



THE MEDIATION ROLE OF CUSTOMER SATISFACTION ON THE INFLUENCE OF PRICE PERCEPTION, PRODUCT QUALITY, AND SERVICE QUALITY TO CUSTOMER LOYALTY

Andhi Johan Suzana¹, Budi Hariyono², Tri Esti Masita³, Najmudin⁴

^{1,4} Faculty of Economics and Business, Universitas Jenderal Soedirman, Indonesia

^{1,2,3} Faculty of Economics and Business, Universitas Wijayakusuma Purwokerto, Indonesia

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ABSTRACT

The objective of this study is to examine effect of price perception, product quality, customer satisfaction, and service quality on customer loyalty. The study also examines the mediating role of customer satisfaction on the effect of perceived price, product quality, and service quality on customer loyalty of bonanza sweet corn seeds product of PT. East-West Seed Indonesia that marketed in Brebes District, Central Java of Indonesia. Quantitative research method was employed to generate 106 respondents through purposive sampling, analyzed with multiple regression analysis and Sobel test. The respondents are dealers (customers) of PT. East-West Seed Indonesia. Dealers have duty to make sure sweet corn seed producer fulfills their need of sweet corn seeds and in other sides, serves all needs of sweet corn seeds to farmers as their partner in that area. The study finds that perceived price, product quality, service quality, and customer satisfaction have a positive effect on customer loyalty, and customer satisfaction mediates the effect of perceived price, product quality, and service quality on customer loyalty of bonanza sweet corn in Brebes. Referred to these findings, it can be implied that as an effort to continuously improve the customer loyalty, management of PT. East West Seed Indonesia should implement the appropriate policies related of perceived price, product quality, service quality and customer satisfaction of Bonanza sweet corn in Brebes. The future studies may replicate in other contexts and comparison of models that will give more understanding.

KEYWORDS: *Perceived Price, Product Quality, Service Quality, Customer Satisfaction, Customer Loyalty.*

INTRODUCTION

The agricultural sector is one of the sectors that determine national development, therefore it is necessary to empower the Indonesian agricultural sector so that the agricultural products can balance imports and exports. The implementation of the ASEAN Economic Community (MEA)/ASEAN Economic Community (AEC), has an impact on higher business competition, so it is necessary to focus on increasing the productivity of agricultural, plantation and livestock products because agricultural products have competitiveness in the free market. One of the rapidly growing agricultural industries is the maize seed industry. Many companies offer superior maize seeds to farmers. Intense competition causes companies must be able to maintain the loyalty of the farmers as customers in order to continue to buy loyally. Offering quality products and services, as well as fair prices, can increase customers' satisfaction so that their loyalty can be maintained.

Loyalty is an output related to the profitability and sustainability that businesses emphasize. Consumer loyalty is a

non-random buying behavior to make continuous buying decisions for the products or services of a selected company (Griffin, 2012). Prominent scholars in the field of loyalty research such as Rosenberg and Czepiel (1984) opinion that acquiring a new customer can be as much as six times costlier than keeping existing customers. Reichheld (1996) also agreed that retaining a customer is less costly in comparison to acquiring a new one.

The main purpose of customer loyalty programs is to build relationships with consumers so that they become loyal customers in the long term. Customer loyalty is one source that provides benefits and becomes a very important financial asset for the company.

Study of customer satisfaction and customer loyalty has been an interesting area of research for over 35 years and still interesting to be investigated. Parasuraman et al. (1988) established a causal relationship between service quality perceptions and customer satisfaction. The quality of service has an influence on satisfaction (Fullerton and Taylor, 2002; Jahanshahi et al., 2011). Reichheld and Sasser (1990)



established a causal relationship between service quality perceptions and customer loyalty. Price is an important element in consumers' purchases; therefore, it has a large influence on consumers' judgments regarding product (Herrmann et al., 2007). Previous research conducted by Nugroho and Magnadi (2018) found that product quality and service quality had a significant effect on customer loyalty, but price perception had no significant effect on customer loyalty. On the other hand, a study conducted by Kusumasasti (2017) actually shows the opposite result that product quality and service quality do not have a significant influence on customer loyalty. Furthermore, research conducted by Parthady and Rahyuda (2019) proves that price perception has a positive and significant influence on user loyalty. Based on the evaluation of several previous studies, the results were varied and inconsistent or there is research gap. Related to this, the research intends to re-examine the effect of price perception, product quality and service quality by developing a model by increasing the satisfaction variable as an intervening variable. For understanding better of the relationship among these constructs, it is imperative to understand the conceptual framework of the constructs and then, their relationship along with directional influences.

LITERATURE REVIEW AND CONCEPTUAL FRAMEWORK

Customer Satisfaction and Customer Loyalty

Satisfaction is the consumer fulfilment response (Oliver, 1997). It is a judgment that a product or service feature, or the product or service itself, provided (or is providing) a pleasurable level of consumption-related fulfilment, including levels of under-or overfulfilment. Johnson (2001) proposed that there are mainly two conceptualizations of customer satisfaction. The first category of conceptualization can be represented by Oliver (1980) who suggested that measurement of satisfaction should be based on particular product or service transactions which can be defined as post-selection evaluative judgements related to specific buying decisions. Another conceptualization was established by Garbarino and Johnson (1999) who perceived satisfaction in terms of a consumer's total cumulative experiences with a firm, product or service. Whereas Kotler and Keller (2012) expresses that satisfaction is a person's feelings of pleasure or disappointment resulting from comparing a product's perceived performance (or outcome) in relation to his or her expectations. Customer satisfaction can be measured by three indicators: (1) overall satisfaction, (2) confirmation of expectation, the level of compatibility between the performance expectations, and (3) comparison to the ideal, namely the performance of the product in comparison with the ideal product according to consumer perceptions (Fornell et. al., 1996).

Customer loyalty has considered as an important factor which leads to gain competitive advantage over other firms under a highly competitive and dynamic environment (Leninkumar, 2017). Customer loyalty is one of the most

important customer metrics in marketing due to the profit impact of maintaining a loyal customer base (Oliver, 2010). Loyalty as the willingness of a customer to maintain a relationship with the firm, continue to purchase and use its products or services and likely to recommend the firm to others (Lovelock (1983). Similarly, Gremler and Brown (1996) defined customer loyalty as those who repeat purchase from the same product and service provider. Whereas Griffin (2005) states that consumer or customer loyalty is defined as non-random buying behavior to make continuous buying decisions for the selected company's products or services.

Several researchers (Kumar and Shah, 2004; Dean, 2007) suggested that there are two types of loyalty; behavioral and attitudinal loyalty. The behavioral aspects of the customer loyalty were characterized in terms of repurchase intentions, word-of-mouth communication, and recommendations of the organization (Zeithaml et al., 1996; Karatepe and Ekiz, 2004; Nadiri, et al. 2008;). Liu-Thompkins, et al (2010) defined attitudinal loyalty as a favorable evaluation that is held with sufficient strength and stability to promote a repeatedly favorable response towards a product/brand or a store. Whereas Zeithaml, Parasuraman, and Berry (1996) states that there are three indicators of loyalty: (1) say positive things, is to say something positive thing about the product is consumed, (2) recommend to someone, is recommending the product that has been consumed to a friend, (3) repurchase intention, is made to re-purchase a product that has been consumed.

Customer loyalty in the process caused by satisfaction, but the level of customer satisfaction that is capable of forming loyalty is actually a certain level of satisfaction that can not be provided by others, namely delight or surprising (Oliver, 1997). Marlien, Wahyujati, Alimuddin and Sutedja (2017) find that customer loyalty is an endogenous variable caused by a combination of satisfaction, so customer loyalty is a function of satisfaction. If the relationship between satisfaction and customer loyalty is positive, then high satisfaction will increase customer loyalty, otherwise dissatisfied customers tend to be disloyal by seeking alternative choice information and accepting the alternative offer. The main cause of become loyal customers is if they are very satisfied with the product/services received (Dimiyati & Subagio, 2016)

Relationship between Price Perception, Customer Satisfaction, and Customer Loyalty

Price is an important antecedent of customers' satisfaction as consumers depend on price because it is extrinsic signal of quality. Price perception is the customer's assessment of the amount of financial sacrifice given in relation to specifications in the form of product quality and the suitability of a sacrifice from a customer to the value he receives after making a purchase (Kartajaya, 2000). Han & Ryu (2009) states that there are three indicators to perceive price: (1) the prices paid is reasonable, (2) the prices paid is met the the product



provided, and (3) the price charged by this restaurant is appropriate. There is a positive relationship between price perception and loyalty (Nguyen & Leblanc, 2002; Reimer & Kuehn, 2005; Ryu & Jang, 2007; Han & Ryu, 2009). Hence, the following hypothesis is proposed:

H1: Price perception has a positive effect on customer loyalty

Customers are satisfied with fairness when making price perception and realize repurchase. The price perception can create a satisfied customer as well as a dissatisfied customer (Jiang & Rosenbloom, 2004, Han & Ryu, 2009). Studies conducted in the literature show that the price perception is effective in the tendency to buy again (Bei & Chiao, 2001; Jiang & Rosenbloom, 2004). The main cause of become loyal customers is if they are very satisfied with the product/services received (Dimiyati & Subagio, 2016). Hence, the following hypothesis is proposed:

H2: Customer satisfaction mediates the effect of price perception on loyalty

Relationship between Product Quality, Customer satisfaction, and Customer Loyalty

Product quality is the ability of a product to demonstrate functionality, it includes overall duration, reliability, accuracy, ease of operation and product repair as well as other product attributes (Kotler and Armstrong, 2008). Several indicators be used to measure product quality in this research, including product performance, features, reliability, durability, and aesthetics (Kotler and Armstrong, 2008).

If a product fulfils the customer's expectations, the customer will be pleased and consider that the product is of acceptable or even high quality (Jahanshahi, et al., 2011). Research on how quality affect loyalty had been held by, e.g., Garvin (1988), Gronroos (1983), and Steenkamp (1990) in pure product and by, e.g., Brady and Cronin (2001), Oliver (1997), Parasuraman et al. (1985) in pure service settings. All of them found that Product quality has a positive effect on customer loyalty. Hence, the following hypothesis is proposed:

H3: Product quality has a positive effect on customer loyalty

Research on how quality affect satisfaction and loyalty in the past has focused largely in pure product (e.g., Garvin 1988, Gronroos 1983, Steenkamp 1990) or pure service settings (e.g., Brady and Cronin 2001, Oliver 1997, Parasuraman et al. 1985). (Kumar et al., 2009) also provides evidence of the positive impact of quality on company performance regarding the customer satisfaction (reduced number of customer complaints) and performance (increased profitability).

H4: Consumer satisfaction mediates the effect of product quality on customer loyalty

Relationship between Service Quality, Customer satisfaction, and Customer Loyalty

Kandampully (1998) reflected that a prime objective of any business, either manufacturing or services, is to achieve economic survival by developing and providing offerings that fulfil customer needs which can be understood by analyzing customers' quality evaluations and their decision-making criteria in terms of repeat patronage and preference. Parasuraman, et al. (1985) defines quality of service as a thorough assessment or attitude concerning the superiority of the service. Kotler (2000) defines a service as any performance or action that either party can offer to the other party, which is essentially intangible and does not result in any ownership. Services can be attributed to physical products, but can also not associated with physical product. The service quality is a form of attitude, related but not the same as satisfaction, as a result of the comparison between the expectations of the performance (Parasuraman, et al., 1988). According to Parasuraman, Zeithaml, and Berry (1998), quality of service includes five dimensions: Tangibles, Reliability, Responsiveness, Assurance, and Empathy. Cronin and Taylor (1992) stated that the relationship between service quality and customer satisfaction has a direct impact on customer's loyalty as the universal understanding that keeping a loyal base of customers is much profitable for a company than attracting new customers. Hence, the following hypothesis is proposed:

H5: Service quality has a positive effect on customer loyalty

The causal relations between service quality perceptions, satisfaction and loyalty accepted the path service quality – customer satisfaction – loyalty to be valid (Cronin and Taylor, 1992; Anderson and Sullivan, 1993). Caceres and Paparoidamis (2007) empirically verified the mediating role of relationship satisfaction in a business-to-business context and asserted that the relationship between functional and technical dimensions of service quality and business loyalty is mediated by relationship satisfaction. Hence, the following hypothesis is proposed:

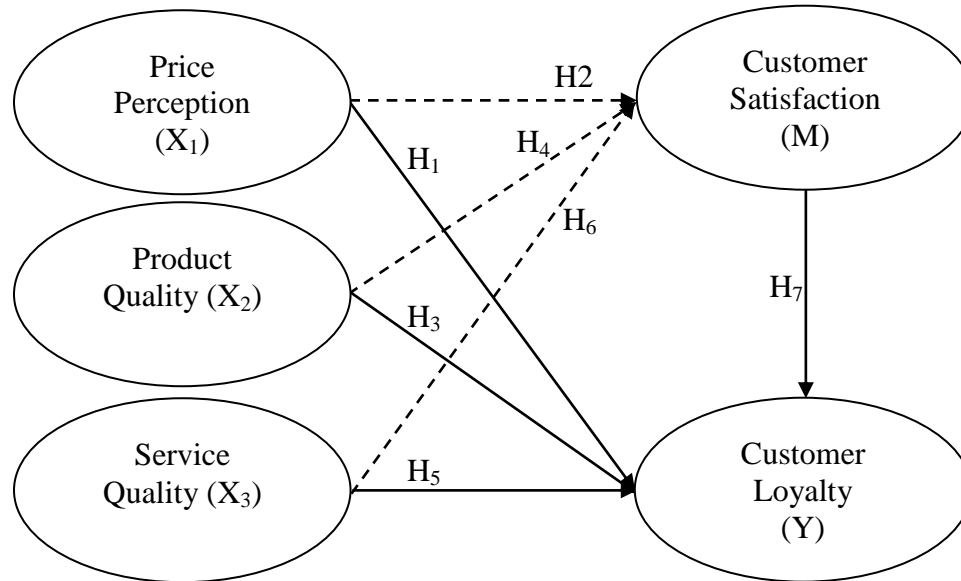
H6: Consumer satisfaction mediates the effect of service quality on customer loyalty Consumer satisfaction has a positive effect on customer loyalty

Most frequently customer satisfaction is considered as an important antecedent of customer loyalty. In other words, customer loyalty is calculated as a straight outcome to customer satisfaction. Most of the researchers (Anderson and Sullivan, 1993; Fornell et al., 1996; Rust, Zahorik, and Keiningham 1995; Taylor and Baker 1994; Asnawi, et al. 2019) clearly established a positive relationship between customer satisfaction and customer loyalty. Hence, the following hypothesis is proposed:



H7: Customer satisfaction has a positive effect on customer loyalty

Based on the purpose of research and literature reviews, it can be prepared the conceptual framework of the study as presented in Figure 1.



Notes:

—————> : H1, H3, H5, H7 = Direct effect relationship

- - - - -> : H2, H4, H6 = Mediating effect relationship

Figure 1. Research Model

METHODOLOGY

Population and Sample and Population

The population in this study is the total number of PT. East-West Seed Indonesia dealers/distributors in Brebes District, that consists of 144 dealers. They have duty to make sure the company fulfills their need for the sweet corn seeds and in other sides, serves all needs of sweet corn seeds to farmers as their partner in that area. In order to meet the minimum requirements for sampling, researchers use as many as 106 respondents of dealers as sample with 5% error sampling. Sampling in this study was carried out using purposive sampling, namely a sampling technique with certain considerations, where the researchers chose this sample technique because it's believed that the characteristics of the sample could represent the population being studied (Sugiyono, 2017). Referring to the purposive sampling technique, the respondents in this study were dealers who had used sweet corn products for at least one year and were willing to be respondents in this study. The respondents are the leader or owner of dealers.

Data Collection and Analysis

The data was collected from customers of sweet corn seed products, in Brebes district. Brebes is one of the districts in

Indonesia as the main producer of sweet corn. Thousands of farmers empower this crop. Many companies offer sweet corn seed in this area to compete for purchases from dealers and farmers (customers). One of them is PT. East-West Seed Indonesia. This company is one of the first integrated plant seed companies in Indonesia that is committed to being the best friend of farmers. PT. East-West Seed Indonesia has professional experts who have experience in the field of plant breeding and seedling. PT. East-West Seed Indonesia has produced and marketed various best quality seeds through plant breeding activities supported by advanced technology, one of which is sweet corn Bonanza Cap Panah Merah which is marketed in various regions in Indonesia including Brebes. From the results of initial interviews conducted by researchers with the management of PT. East-West Seed Indonesia obtained information that Brebes is a marketing area for sweet corn seeds Bonanza Cap Panah Merah that has good potential sales. It has 144 dealers in Brebes. Primary data were obtained by researchers through distributing questionnaires to respondents (dealers) directly regarding the variables of price perception, product quality, service quality, customer satisfaction and customer loyalty.



Validity and reliability testing are carried out to ensure that the measuring instrument made can be operationalized in this research. Researchers used the SPSS for Windows program to test the validity and reliability of the instrument. The indicators for each construct must have a significant factor loading on the construct. According to Hair, Anderson, Tatham, and Black (1998), factor loading 0.3 is considered to meet the minimum level of significance, factor loading 0.4 is considered more important, and factor loading 0.5 or more is considered practically significant. The reliability test was measured using Cronbach's Alpha with the help of SPSS for Windows. A measuring instrument is considered reliable if the value of Cronbach's Alpha is greater than or equal to 0.70, although it can go down to 0.6 in exploratory research is still acceptable (Hair et al., 1998).

Testing the hypothesis of the influence of price perception variables, product quality and service quality on consumer satisfaction was carried out using multiple regression analysis techniques with the help of the SPSS for windows program. All data must meet normality, heteroscedasticity and multicollinearity tests. Testing the mediating role of consumer satisfaction variables in this study was carried out using the product of coefficient method or the Sobel test.

Measurement

In this study, it is aimed to examined the relationship between price perception, product quality, and service quality to customer loyalty and the mediating role of customer satisfaction on those relationship in the plant seed company, especially in sweet corn seed products, in Brebes district, Indonesia. For this purpose, quantitative research method was used. The questionnaire used in the research contains 19 items. Customer loyalty construct contains three items (Zeithmal et al. 1996). Customer Satisfaction construct contains three items (Fornell et al., 1996). Price perception contains three items (Han & Ryu (2009). Product quality construct contains five items (Kotler and Armstrong, 2008). Service quality construct contains five items (Parasuraman et al. 1998). These items were measured using the 5-point Likert scale (1=Strongly Disagree, 5=Strongly Agree) in the structured questionnaire.

RESULTS AND DISCUSSION

Validity and Reliability of Instrument

Based on the results of the validity test of the questionnaire using the product moment correlation, it was obtained that the r value of all question items from the price perception variable (X_1), product quality (X_2), service quality (X_3), customer satisfaction (M) and customer loyalty variable (Y), that consists of 19 items spread from 0,635 to 0,894 greater than 0,5. Thus, all question items from all variables in this study were declared valid so that they could be used as a data collection tool.

A measuring instrument is considered reliable if the value of Cronbach's Alpha is greater than or equal to 0.70, although it can go down to 0.6 in exploratory research is still acceptable (Hair et al., 1998). It turned out that all valid indicators produced significant reliability, 0.723 for price perception, 0,901 for product quality, 0,704 for service quality, 0,862 for customer satisfaction, and 0,751 for customer loyalty. The results indicated a strong reliability of measures because Cronbach's Alpha is more than the required one, which minimum is 0.7.

Classical Assumption Test of Regression Analysis

Based on the output of the data normality test, it was obtained that the asymp value. sig. (2-tailed) Kolmogorov-Smirnov test for the standardized residual variable is 0.168 which is greater than the value of (0.05). Therefore, it can be concluded that the data used is normally distributed. The output of the Variance Inflation Factor (VIF) test shows that the VIF values of the independent variables are each smaller than 10, so it can be concluded that there is no multicollinearity in the regression model. Based on the output of the heteroscedasticity test, it was obtained that the significance value of the t-test of the price perception, product quality, service quality, consumer satisfaction is each greater than the value of 0,05. Based on this evidence, it can be concluded that there is no heteroscedasticity in the regression model.

Hypothesis Testing

The objective of this study is to examine the mediating effect of customer satisfaction on the relationship between price perception, product quality, and service quality on customer loyalty. Some stages are needed to test the hypothesis. First, examines the regression of the independent variables on the mediating variable as the first step to get the coefficient value of the independent variable. Second, examines the regression of the independent variables and the mediating variable on the dependent variable. This step is needed to test the direct effect on the relationship between variables as hypothesized in hypothesis 1, 3, 5, and 7. Third, the researcher conducted a Sobel test (product of coefficient method) to test the mediation effect, to prove the hypothesis 2,4, and 6.

The results of the current study show that that majority of respondents are male 79 (74.53 %), while 27 (25.47 %) are female. The majority of respondents aged between 30 to 39 years are 43 respondents (40.57%), then respondents aged between 40 to 49 are 29 respondents (27.36 %), and between the ages of 20 to 29 consisted of 32 respondents (32.68%).

The result of multiple regression analysis of the independent variables on the mediating variable as the first step can be seen in Table 1. With regards to overall model fit, looking at Table 1 shows that the coefficient of determination, R Square, is 0.342, it means that approximately 34,2% of the observed variation can be explained by the model's inputs. The



regression fit is acceptable because the value of F is 17.691 with Sig. or p-value 0.001 lower than 0,05. The next stage therefore involves looking at the coefficient table to assess the regression estimates of the relationships between independent variables and mediating variable to determine if they are significant and in the expected directions. The relationship of price perception to customer satisfaction has positive coefficient 0.609 and

statistically significant (Sig. 0.001 < 0,05). The relationship of product quality to customer satisfaction has positive coefficient 0.238 and statistically significant (Sig. 0.002 < 0,05). The relationship of service quality to customer satisfaction has positive coefficient 0.296 and statistically significant (Sig. 0.005 < 0,05).

Table 1. First Model Summary of Multiple Regression Analysis

No.	Independent Variable	Coefficient Regression	p-value	Decision
1	Price Perception (X_1)	0.609	0.000	Accepted
2	Product Quality (X_2)	0.238	0.002	Accepted
3	Service Quality (X_3)	0.296	0.005	Accepted
R Square		= 0.342		
F		= 17.691		0.000 ^a
Dependent variable: customer satisfaction (M)				

Sources: Output of Regression Analysis

The result of multiple regression analysis of the independent variables (i.e., price perception, product quality, and service quality) and mediating variable (i.e., customer satisfaction) on dependent variable (i.e., customer loyalty) as the second step can be seen in Table 2. With regards to overall model fit, looking at Table 2 shows that the coefficient of determination, R Square, is 0.556, it means that approximately 55.6 % of the observed variation can be explained by the model's inputs. The regression fit is acceptable because the value of F is 31.637 with Sig. or p-value 0.000 lower than 0,05.

The next stage is looking at the coefficient table to assess the regression estimates of the hypothesized relationships to determine if they are significant and in the expected directions, that can be seen in Table 2. The relationship of price perception to customer loyalty has positive coefficient 0.429 and statistically significant (Sig. 0.000 < 0,05). The results of this study prove that price perception has a positive effect on customer loyalty. This relationship directly shows that the better the respondent's perception of the price, the higher the level of customer loyalty. Empirically, the results of this study are consistent with the findings of previous research (Nguyen & Leblanc, 2002; Reimer & Kuehn, 2005; Ryu & Jang, 2007; Han & Ryu, 2009; Parthady & Rahyuda, 2019). So, the H1 that states, "price perception has a positive impact on customer loyalty" is supported.

The relationship of product quality to customer loyalty has positive coefficient 0.138 and statistically significant (Sig. 0.007 < 0,05). The results of this study prove that product quality has a positive effect on customer loyalty.

This relationship directly shows that the better the respondent's perception of the product quality, the higher the level of customer loyalty. Empirically, the results of this study are consistent with the findings of previous research (Garvin, 1988; Gronroos, 1983; Steenkamp, 1990; Brady and Cronin, 2001; Oliver 1997; Parasuraman et al., 1985; Nugroho & Magnadi, 2018). So, the H3 that states, "product quality has a positive impact on customer loyalty" is supported.

The relationship of service quality to customer loyalty has positive coefficient 0.266 and statistically significant (Sig. 0.000 < 0,05). The results of this study prove that service quality has a positive effect on customer loyalty. This relationship directly shows that the better the respondent's perception of the service quality, the higher the level of customer loyalty. Empirically, the results of this study are consistent with the findings of previous research (Gorodontse & Hilman, 2014; Nugroho & Magnadi, 2018; Tee, 2022). So, the H5 that states, "service quality has a positive impact on customer loyalty" is supported.

The relationship of customer satisfaction to customer loyalty has positive coefficient 0.208 and statistically significant (Sig. 0.001 < 0,05). It means customer satisfaction plays an important role in customer loyalty. Empirically, the results of this study are consistent with the findings of previous research (Annamalah et al., 2011; Hassan et al., 2013; Al-Maamari & Abdulrab, 2017; Anabila et al., 2021; Desiyanti et al., 2018; Sulaiman et al., 2021). So, the H7 that states, "customer satisfaction has a positive impact on customer loyalty" is supported.



Table 2. Second Model Summary of Multiple Regression Analysis

No.	Independent Variable	Coefficient Regression	p-value	Decision
1	Price Perception (X_1)	0.429	0.000	Accepted
2	Product Quality (X_2)	0.138	0.007	Accepted
3	Service Quality (X_3)	0.266	0.000	Accepted
4	Customer Satisfaction (M)	0.208	0.001	Accepted
R Square		= 0.556		
F		= 31.637	0.000 ^a	
Dependent variable: customer loyalty (Y)				

Sources: Output of Regression Analysis

The mediation test reveals the result of H2 as shown in Table 3 using Sobel analysis, which indicates that customer satisfaction can mediate the relationship between price perception and customer loyalty indirectly, as depicted in the analysis by p-value $0.001 < 0.05$, indicating that H2 is supported. Price perception has a significant effect on customer satisfaction and customer loyalty. The customer mediates relationship between price perception and customer loyalty

means that with affordable prices, reasonable prices, prices according to information and the price is in accordance with the quality, it will increase customer satisfaction and further increase customer loyalty. Empirically, the results of this study are consistent with the findings of a previous study conducted by Parthady and Rahyuda (2019) that customer satisfaction mediates the effect of price perception on customer loyalty.

Table 3. Sobel test (mediation test of $X_1 \rightarrow$ Customer Satisfaction \rightarrow Customer Loyalty).

Input	Test Statistic	Std. Error	p-value
a. 0.609 Sobel test	2.62302009	0.04829242	0.00871541
b. 0.208 Aroian test	2.57974086	0.04910261	0.00988745
s _a . 0,141 Goodman test	2.6685533	0.04746842	0.00761787
s _b . 0.063			

Sources: Output of Sobel Test (<http://quantpsy.org/sobel/sobel.htm>)

The mediation test reveals the result of H4 as shown in Table 4 using Sobel analysis, which indicates that customer satisfaction can mediate the relationship between product quality and customer loyalty indirectly, as depicted in the analysis by p-value $0.024 < 0.05$, indicating that H5 is supported. The results of the analysis show that product quality has a positive and significant effect on customer loyalty. This proves that the product quality must be in accordance with the needs and desires of customers. Maintaining product quality is an important thing for company, because good quality is one of the keys to success

company to retain its customers, where a good product will lead to customer satisfaction and later have an impact on increasing customer loyalty. Loyalty is a loyal attitude someone for a product, both goods and services. Customer loyalty form of continuation of customer satisfaction in using goods or services provided by a company. Empirically, the results of this study are consistent with the findings of a previous study conducted by Asgharian et al., (2012), Alfin (2013), Raharjo (2013), Parthady and Rahyuda (2019) that customer satisfaction mediates the effect of product quality on customer loyalty.

Table 4. Sobel test (mediation test of $X_2 \rightarrow$ Customer Satisfaction \rightarrow Customer Loyalty).

Input	Test Statistic	Std. Error	p-value
a. 0.238 Sobel test	2.25640884	0.02193929	0.02404504
b. 0.208 Aroian test	2.2031947	0.02246919	0.02758103
s _a . 0,077 Goodman test	2.313675	0.02139626	0.02068556
s _b . 0.063			

Sources: Output of Sobel Test (<http://quantpsy.org/sobel/sobel.htm>)

The mediation test reveals the result of H6 as shown in Table 5 using Sobel analysis, which indicates that customer satisfaction can mediate the relationship between service quality

and customer loyalty indirectly, as depicted in the analysis by p-value $0.029 < 0.05$, indicating that H6 is supported. Customer satisfaction plays a role in mediating the effect of service quality



on customer loyalty, where when the customer is satisfied with the the service quality, then at that time loyal attitude from customers will arise. Empirically, the results of this study are consistent with the findings of a study from Singh & Thakur

(2012), Gorondutse & Hilman (2014), Jumawan (2018), and Tee (2022) which also found evidence that customer satisfaction mediates the effect of service quality on customer loyalty.

Table 5. Sobel test (mediation test of $X_3 \rightarrow$ Customer Satisfaction \rightarrow Customer Loyalty).

Input		Test Statistic	Std. Error	p-value
a. 0.296	Sobel test	2.17966582	0.02824653	0.02928224
b. 0.208	Aroian test	2.125336072	0.02896826	0.03355653
s _a . 0,102	Goodman test	2.23835828	0.02750587	0.0251977
s _b . 0.063				

Sources: Output of Sobel Test (<http://quantpsy.org/sobel/sobel.htm>)

CONCLUSION

Findings from this study reveals that the four variables, price perception, product quality, service quality, customer satisfaction have positively effect customer loyalty. The research also found that consumer satisfaction mediates the effect of price perception, product quality and service quality on customer loyalty. Referring to those findings, it can be implied that as an effort to continue to increase the loyalty of its customers, the management of PT. East West Seed Indonesia needs to set a price level its products, especially for sweet corn seed product, that are competitive than competitors and product prices are adjusted capabilities of target consumers. It's important to improve the quality of sweet corn seed products through innovation and the use of modern technology, provide high services quality based on creativity and teamwork under the professionalism and integrity of strong marketing management, as well as providing a pleasant experience to consumers regarding the performance of products and services. In addition, management may focus on the training of employees in professional service skills to improve service quality, thus promoting customer loyalty.

LIMITATION AND FUTURE RESEARCH

As is the case with every research work, this study has some limitations that may influence the reliability of the results and restrict the extent to which the findings can be generalized. First, this study is based upon simple sampling processes, thus prohibiting conclusions of a general nature. The study was carried out on a small scale, which could be expanded in future, both in different product and in different regional areas. Second, this study uses the same source of information, from only dealer manager or owner manager. This aspect can lead to a general variance bias. Multiple informants will increase the validity of research findings even though the use of single informants remains the main research method in most studies.

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