The Role of Satisfaction Mediates the Effect of Product Quality, Price Perception, and Service Quality to Loyalty

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Abstract: The purpose of this study was to analyze the effect of product quality, price perception and service quality on loyalty with satisfaction as a mediating variable on Fractal batik customers. The research sample was 205 respondents with purposive sampling technique using research questionnaires. The results of the study prove that there is a positive and significant effect of product quality, price perception, and service quality on satisfaction. Furthermore, product quality, price perception, service quality and satisfaction affect customer loyalty. Satisfaction acts as a variable that mediates the effect of product quality, price perception, and service quality on loyalty.

Keywords: product quality, price perception, service quality, customer satisfaction and loyalty.

INTRODUCTION

Entrepreneurship is one way to be able to work independently so as to attract newcomers to the business world, including the batik SME business. The big problem lies not in the initial establishment of the business but how customers can feel satisfied with the products being marketed so as to create loyalty. Customers like to try new things and will always compare with other products. During the Covid-19 pandemic, batik SMEs must also innovate as a business actor need. Innovation as the main activity of entrepreneurs in the form of pooling the results of the discovery of new ideas about products, markets, methods, techniques, processes and tools in the form of software to accelerate the process which is expected to gain economic benefits. The batik market has experienced a significant increase which requires batik industry players to innovate.

Batik SMEs in Semarang, Indonesia to remain competitive in the Industrial Revolution 4.0 era, especially in the direction of a new life order after the pandemic to be able to survive. Batik as a commodity and cultural value, by innovating design motifs using technology enablers adapting batik motif design technology assisted by fractal batik software. The creation of batik motifs by documenting objects/images as the basis of a library is one of the alternative works of innovation in the development of contemporary batik motifs without eliminating cultural roots in an effort to maintain the sustainability of batik as a cultural heritage of the archipelago. Batik motif design training with Fractal software for SME Batik Semarang has often been carried out, this explains that Fractal batik software can be learned well and quickly by SME Batik entrepreneurs.

Semarang batik SMEs are required to have superior product quality with motifs and reflect the image of Semarangan batik, price perceptions and service quality that affect satisfaction and subsequently on loyalty for customer retention. The importance of the influence of product quality on satisfaction according to research by Hoe & Manshori (2018) and Jahanshahi, et al., (2011), on the contrary Budiastari, S (2016) states that product quality has no effect on satisfaction. Price perception provides a significant role for satisfaction, products with high prices regardless of the quality of the product, consumers are not interested in buying. Price perception has an influence on the creation of customer satisfaction, Sedjai, et al., (2018), and Razak, et al., (2016) state that price perception has a positive influence on satisfaction, price offers are acceptable to the community and realistic, resulting in customer satisfaction, but Pramana (2018) reveals that price perceptions have no effect on satisfaction.
Improved service quality has an impact on increasing satisfaction as research by Sedjai, et al., (2018) and Choi, Pin-Fenn (2014) which reveals that service quality has a positive influence on satisfaction, on the contrary Hermawan, et al., (2017), reveals that service quality does not have an influence on satisfaction. Furthermore, Hoe, L & Manshori, S (2018), Rimawan, et al., (2018) reveal that satisfaction has a significant positive effect on loyalty. In contrast to the results of the research by Powers and Choi (2018), it is revealed that satisfaction has no effect on loyalty.


**Background and Hypotheses**

**The Effect of Product Quality on Satisfaction**

A product is anything that is offered, owned, used, or consumed so as to satisfy wants and needs. The results of research by Maria & Anshori (2016) and Partadhy & Rahyuda (2019) reveal that product quality has a positive effect on customer satisfaction, which means that the better the quality of the products offered, the higher the level of perceived customer satisfaction.

- H3: Product quality has a positive effect on customer satisfaction

**The Effect of Price Perception on Satisfaction**

Customers' perceptions of prices can influence decisions in purchasing a product, so companies are required to be able to provide a good price perception of the products or services they sell in order to achieve increased customer satisfaction. Setyowati & Wiyadi (2016) and Razak, et al., (2016) that price perception has a positive effect on customer satisfaction. The more appropriate the price of the product, the better the customer satisfaction with the product.

- H2: Price perception has a positive effect on customer satisfaction

**The Effect of Service Quality on Satisfaction**

Pramana (2018), Hermawan, et al., (2017), and Wibisono & Widjaja (2015), state that service quality is an important attribute in a company. Not only on product quality, but service quality must be a concern. Hilalilah, et al., (2017) and Pirbadi (2014) which also revealed that service quality has a positive and significant effect on customer satisfaction.

- H6: Price perception has a positive effect on customer loyalty

**The Effect of Satisfaction on Loyalty**

Basith, et al., (2014) revealed that satisfaction has a positive effect on customer loyalty. Lestari & Yulianto (2014) in the results of their research which states that customer satisfaction has a positive effect on customer loyalty. Partadhy & Rahyudha (2019) stated that customer satisfaction has a positive effect on customer loyalty. Satisfaction has a positive influence on customer loyalty, which means that the higher the customer satisfaction perceived by the consumer, the higher the level of customer loyalty to the consumer of the product.

- H4: Satisfaction has a positive effect on customer loyalty

**The Effect of Product Quality on Loyalty**

Lestari & Yulianto (2018) state that product quality has a positive effect on customer loyalty. Good product quality will be able to increase customer loyalty. The results of this study are in line with the results of research conducted by Partadhy & Rahyuda (2019) and Pirbadi (2014) that product quality has a positive effect on customer loyalty. Products with good and reliable quality will always be embedded in the minds of consumers, because consumers are willing to pay a certain amount of money for these products with high hopes that consumers will benefit from the product in accordance with what has been issued by consumers. This means that the better the quality of the products provided by the company, the customer loyalty will be realized.

- H5: Product quality has a positive effect on customer loyalty

**The Effect of Price Perception on Loyalty**

The more appropriate the price with the quality of the product as perceived by the customer, the better consumer loyalty to the product being marketed. The results of this study prove the theory of results from Lovelock (2007) that loyalty will continue to be felt by customers as long as they still feel that customers have received the appropriate value from a product, including higher quality in relation to price compared to what has been obtained. This is in accordance with the results of research conducted by Sari & Anjarwati (2018) which revealed that price perception has a positive and significant effect on customer loyalty. The more appropriate the product price, the better consumer loyalty to the product. The results of this study are in accordance with the results of research conducted by Hermawan, et al., (2017) which also revealed that price perception has a positive and significant effect on customer loyalty.

- H6: Price perception has a positive effect on customer loyalty
The Effect of Service Quality on Loyalty

Customers will tend to repurchase where they get good service, even customers will be loyal to product marketing with good service quality as well. The results of research conducted by Sembiring, et al., (2014) reveal that service quality has a positive and significant effect on customer loyalty, the better the service provided to customers, the customer loyalty will increase. Yulianto (2014) and Pirbadi (2014) also stated that service quality had a significant positive effect on customer loyalty. Good service quality includes employee friendliness, clean outlets and speed of service will have an impact on increasing customer loyalty. The better the quality of service provided, the higher the customer loyalty will be.

- H7: Service quality has a positive effect on customer loyalty

Satisfaction Mediates the Effect of Product Quality on Loyalty

Customer satisfaction has an effect on being a mediator of the influence of product quality on customer loyalty. This is in accordance with research conducted by and Partadhy & Rahyuda (2019) and Pirbadi, (2014) which revealed that customer satisfaction has a positive and significant effect in mediating the effect of product quality on customer loyalty. This study states that satisfaction as a mediator has a greater role in customer loyalty than the direct effect of product quality on customer loyalty. The results of this study are in accordance with research conducted by Budiastari (2016) that satisfaction has a positive effect as a mediator of the influence of product quality on customer loyalty. Long-term relationships customers expect not only high quality of primary service, but also additional benefits from continuing a relationship. Getting a relationship with customer satisfaction has an influence on purchase intention, so that customer satisfaction has a positive effect on customer loyalty.

- H8: Satisfaction mediates the effect of product quality on loyalty.

Mediation Satisfaction Effect of Service Quality on Loyalty

Partadhy & Rahyuda (2019) stated that there is a significant and positive influence on customer satisfaction in mediating the effect of price perception on customer loyalty. This shows that the price perception felt by consumers for the product will have a significant impact on customer loyalty if it is mediated by customer satisfaction, which means that customer loyalty to the product is very dependent on how the perceived price perception and also the level of customer satisfaction with the product. The results of this study are in accordance with those conducted by Hermawan, et al., (2017) and Budiastari, (2016) also revealing the same thing that there is a positive significant effect of customer satisfaction as a mediation on the effect of price perception on customer loyalty. The benefits of the product received are in accordance with the price perceived by the customer, which will lead to a feeling of customer satisfaction with the benefits of the product. Thus customers will be loyal to the products offered by the company.

- H9: Satisfaction mediates the effect of price perception on loyalty

Satisfaction Mediates the Effect of Service Quality on Loyalty

Pirbadi (2014) revealed that there is a positive and significant effect of satisfaction as a mediation on the effect of service quality on customer loyalty, which can be interpreted that customer satisfaction and service quality together have a positive effect on customer loyalty. In accordance with this, it can be said that the tendency of increasing the combination of customer satisfaction with service quality will be followed by an increase in customer loyalty. The same thing was also expressed by Yulianto (2014) and the results of his research stated that satisfaction had a significant and positive effect as a mediation on the effect of service quality on customer loyalty. The influence given by the combination of customer satisfaction and service quality variables, then there is an interaction between customer satisfaction and service quality on customer loyalty, so it can be concluded that a high level of customer satisfaction and high service quality will be better and increase customer loyalty.

- H10: Satisfaction mediates the effect of service quality on loyalty

RESEARCH METHODS

The research population is customers who make batik purchases from January to June 2021. The research sample is 205 respondents using purposive sampling technique. The criteria for sampling customers are at least 17 years old, and a minimum of 2x purchases. The list of questions was given to the respondent directly by being given a time limit of approximately 15 minutes and the completed questionnaire was returned directly to the researcher. The questionnaire in the form of a list of questions in the questionnaire was made using a Likert scale of 1-5 to obtain interval data and was given a score or value. A scale of 1 means "strongly disagree" and a scale of 5 means "strongly agree".

The technique of processing data was carried out using descriptive analysis and statistical analysis. Descriptive analysis to find out the general description of respondents, while statistical analysis is used to answer research questions by analyzing and testing empirical models with multiple regression using SPSS 24.00 software.
RESULTS AND DISCUSSION

Respondent Description
The data of the majority of respondents in this study are female by 68%, age range 38-47 years by 49%, last education level taken by high school by 51% and have bought > 2 times by 53% in the last 6 months.

Instrument Test

Validity and Reliability Test
The results of the validity test show that each variable has a KMO value > 0.5 with a sig < 0.05 so that it can be stated that the sample adequacy requirements have been met. The loading factor value > 0.4 on each indicator so that it can be stated that all indicators are valid and further analysis can then be carried out. The results of the reliability test show that the product quality has a Cronbach's Alpha value of 0.724; price perception of 0.748; service quality of 0.724; price perception and service quality have a significant effect on loyalty and is acceptable. It is proven that the price perception has a positive effect on loyalty and is acceptable. It is proven that the price perception has a value of =0.169, a significance level of 0.000 < 0.05.

Hypothesis 1 states that product quality has a positive effect on acceptable satisfaction. It is proven that the quality of the product has a value of =0.356, a significance level of 0.001 < 0.05.

Hypothesis 2 states that the perception of price has a positive and significant effect on satisfaction and is acceptable. It is proven that the price perception has a value of =0.374, a significance level of 0.000 < 0.05.

Hypothesis 3 states that service quality has a positive effect on acceptable satisfaction. It is proven that the quality of service has a value of = 0.412, a significance level of 0.000 < 0.05.

Hypothesis 4 states that product quality has a positive effect on loyalty and is acceptable. It is proven that the quality of the product has a value of =0.412, a significance level of 0.000 < 0.05.

Hypothesis 5 states that the perception of price has a positive effect on loyalty is acceptable. It is proven that the price perception has a value of = 0.169, a significance level of 0.000 < 0.05.

Test Model

Test the Coefficient of Determination
The value of Adjusted R Square in the regression model I is 0.705, which means that the variables of product quality, price perception and service quality are able to explain satisfaction of 70.5% and the remaining 29.5% is influenced by other variables outside the research model. The value of Adjusted R Square in the regression model II is 0.823, which means that the variables in the research model, namely product quality, price perception, service quality and satisfaction are able to explain loyalty by 82.3% and the remaining 17.7% is influenced by other variables outside the research model.

F Test
In the regression model I the value of Sig. 0.000 < 0.05, it can be concluded that simultaneously the variables of product quality, price perception and service quality have a significant effect on satisfaction. In the regression model II the value of Sig. 0.000 < 0.05, it can be concluded that simultaneously the variables of product quality, price perception, service quality and satisfaction have a significant effect on loyalty.

Table 1: Summary of Regression Test Results

<table>
<thead>
<tr>
<th>Regression Model</th>
<th>Test Model</th>
<th>t test</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Adj R Square</td>
<td>F test</td>
<td>Sig</td>
</tr>
<tr>
<td>Y1 = a1 + B1X1 + B2X2 + B3X3 + e1</td>
<td>0.705</td>
<td>164.552</td>
<td>0.000</td>
</tr>
<tr>
<td>Product quality on satisfaction</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Perception of price on satisfaction</td>
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<tr>
<td>Service quality on satisfaction</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Y2 = a2 + B4X1 + B5X2 + B6X3 + B7Y1 + e2</td>
<td>0.823</td>
<td>238.584</td>
<td>0.000</td>
</tr>
<tr>
<td>Product quality on loyalty</td>
<td></td>
<td></td>
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<tr>
<td>Perception of price on loyalty</td>
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<td>Service quality on loyalty</td>
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<td>Satisfaction on loyalty</td>
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</tbody>
</table>

Source: Processed Primary Data, 2021

Model I regression equation:
Y1 = 0.5394X1 + 0.374X2 +0.412X3

Model II regression equation:
Y2 = 0.356X1 + 0.169X2 +0.466X3 + 0.292Y1

Hypothesis Testing
The results of hypothesis testing are shown by looking at the standardized value of the coefficient at the value of sig < 0.05.

Hypothesis 1 states that product quality has a positive effect on acceptable satisfaction. It is proven that the quality of the product has a value of = 0.539, a significance level of 0.002 < 0.05.

Hypothesis 2 states that the perception of price has a positive and significant effect on satisfaction and is acceptable. It is proven that the price perception has a value of =0.374, a significance level of 0.000 < 0.05.

Hypothesis 3 states that service quality has a positive effect on acceptable satisfaction. It is proven that the quality of service has a value of = 0.412, a significance level of 0.000 < 0.05.

Hypothesis 4 states that product quality has a positive effect on loyalty and is acceptable. It is proven that the quality of the product has a value of =0.412, a significance level of 0.001 <0.05.

Hypothesis 5 states that the perception of price has a positive effect on loyalty is acceptable. It is proven that the price perception has a value of = 0.169, a significance level of 0.000 < 0.05.
Hypothesis 6 states that service quality has a positive effect on loyalty and is acceptable. It is proven that the quality of service has a value of $= 0.466$, a significance level of $0.000 < 0.05$.

Hypothesis 7 states that satisfaction has a positive effect on loyalty is acceptable. It is proven that satisfaction has a value of $=0.292$, a significance level of $0.000 <0.05$.

**Sobel Test**

Hypothesis 8 which states that satisfaction mediates the effect of product quality on loyalty gives full mediation results because the effect of product quality on loyalty gives significant results. The results of the Sobel test explain that the sig value is $0.000 < 0.05$, this indicates that satisfaction mediates the effect of product quality on loyalty. In other words to increase loyalty more effectively through satisfaction than directly.

Hypothesis 9 which states that satisfaction mediates the effect of price perception on loyalty gives full mediation results because the effect of price perception on loyalty gives significant results. The results of the Sobel test explain that the sig value is $0.000 < 0.05$, this indicates that satisfaction mediates the effect of price perception on loyalty. In other words to increase loyalty more effectively through satisfaction than directly.

Hypothesis 10 which states that satisfaction mediates the effect of service quality on loyalty gives full mediation results because the effect of service quality on loyalty gives significant results. The results of the Sobel test explain that the sig value is $0.000 < 0.05$, this indicates that satisfaction mediates the effect of service quality on loyalty. In other words to increase loyalty more effectively through satisfaction than directly.

**DISCUSSION**

**Product Quality has a Positive and Significant Effect on Satisfaction**

The results of the research that has been carried out to test the effect of product quality on satisfaction is that it has a positive and significant effect with a coefficient of $β$ of $0.539$ and Sig. $0.002 < 0.05$ which means that product quality has a positive and significant effect on satisfaction, which means that the better product quality is given to customers, the customer satisfaction will also increase. The results of this study support the findings of research according to Hoe & Manshori (2018), Jahanshahi, *et al.*, (2011), Maria & Anshori (2016), and Parthady and Rahyuda (2019) which state that there is a positive influence on product quality to satisfaction. The increase in employee performance will increase the company's performance.

**Price Perception has a Positive and Significant Effect on Satisfaction**

The results of the research that has been carried out to test the effect of price perception on satisfaction is that it has a positive and significant effect with a coefficient of $β$ of $0.374$ and Sig. $0.000 <0.05$ which means that price perception has a positive and significant effect on satisfaction. Means that the more appropriate the price offered to customers, the customer satisfaction will also increase. This is in line with the results of research conducted by Razak, *et al.*, (2016), Sedjai, *et al.*, (2018), Sentiana (2018) and Setyowati & Wiyad (2016) which state that price perception has a positive and significant effect on customer satisfaction.

**Service Quality has a Positive and Significant Effect on Satisfaction**

The results of the research that has been carried out to test the effect of service quality on satisfaction is that it has a positive and significant effect with a coefficient of $β$ of $0.412$ and Sig. $0.000 < 0.05$ which means that service quality has a positive and significant effect on satisfaction, which means that the better the quality of service provided to customers, the customer satisfaction will also increase. This is in line with the results of research conducted by Caruana, A (2001), Choi Pin-Fenn, (2014), Hilaliiyah (2017), Jahanshahi, *et al.*, (2011), Sedjai, *et al.*, (2018) and Wibisono & Widjaja (2015) which states that there is a positive and significant effect of service quality on satisfaction.

**Product Quality has a Positive and Significant Effect on Customer Loyalty**

The results of the research that has been conducted to examine the effect of product quality on loyalty is to have a positive and significant effect with a coefficient of $β$ of $0.356$ and Sig. $0.000 < 0.05$ which means that product quality has a positive and significant effect on satisfaction. So that the better the quality of the product obtained by the customer, it will further increase customer loyalty to the product offered. This is in line with the results of research conducted by Pirbadi (2014), Jihanshahi, *et al.*, (2011), Lestari & Yulianto (2018), and Parthady & Rahyuda (2019) which state that there is a positive and significant influence on product quality to loyalty.

**Price Perception has a Positive and Significant Effect on Customer Loyalty**

The results of the research that has been conducted to examine the effect of price perception on loyalty is that it has a significant effect with a coefficient of $β$ of $0.169$ and Sig. $0.002 < 0.05$ which means that price perception has a positive and significant effect on loyalty. So that the more appropriate the price perceived by customers for the product, it will further increase customer loyalty to the products offered. This is in line with the results of research conducted by Hermawan, *et al.*, (2017), Samah, *et al.*, (2015), and Sari & Anjarwati (2018) stating that there is a positive and significant effect of price perception on loyalty.
Service Quality has a Positive and Significant Effect on Customer Loyalty

The results of the research that has been carried out to test the effect of service quality on satisfaction is that it has a positive and significant effect with a coefficient of $\beta$ of 0.466 and Sig. 0.000 < 0.05 which means that service quality has a positive and significant effect on loyalty. So that the better the quality of service obtained by customers, it will further increase customer loyalty to the products offered. This is in line with the results of research conducted by Jihanshahi, et al., (2011), Sembiring, et al., (2014), and Yulianto, A (2014) which state that there is a positive and significant effect of service quality on loyalty.

Satisfaction has a Positive and Significant Effect on Customer Loyalty

The results of the research that has been carried out to test the effect of satisfaction on loyalty is that it has a positive and significant effect with a coefficient of $\beta$ of 0.292 and Sig. 0.001 < 0.05 which means that satisfaction has a positive and significant effect on customer loyalty. Means that the greater the feeling of satisfaction obtained by customers, it will further increase customer loyalty. This is in line with the results of research conducted by Basith, et al., (2014), Hoe & Manshori (2018), Parthyady & Rahyuda (2019), Rimawan (2017), and Sedjai, et al., (2018) stating that there are positive and significant effect of satisfaction on customer loyalty.

Satisfaction Mediates the Effect of Product Quality on Loyalty

The results of the tests that have been carried out in testing the effect of mediation, satisfaction with the influence of product quality on loyalty is mediating because the results of the Sobel Test are $Z$ Sig. 0.0000 < 0.05. This shows that product quality has an indirect effect on loyalty. Product quality affects customer loyalty through satisfaction. Thus, it means that the increasing feeling of customer satisfaction with the products offered, the customer loyalty will also increase.

Satisfaction Mediates the Effect of Price Perception on Loyalty

The results of the tests that have been carried out in testing the effect of mediation, satisfaction with the effect of price perception on loyalty is mediating because the results of the Sobel Test are $Z$ Sig. 0.0000 < 0.05. This shows that price perception has an indirect effect on loyalty. Price perception affects customer loyalty through satisfaction. Thus, it means that the increasing feeling of customer satisfaction with the price of the product offered, the customer loyalty will also increase.

Satisfaction Mediates the Effect of Service Quality on Loyalty

The results of the tests that have been carried out in testing the effect of mediation, satisfaction with the effect of service quality on loyalty is mediating because the results of the Sobel Test are $Z$ Sig. 0.0000 < 0.05. This shows that service quality has an indirect effect on customer loyalty. Service quality affects customer loyalty through satisfaction. Thus, it means that the increasing feeling of customer satisfaction with the services provided, the customer loyalty will also increase.

Closing

CONCLUSION

Based on the results of the analysis that has been carried out in the research, the conclusions are as follows: Product quality, price perception, and service quality have a positive and significant effect on satisfaction, product quality, price perception, service quality and satisfaction have a positive and significant effect on customer loyalty. Satisfaction mediates the effect of product quality, price perception, and service quality on loyalty.

Future Research

The factors that affect loyalty in this study are used only three factors, namely product quality, price perception, and service quality, while there are many other factors that affect customer loyalty that are not used in this research, for example customer knowledge, customer value, experience customer, attitude, promotion and place.

REFERENCES


