IV. Varyable Perceive Price Justice ----X2

| Code | Declaration | Scale | | | | |
|---|---|---|---|---|---|---|
| | | 1 | 2 | 3 | 4 | 5 |
| PPJ | **Monetary Sacrifice** | | | | | |
| MN1 | The internet price offered by Telkomcel is fairly reasonable. | | | | | |
| MN2 | The internet price offered by Telkomcel is quite affordable according to its function and quality. | | | | | |
| MN3 | I agreed with the internet package price offered by Telkomsel. | | | | | |
| PPJ4 | I think Telkomcel always provides a medium package price that benefits everyone. | | | | | |
| PPJ5 | The amount of money I paid was equivalent to the internet package I received | | | | | |
| PPJ2 | **Non-Monetary Sacrifice** | 1 | 2 | 3 | 4 | 5 |
| NMS1 | I need to spend more time getting an internet package | | | | | |
| NMS2 | I have to work hard to get an internet package | | | | | |
| NMS3 | I need more time to learn how to buy an active internet package | | | | | |

## I.

### V.        Customer Satisfaction---M1

| Code | Declaration | Scale | | | | |
|------|-------------|---|---|---|---|---|
| | | **1** | **2** | **3** | **4** | **5** |
| CS1 | **Expetation** *(ANTES & DURANTE sosa e uza)* <br> Expectation (Before and After buying and utilizing) | | | | | |
| EXP1 | Better customer service and timely service delivery | | | | | |
| EXP2 | I think the price of the product/service is good. | | | | | |
| EXP3 | At the same time, I think Telkomcel's service delivery is good. | | | | | |
| EXP4 | I am satisfied with the information provided by the Telkomcel staff | | | | | |
| EXP5 | I am satisfied with the internet services offered by Telkomcel | | | | | |
| CS2 | **Perception** (*after buying and using*) | 1 | 2 | 3 | 4 | 5 |
| PER1 | I am satisfied with the quality of service provided by Telkomcel | | | | | |
| PER2 | I feel happy with the internet and services from Telkomcel. | | | | | |
| PER3 | In total, I am satisfied with Telkom's service provision. | | | | | |
| CS3 | **Recommendations** | 1 | 2 | 3 | 4 | 5 |
| REC1 | I want to recommend others to buy or use internet services at Telkomcel | | | | | |
| REC2 | I want to buy/maintain internet from Telkomcel. | | | | | |

### VI.        Variable *Customer Loyalty*

| CODE | DECLARATION | Scale | | | | |
|------|-------------|---|---|---|---|---|
| | | **1** | **2** | **3** | **4** | **5** |
| CL1 | I will use the internet line from Telkomcel in the long term. | | | | | |
| CL 2 | I will not switch to another operator | | | | | |
| CL3 | I would suggest to all families to use the internet line from Telkomsel | | | | | |
| CL4 | I would recommend that everyone use the internet line from Telkomcel. | | | | | |
| CL5 | For me, Telkomcel is better than other telecommunications in Timor-Leste. | | | | | |