The Impact of Product Quality and Price on Customer Satisfaction with the Mediator of Customer Value

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Abstract
The purpose of this study is to test the product quality and price towards customer satisfaction and to test the mediating role of customer value in improving customer satisfaction. This research is the study of perception and causality for the customer of toothpaste as a convenience product. The uniqueness of this research is in the major focus, which is the study of the customer value perception for toothpaste product as a convenience product for the metropolitan community. This research is a quantitative study with positivism paradigm approach survey method. Also, the Structural Equation Modeling is used as a means of inferential statistics. The population of this study is the customer of toothpaste product over the age of 17 and domiciled in Bekasi, Indonesia. This research is also supported with Likert scale questionnaires which are distributed to 110 respondents who visited the mall. On the other hand, a purposive sampling technique is used with the consideration that the selected individuals are in accordance with the criteria of the research. The study found that the functional value of the toothpaste product bought by the customer is not optimal yet to be a major consideration to satisfy the customers, it is precisely the quality of the toothpaste product itself that conforming the production standard in advance.

Keywords: product quality, price, customer value, customer satisfaction

1. Introduction
Customer satisfaction is determined by the quality and price of the products desired by the customer, as stated by Bei and Chiao (2001) that "Consider product quality and price as the foundation to build up consumer satisfaction", while Khan and Ahmed (2012) said that "product quality is a critical determinant of consumer satisfaction ". Moreover, Ehsani and Ehsani (2015) concluded that "price can be used as a resource to increase both profit and customer satisfaction". Other factors that affect customer satisfaction is customer value, as proposed by Ma and Ding (2010) "customer value delivery can satisfy customer demand, make the customer satisfied". Similarly, Sugiarti et al. (2013) indicated that "better customer value as Compared to what the competitors will deliver a make customers feel satisfied and in turn will drive him to be loyal". Based on several expert opinions above, it can be seen that product quality, price, and customer value can affect customer satisfaction.

In this decade, there have been a lot of studies that explain the causality between product quality and price with customer value, between product quality and price with customer satisfaction, and between customer value with customer satisfaction. This study examines the concepts and models developed by Zeithaml (1988); Bei and Chiao (2001), as well as Hanzaee and Yazd (2010); Jahanshahi et al. (2011); Malik et al. (2012); Tu et al. (2013); Sugiarti et al. (2013); Munish and Soliha (2015) that motivates us to do a further and deeper investigation on the relationship of product quality, price, customer value and customer satisfaction, especially for the category of convenience product. The research that focuses on a convenience product in metropolitan society is still not widely found.

The concept model developed by Zeithaml (1988) suggested that there is a causal relationship between price and quality with value customers, while the concept model developed by Bei and Chiao (2001) showed no effect on the product quality and price to customer satisfaction. This is also supported by the research of Jahanshahi et al. (2011) that explained if product quality is influenced customer satisfaction. Another research that has a similar point with this research is the research conducted by Malik et al. (2012), he found that the price is affected customer satisfaction. Furthermore, the research of Hanzaee and Yazd (2010) resulted that the price has an effect on customer value, and Munish and Soliha (2015) proved that product quality could influence customer value. Still, the results of Tu et al., (2013) research showed that customer value is able to influence customer satisfaction. By that, a concept of structural equation model is designed in this study to deepen the influence of product quality and price towards customer satisfaction with the mediator of customer value.

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Toothpaste industry in Indonesia is dominated by a few major brands, namely Pepsodent, Close Up, Formula, Maxam, Ciptadent, Smile Up, Ritadent, and some other brands. In this toothpaste industry, Pepsodent was ranked in the first position by referring to the top brand index during 2007-2013, means that Pepsodent defeated other toothpaste brands like Ciptadent, Close Up, Formula, and others. During that period, the average top brand index of Pepsodent toothpaste was 73.7% with a tendency to decline, from 75.7% in 2007 to 71.6% in 2013. Whereas, the other toothpaste brands, such as Ciptadent which had an average top brand index of 8.9% with tendency to increase from 8.9% in 2007 to 9.1% in 2013, Close UP with its average top brand index of 6.7% with a tendency to increase from 6.7% in 2007 to 7.5% in 2013, and Formula which showed an average top brand index of 6.5% with a tendency to increase from 4.3% in 2007 to 7.1% in 2013, and also other toothpaste which had the average top brand index of 4.2% with a tendency to increase from 4.4% in 2007 to 4.7% in 2013. The decline in the top brand index of Pepsodent was due to the fierce competition between other toothpaste brands and innovation. This study emphasizes more on the study of perception for Pepsodent customer that classified as a convenience product to the metropolitan community. This study also aims to reveal the role of customer value as the impact of product quality and to explain the market pricing in toothpaste industry to fulfill customer satisfaction.

2. Literature Review
2.1 Customer Satisfaction
Kotler and Keller (2012) said that "satisfaction is a person's feelings of pleasure or disappointment that result from comparing a product's perceived performance (or outcome) to expectations". Whereas, customer satisfaction according to Jahanshahi et al. (2011) is "customer satisfaction is the result of a customer's perception of the value received in a transaction or relationship - where value equals perceived service quality relative to price and customer acquisition costs". However, it is in contrast with the research of Tu et al. (2013) which indicated that "customer satisfaction is viewed as influencing repurchasing intentions and behavior, which, in turn, leads to an organization's future revenue and profits".

Customer satisfaction is a customer feedback in the form of evaluation after purchasing some goods or services compared with customer expectations. Customer satisfaction is measured by using the customer expectations with the performance of the goods or services that can meet the needs and desires of the customers. A satisfied customer means that the brand similarity between the performance of the goods and services with the hope of the customers, where it will encourage them to re-purchase the products. At the same time, a disappointed customer would persuade the other customers to not re-purchase and as a result, they will move to another brand competitor.

Kotler and Armstrong (2012) defined that "customer satisfaction is the extent to which a product's perceived performance matches a buyer's expectations." Customer satisfaction consists of several indicators, namely loyalty, satisfaction, repurchase interest, small desire to make a complaint, the willingness to recommend the product, and the reputation of the company (Kotler and Keller, 2012; Nguyen and LeBlanc, 1998).

2.2 Customer Value
Monroe (1990), defines that "customer value is buyers' perceptions of value represent a trade-off between the quality or benefits they perceive in the product relative to the sacrifice they perceived by paying the price", while Naumann (1995) showed that "customer value is created when customer expectations in each of the three areas are met or exceeded. Only when all three are in harmony will be maximized customer value ". Therefore, Ma and Ding (2010) and Sugianti have a different perspective concerning the customer value, Ma and Ding (2010) thought that "customer value is directly related to the benefit that a product or service", whereas Sugianti et al. (2013) concluded that "customer value is an evaluation of the benefits of a product or service that is perceived by customers as compared to what the customers had dedicated to get the product or service".

Customer value is seen as a ratio of the benefits felt by the customer along with its sacrifice. The implementation of this sacrifice is in line with the exchange process such as transaction costs and the risk of the products offered by the company. Henceforth, there will be a disappointment when the ratio value that is perceived by the economic sacrifices of the customers with the products offered by the company are not in accordance with the customer expectations. Otherwise, when the ratio value is appropriate or exceeding the customer expectations, customers will feel such satisfaction. Another idea about customer value is that it is the perception of the customer about the quality and the benefit of toothpaste towards the sacrifice to pay the price. Customer value can be measured by functional value, emotional value and social value (Kotler and Keller, 2012; Afiff and Astuti, 2009; and Shoki, 2012).
2.3 Product Quality
According to Zeithaml (1988), "quality can be defined broadly as superiority or excellence". Here, Kotler and Armstrong (2012) described that "product is anything that can be offered to a market for attention, acquisition, use, or consumption that MIGHT satisfy a want or need ", while Aaker (1994), quoted Ehsani (2015), said that "quality of product is the customer's perception of the overall quality or superiority of the product or service, with respect to its intended purpose, relative to alternatives,". Kotler and Armstrong (2012) assumed that product quality is "Product quality is the characteristic of a product or service that bear on its ability to satisfy stated or implied customer needs".

It is important to note that the quality of the product is not reviewed by the company standpoint, it is seen from the perspective of the customer. Associated with that, it raised two important factors that affect the quality of the product, namely the expected product quality and the perceived product quality. In details, if the perceived product quality is in line with the expectation, then the customer will perceive the product quality as a good quality and also feel satisfied. Conversely, if the perceived product quality is not as expected, then the quality of the product as the customer perceived is qualified as a bad product quality. Thus, the qualification of both bad and good product depends on the ability of the company to meet the customer expectations.

For toothpaste products, quality is the characteristic of toothpaste that bears on its ability to satisfy customer requirements, either expressed or implied. Garvin (1987); Kotler and Keller (2012) thought that the quality of the product consists of several indicators, namely performance, features, reliability, compliance, durability, service ability, aesthetics, and perceived quality.

2.4 Price
According to Zeithaml (1988), from the customer view, "price is what is given up or Sacrificed to Obtain a product or service". Bei and Chiao (2001) indicated that "the price is defined as what is given up or sacrificed to acquire a service or product", while Kotler and Armstrong (2012) suggested that "Price is the amount of money charged for a product or a service; the sum of the values that customers exchange for the benefits of having or using a product or service"

How customers perceive a certain price, in which the high-low price of a product can be a significant effect on a customer intention to purchase the product. Customer will give an attention to the price paid by other customers, no one is happy to pay more cash compared to other customers. The fairness of the price will influence the perception of the customers and it ultimately will influence their willingness to become a customer.

For toothpaste products, the price is the amount of money that is taken out for a toothpaste; customer value that is exchanged to get the benefit from the ownership or use of a toothpaste. Kotler and Keller (2012) and Kusdiyah (2012) defined price as something that can be measured which consists of several indicators, such as the affordable price, the fair price, discounted price, competitor price, and price suitability.

3 Research Methods
3.1 Research Design
Based on the research objectives, this study was classified as an explanatory research, it examines the causal relationship between variables through hypothesis testing. This study also used a survey by using a structured interview with the toothpaste customers as the individual analysis unit. It used questionnaires to collect the research data. The distributed questionnaire was used a five-point Likert scale, point one for a strongly disagree and point five for strongly agree; there were 49 items in the questionnaires. The data were analyzed by using Structural Equation Modeling and processed with AMOS statistical program.

3.2 Sample and Population
The population in this study were all the toothpaste customers in Bekasi. This study was conducted for 3 months by observing Pepsodent toothpaste customers in mall shopping centers such as Giant Extra Supermarket Jatiasih, Giant Extra Supermarket Jatikramat, and Giant Extra Supermarket Jatiwaringin in Bekasi. The sampling of the study was determined by the total of 110 respondents considering that each visitor either adolescence or adult have the same opportunities to meet the requirements during the study. In addition, the 110 respondents have already met the requirements of SEM analysis which requires the sample analysis unit as much as 100-200 (Hair, et al, 2010). The sampling technique was established by using a simple random sampling of the mall visitor population in Bekasi for three months.
3.3 Conceptual Framework
The conceptual framework of this research was built by adopting some of the results from previous studies. The influence of product quality and price to the customer value can be explained that the higher the product quality and price, the better the perception of the product value. This means that there is an influence in product quality and price towards customer value. The influence of product quality and price towards customer value is adopted from the research of Hanzae and Yazd (2010), and Munisih and Solih (2015).

The influence of product quality and price to customer satisfaction can be explained that a better-perceived level of product quality and price will impact the perceived level of satisfaction. This idea is adopted from the research developed by Bei and Chiao (2001), Jahanshahi et al. (2011), Suwami and Mayasari (2011), Malik et al. (2012), Saidani and Ariffin (2012), Alfin (2013), Basith et al (2014), Ysenia and Siregar (2014), Lonardo and Soelasih (2014), and Ismail (2014).

Furthermore, the effect of customer value towards customer satisfaction can be explained that the most positive perceptions of the product value will make a positive impact on the acquisition of satisfaction. The influence of the customer value on customer satisfaction was adopted from the research of Hidayat (2009), Tu, et al., (2013), Sugiarti, et al (2013), and Mardikawati and Farida (2013). All the reviews above can be described with the conceptual framework of the study.

Figure 1. The Conceptual Framework of the Research

![Conceptual Framework Diagram]

Note:
PQ = Product Quality; P = Price; CV = Customer Value; CS = Customer Satisfaction

3.4 Research Hypothesis
H1: The product quality and price significantly influenced the value of toothpaste customer.
H2: Toothpaste customer satisfaction is affected by the product quality and price significantly.
H3: Customer value has a significant effect towards toothpaste customer satisfaction.
H4: The product quality and price could influence customer satisfaction significantly through customer value.

4. Research Results
The research variables of this research consist of product quality, price, customer value and customer satisfaction, it has 49 item questionnaires that have been tested with validity and reliability test. The test results showed that the 49 items are valid and reliable, means that the respondents understand the questionnaires and consistent on the specified statement point. Some of the indicators which are chosen to measure the latent variables of the study can be seen in the value of loading factors (Table 1).
Table 1. The Value of Factor Loadings Research Indicators

<table>
<thead>
<tr>
<th>Product Quality</th>
<th>Standardized value of Loading Factors</th>
<th>Customer Value</th>
<th>Customer Satisfaction</th>
</tr>
</thead>
<tbody>
<tr>
<td>Performance</td>
<td>0.772*</td>
<td>0.786*</td>
<td>0.914*</td>
</tr>
<tr>
<td>Features</td>
<td>0.837*</td>
<td>0.700*</td>
<td>0.871*</td>
</tr>
<tr>
<td>Reliability</td>
<td>0.901*</td>
<td>0.710*</td>
<td>0.745*</td>
</tr>
<tr>
<td>Conformity</td>
<td>0.918*</td>
<td>0.638*</td>
<td></td>
</tr>
<tr>
<td>Durability</td>
<td>0.774*</td>
<td>0.612*</td>
<td></td>
</tr>
<tr>
<td>Service Capabilities</td>
<td>0.831*</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Aesthetics</td>
<td>0.837*</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Perception Quality</td>
<td>0.834*</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note: significant level of less than 0.05

The results in Table 1 show that each research indicators are able to reflect the measured variable, it could be seen from the factor loadings of each indicator which are over 0.5 and the probability value for each indicator which do not exceed the error rate of 0.05.

The findings which are related to the perception of the measured variable showed that the product quality is mirrored by the conformity of the product. At the same time, the product price is reflected by a more affordable price while the product value is showed by the value function of the toothpaste product and customer satisfaction is represented by the interest of the customer to re-purchase the products repeatedly.

The evaluation criteria for goodness of fit showed that the X² count value (Chi-Square) is 224,924 less than the X² table value (Chi-Square) at 237.24 with the error rate of 0.05 and the degree of freedom by 203. The probability level of Structural Equation Modeling (SEM) model is 0.061, greater than 0.05. Referring to that, this comparison shows that the variation of the model indicates not much different from the facts of existing research so that it can be concluded that the SEM model is acceptable for further analysis, as seen in Figure 2.

Figure 2. The Coefficient on Structural Equation Modeling

```
PQ -- 0.413* --> CS
     | 0.279*
     V
CV   --- 0.206* ---->
     | 0.261*
P   --- 0.450* ---->
```

Note:
PQ = Product Quality; P = Price; CV = Customer Value; CS = Customer Satisfaction
*) probability level less than 0.05

The research results indicate that all the variables in the research have a significant effect with one to another. The of this hypothesis is presented in this following Table 2.
Table 2. The Coefficient on the Research Variable

<table>
<thead>
<tr>
<th>Hypothesis</th>
<th>Exogenous Variable</th>
<th>Mediation Variable</th>
<th>Endogenous Variable</th>
<th>Standardized Coefficient</th>
<th>Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>H1</td>
<td>Product Quality</td>
<td>Customer Value</td>
<td>-</td>
<td>0.279*</td>
<td>H1 is accepted</td>
</tr>
<tr>
<td></td>
<td>Price</td>
<td></td>
<td></td>
<td>0.450*</td>
<td></td>
</tr>
<tr>
<td>H2</td>
<td>Product Quality</td>
<td>-</td>
<td>Customer Satisfaction</td>
<td>0.413*</td>
<td>H2 is accepted</td>
</tr>
<tr>
<td></td>
<td>Price</td>
<td></td>
<td></td>
<td>0.261*</td>
<td></td>
</tr>
<tr>
<td>H3</td>
<td>-</td>
<td>Customer Value</td>
<td>Customer Satisfaction</td>
<td>0.206*</td>
<td>H3 is accepted</td>
</tr>
<tr>
<td>H4</td>
<td>Product Quality</td>
<td>Customer Value</td>
<td>Customer Satisfaction</td>
<td>0.279* x 0.206* = 0.057*</td>
<td>H4 is accepted</td>
</tr>
<tr>
<td></td>
<td>Price</td>
<td></td>
<td></td>
<td>0.450* x 0.206* = 0.092*</td>
<td></td>
</tr>
</tbody>
</table>

Note: *) probability level less than 0.05

Based on the findings above, it indicates that the product quality and price has a positive and significant impact on customer value. The product quality and price are able to affected customer satisfaction significantly and positively. Customer value also delivers a significant and positive effect towards customer satisfaction. This test results proved that customer value is a successful mediator for product quality and price in order to improve customer satisfaction, means that customer value is important to satisfy the price when buyers feel that there is a match on product quality and price. Based on the path analysis, it is found that the most powerful track is in the influence of the price and quality with customer satisfaction. So, the findings of this study indicate that the toothpaste product quality is important to increase the customer satisfaction.

5. Discussion
5.1. Product Quality, Price and Customer Value.

The results showed that the quality and price of the product encourage the increase of customer value, means that the quality standards of toothpaste also the normal and the relatively low price will increase the functional value that ensures the maintenance and freshness of our tooth and mouth. In other words, there is a high correlation in between the product quality and price with the value of the customer, if the increased product quality and price is competing, it will create an increase in customer value.

There is a similarity in the research of Munish and Soliha (2015) with this study, which explains that the increase in the customer value requires an increase in the product quality as well. The results of this study support the research of Hanzaee and Yard (2010) which proves that price has a positive effect on customer value. This means that the product quality in accordance with the standard toothpaste product as a convenience product along with its reasonable price is capable of creating a functional value on the product.

5.2 Product Quality, Price and Customer Satisfaction.

This research found that the product quality improvement and the competitive price could increase customer satisfaction. Logical consequences when the customer is satisfied with the reliable toothpaste that emphasizes a standardized quality followed with an affordable price can increase the customer satisfaction, it appears in the interest of the buyers to re-purchase over and over again.

The result of this study is also similar to the research of Jahanshahi et al. (2011), and Senthilkumar (2012) which proved that the quality of the product can improve customer satisfaction. This is also supported by the study of Malik et al. (2012) with Ehsani and Ehsani (2015), they said that the price can increase customer satisfaction. The comparisons with previous studies explain that product quality and price has a good level of generality to improve customer satisfaction.

5.3 Customer Value and Customer Satisfaction.

The results proved that customer value could boost customer satisfaction, this means that the toothpaste function to ensure our dental health and freshness in our mouth will increase the interest of customers to buy again. Functional toothpaste products which are able to create oral health could make the customers to re-
purchase. Toothpaste is a daily necessity, the people who once bought a toothpaste product and felt the benefits of the product will later choose the same product with the same brand and even choose the same seller as well. Therefore, toothpaste product can be categorized as a convenience product. The link between customer value and customer satisfaction has proven a high impact; the better the customer value, the higher the customer satisfaction. The results of this study do not differ from the research of Sugiarti et al. (2013), even though it was conducted in a different location, it has proven that customer value can improve customer satisfaction in Indonesia.

5.4 The Role of Customer Value
The research found that product quality and price is able to boost customer value where it ultimately creates a customer satisfaction. The meaning behind that statement is that customer is an important part of this discussion. The facts show that the quality and price of the product becomes an option to increase customer satisfaction. However, in Bekasi, product quality increased customer satisfaction better than the price. When the quality and price is in accordance with customer expectations, the customer will be satisfied without examining the value of the product. This means that the functional value of the toothpaste product is not enough to be a proper major consideration in satisfying the customer of toothpaste product. While at the same time, it is precisely the quality of the product itself that create a satisfaction in advance. Why? The functional value of a dental product still could not explain the value of the product. This is because of the competition among toothpaste products, which the market or buyers are faced with various brands of toothpaste and even some outlet in Bekasi offer a cheaper price.

Conclusion and Future Research
From this, we can pull out a conclusion that a better product quality through the conformity of product and competitive price through affordable price can increase customer value. By considering the functional value of the product, it will ensure the maintenance of healthy teeth and freshness of the mouth and increase customer satisfaction, so that customers are interested in re-purchase. The important finding from this research is that the functional value of toothpaste product is still not enough to be the proper major consideration in satisfying the customers. However, it is precisely the quality of the product that complies a standardization of a toothpaste which could create a satisfaction.

Based on the observations above, toothpaste industry produces a daily necessity product which has a high level of competition. Therefore, the manufacturers need some efforts to improve the product competitiveness. Related to the design of structural equation modeling in this study, future researchers are advised to test the product competitiveness as the mediator of customer value towards customer satisfaction. The research of Respati (2010) explained that the power of product competitiveness can be measured by several indicators such as conformance to design specification, product performance, product durability, and product reliability. The structural equation model for future research is presented in Figure 3.

Figure 3. The Conceptual Framework for Future Research

Note:
PQ = Product Quality; P = Price; CV = Customer Value; DSP = Product Competitiveness; CS = Customer Satisfaction
Appendix 1. Overall Research Results

X1 = Product Quality; X2 = Price; Y1 = Customer Value; Y2 = Customer Satisfaction

References


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