Physical Environment and Food Safety on Loyalty through Customer Satisfaction at Fast Food Restaurant “X” in North Jakarta

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Abstract: The market potential for fast food restaurants in Indonesia is large. Fast food restaurant “X” in North Jakarta which is one of the fast food restaurants in Indonesia has four competitors that becomes a challenge. Therefore, this fast food restaurant can build good relationships with customers, so customer loyalty can be achieved. Customer loyalty can be influenced by physical environment and food safety through customer satisfaction. Furthermore, customer loyalty can be influenced by customer satisfaction. Customer satisfaction can be influenced by physical environment and food safety. Thus, this research aims to test the influence of physical environment and food safety on customer satisfaction; test the influence of customer satisfaction on customer loyalty; and examine the role of customer satisfaction in mediating the influence of physical environment and food safety on customer loyalty. The study population is customers from fast food restaurant “X” in North Jakarta. 140 people as the research respondents were examined. The sampling method used is non-probability with purposive sampling technique. The research instruments used are questionnaires via Google Form. The data analysis technique used is SEM using SmartPLS software. The results are physical environment and food safety have positive influence on customer satisfaction, customer satisfaction has positive influence on customer loyalty, and physical environment and food safety have positive influence on customer loyalty through customer satisfaction. Hence, fast food restaurant “X” in North Jakarta must pay attention to the physical environment and food safety because these can increase customer satisfaction and ultimately maintain customer loyalty.
Introduction

The market potential for fast food restaurants in Indonesia is large. It can be known based on the data from Mordor Intelligence (2022) that the Indonesian foodservice market was valued at US$34,985.26 million in 2022. In this market, four out of five market leaders are fast food restaurants, namely Domino's Pizza Inc., McDonald's Corporation, HokBen, and Yum! Brands Inc., (Kentucky Fried Chicken or KFC, Pizza Hut, and Taco Bell). One of the fast food restaurants in Indonesia is fast food restaurant “X”. This fast food restaurant has four competitors which becomes a challenge to attract customers’ attention. Customers are the main sources for companies to gain profits. This is because without customers, companies will not be able to run and develop their businesses properly. Therefore, companies can build good relationships with customers, so that customer loyalty can be achieved. Customer loyalty means customers’ faithfulness in buying from a company continuously even though these customers are faced with the same kind of products or services from the other companies (Omoregie et al., 2019). Customer loyalty can be influenced by physical environment and food safety through customer satisfaction (Gabriela & Tan, 2022; Cha & Borchgrevink, 2018). Furthermore, customer satisfaction is no less important for companies because customer loyalty can be influenced by customer satisfaction (Cha & Borchgrevink, 2018; Cheng et al., 2019; Mohd-Any, 2019).

Physical environment has positive influence on customer loyalty through customer satisfaction (Gabriela & Tan, 2022). Moreover, food safety has positive influence on customer loyalty through customer satisfaction (Cha & Borchgrevink, 2018). Customer satisfaction has positive influence on customer loyalty (Cha & Borchgrevink, 2018; Cheng et al., 2019; Mohd-Any et al., 2019). However, Dewi (2020) and Yuliani & Rahyuda (2021) stated that customer satisfaction does not have positive influence on customer loyalty. Customer satisfaction can be influenced by physical environment and food safety (Ryu & Han, 2010; Ali et al., 2016; Cha & Borchgrevink, 2018; Wei, 2021). Physical environment has positive influence on customer satisfaction (Ryu & Han, 2010; Ali et al., 2016). However, Singh et al. (2021) stated that physical environment does not have positive influence on customer satisfaction. Furthermore, food safety has positive influence on customer satisfaction (Cha & Borchgrevink, 2018; Wei, 2021). However, Harianto & Berlianto (2022) stated that food safety does not have positive influence on customer satisfaction. This study aims to test the influence of physical environment and food safety on customer satisfaction at fast food restaurant "X" in North Jakarta, the influence of customer satisfaction on customer loyalty at fast food restaurant "X".
in North Jakarta, and the influence of physical environment and food safety on customer loyalty through customer satisfaction at fast food restaurant "X" in North Jakarta.

**Literature Review**

**Physical Environment and Customer Satisfaction**

According to Avan et al. (2019), physical environment is the environment in which interpersonal interactions occur along with all the stages that start from the production of products or services to the delivery of these products or services for the consumers. This statement is supported by the definition of physical environment according to Bitner (1992), namely the physical place where the delivery of products or services takes place and how this place affects customers and employees in the company. Meanwhile, the definition of physical environment according to Han & Ryu (2009), namely the physical conditions made by humans, which can be controlled by the restaurant owners, as opposed to the natural environments. In conclusion, physical environment is the physical condition of a company that starts from the production of products or services to the provision of these products or services for the customers. Customers are more satisfied when they believe that the physical environment of a restaurant represents quality, such as attractive interior design or décor and pleasant music, color, or lighting (Ryu & Han, 2010). When customers feel good about the physical environment of a company, the joy it brings can raise the customers’ level of satisfaction (Ali et al., 2016). Customers who eat out at a restaurant perceive the physical surrounding of a restaurant consciously or unconsciously before, during, and after the meal. A pleasant physical environment, which includes décor, artifacts, layout, and music, may influence the level of customer satisfaction. Thus, a good physical environment has the potential to improve customer satisfaction. The following hypothesis is proposed:

**H1:** Physical environment has positive influence on customer satisfaction.

**Food Safety and Customer Satisfaction**

Food safety is food hygiene, which includes processing, preparation, and handling of food to ensure that the food is safe for consumption (Griffith, 2006). Similarly, according to Lawley et al. (2012), food safety is the practice of ensuring that foods do not harm consumers. Meanwhile, the definition of food safety according to Cha & Borchgrevink (2018) is subjective assessment that is related to the safety of food in the places to eat. Therefore, food safety is customers’ subjective assessment of practices in a company to ensure that the food is safe and harmless to be consumed by these customers. When customers visit a restaurant, they look for...
other obvious signs to perceive and judge their degree of food safety (Adam et al., 2014). Customers expect the food provided by restaurants to be safe, and hence their perception of food safety is a key factor in determining how satisfied they are with the restaurants (Liu & Jang, 2009). The cleanliness and the food hygiene of a restaurant are associated with customers’ satisfaction (Wei, 2021). Customers will be more satisfied with a restaurant if it can give an emphasis to the importance of appearance and cleanliness when serving food. For that reason, customer perceptions of food safety has the possibility to increase customer satisfaction. The following hypothesis is proposed:

H2: Food safety has positive influence on customer satisfaction.

Customer Satisfaction and Customer Loyalty

According to Gonzalez (2019), customer satisfaction is the extent to which customers feel pleasure and satisfaction with the products and services provided by a company. Likewise, according to Jamal & Naser (2003), customer satisfaction is the feeling or attitude of customers on products or services after use. Meanwhile, the definition of customer satisfaction according to Oliver (2015) is a response to fulfill customers’ orders in the form of assessments that the features of products/services or the products/services have provided or is providing levels of satisfaction related to the consumption-related fulfillment, including levels of satisfaction that are lack or excess. Hence, customer satisfaction is customers’ emotional responses that appear from comparisons between their expectations of products or services and their feelings after using the products or services. Customers from a restaurant who are satisfied with their dining experience are more likely to revisit, recommend, or leave good reviews for the restaurant (Cha & Borchgrevink, 2018). Customer satisfaction is a need for developing customer loyalty (Cheng et al., 2019). Customers with higher satisfaction will make future purchases from the same company (Mohd-Any et al., 2019). Satisfied customers tend to be loyal to the company they choose because when customers have a good experience, such as feeling satisfied, they will repurchase from a company that has satisfied them, and even recommend it to others. Thus, customer satisfaction can increase customer loyalty. The following hypothesis is proposed:

H3: Customer satisfaction has positive influence on customer loyalty.

Physical Environment and Customer Loyalty through Customer Satisfaction

The customers’ perception of the physical environment of a company that includes layout, atmosphere, and attractiveness of decoration will affect customers’ loyalty if mediated by customer satisfaction (Gabriela & Tan, 2022). Customers who perceive that the environment
of a company is clean; the arrangement of the tables and chairs provides adequate space; and the lighting, the temperature, and the aroma in the room provide comfort may create customer loyalty through customer satisfaction. The following hypothesis is proposed:

H4: Physical environment has positive influence on customer loyalty through customer satisfaction.

Food Safety and Customer Loyalty through Customer Satisfaction

Restaurant foods that are considered safe for consumption by customers can create customer loyalty if mediated by customer satisfaction (Cha & Borchgrevink, 2018). Customers who perceive that the food from a restaurant are safe for consumption, believe in the quality of the food, optimistic about the safety of the food, and perceive that the food are fresh will create customer loyalty if mediated by customer satisfaction. The following hypothesis is proposed:

H5: Food safety has positive influence on customer loyalty through customer satisfaction.

Based on the explanation above, Figure 1 below shows the research model.

![Figure 1 Research Model]
Research Method

The customers from fast food restaurant “X” in North Jakarta is the population of this research. This research uses non-probability sampling method with purposive sampling technique. Purposive sampling is a sampling that selects a certain people who are able to provide the information needed because only them who have the information or meet several criteria made by the researcher (Bougie & Sekaran, 2020). The criteria include customers who have visited fast food restaurant “X” in North Jakarta for at least three times with the age range 15 to 66 years. The sample size of this research is 140. The sampling in this research was carried out by distributing questionnaires using Google Forms to respondents via social media. Moreover, questionnaires were also distributed to respondents who were at fast food restaurant “X” in North Jakarta by showing a QR code that contains the link of the questionnaire. This research uses four variables, namely physical environment that is measured by five indicators adapted from previous studies (Han & Ryu, 2009; Singh et al., 2021; Zhong & Moon, 2020), food safety that is measured by five indicators adapted from previous studies (Liu & Grunert, 2020; Wei, 2021; Yu et al., 2017), customer satisfaction that is measured by five indicators adapted from previous studies (Jin et al., 2012; Lam et al., 2004; Rodríguez-López et al., 2020), and customer loyalty that is measured by five indicators adapted from previous studies (Cakici et al., 2019; Han & Ryu, 2009; Jin et al., 2012). The data analysis technique used is SEM using SmartPLS software. The data processing in this research consists two analyses, namely the outer model and the inner model.

Results and Discussions

Outer Model

The outer model testing consists of testing convergent validity (Average Variance Extracted), discriminant validity (Heterotrait-Monotrait ratio), and reliability (Cronbach's Alpha and Composite Reliability). The results of the convergent validity test are displayed in Table 1 below.

Table 1 Convergent Validity

<table>
<thead>
<tr>
<th>Variable</th>
<th>Average Variance Extracted</th>
</tr>
</thead>
<tbody>
<tr>
<td>Food Safety</td>
<td>0.542</td>
</tr>
<tr>
<td>Customer Satisfaction</td>
<td>0.610</td>
</tr>
<tr>
<td>Physical Environment</td>
<td>0.550</td>
</tr>
<tr>
<td>Customer Loyalty</td>
<td>0.686</td>
</tr>
</tbody>
</table>
Based on the test results above, it can be known that that each variable has a value of Average Variance Extracted (AVE) that is above 0.50 (>0.50). Thus, it has met the criteria of convergent validity that is measured by the value of Average Variance Extracted. The results of the discriminant validity test are displayed in Table 2 below.

**Table 2 Discriminant Validity**

<table>
<thead>
<tr>
<th>Food Safety</th>
<th>Customer Satisfaction</th>
<th>Physical Environment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Food Safety</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Customer Satisfaction</td>
<td>0.712</td>
<td></td>
</tr>
<tr>
<td>Physical Environment</td>
<td>0.667</td>
<td>0.808</td>
</tr>
<tr>
<td>Customer Loyalty</td>
<td>0.488</td>
<td>0.802</td>
</tr>
</tbody>
</table>

Based on the test results above, it can be known that all values of Heterotrait-Monotrait Ratio (HTMT) for each indicator are below 0.90 (<0.90). Thus, all indicators of each variable can be accepted. The results of the reliability test are displayed in Table 3 below.

**Table 3 Cronbach’s Alpha and Composite Reliability**

<table>
<thead>
<tr>
<th>Variable</th>
<th>Cronbach’s Alpha</th>
<th>Composite Reliability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Food Safety</td>
<td>0.789</td>
<td>0.855</td>
</tr>
<tr>
<td>Customer Satisfaction</td>
<td>0.840</td>
<td>0.886</td>
</tr>
<tr>
<td>Physical Environment</td>
<td>0.797</td>
<td>0.859</td>
</tr>
<tr>
<td>Customer Loyalty</td>
<td>0.886</td>
<td>0.916</td>
</tr>
</tbody>
</table>

Based on the test results above, it can be known that each item that is used in measuring the variables has a value of Cronbach’s Alpha above 0.60 (>0.60), so it can be said that the indicators or the items that are used to measure the variables are reliable. Moreover, each item that is used in measuring the variables has a value of Composite Reliability above 0.60 (>0.60), so it can be said that the variables are reliable.

**Inner Model**

The results of the coefficient of determination test are displayed in Table 4 below.

**Table 4 Coefficient of Determination**

<table>
<thead>
<tr>
<th>Variable</th>
<th>( R^2 )</th>
</tr>
</thead>
<tbody>
<tr>
<td>Customer Satisfaction</td>
<td>0.529</td>
</tr>
<tr>
<td>Customer Loyalty</td>
<td>0.498</td>
</tr>
</tbody>
</table>

Based on the test results above, it can be known that there is a \( R^2 \) with a value of 0.529 which explains that 52.9% of customer satisfaction can be explained by physical environment and
food safety, whereas 47.1% can be explained by the variables that aren’t studied in the present research. Furthermore, there is a R2 with a value of 0.498 which explains that 49.8% of customer loyalty can be explained by customer satisfaction, whereas 50.2% can be explained by the variables that aren’t studied in the present research. Furthermore, to test the inner model, it is necessary to test the hypotheses which can be obtained from the path coefficients values and the p values. The results of the hypotheses test are displayed in Table 5 below.

<table>
<thead>
<tr>
<th>Hypothesis</th>
<th>Hypothesis Statement</th>
<th>Path Coefficient Value</th>
<th>P Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>H1</td>
<td>Physical Environment → Customer Satisfaction</td>
<td>0.491</td>
<td>0.000</td>
</tr>
<tr>
<td>H2</td>
<td>Food Safety → Customer Satisfaction</td>
<td>0.329</td>
<td>0.000</td>
</tr>
<tr>
<td>H3</td>
<td>Customer Satisfaction → Customer Loyalty</td>
<td>0.706</td>
<td>0.000</td>
</tr>
</tbody>
</table>

Based on the test results above, it can be known that all hypothesis are supported because the p values are below 0.05 (<0.05) and the path coefficients values are above 0 (>0). The next inner model test in this research is mediation hypothesis test. The results of the mediation hypothesis test are displayed in Table 6 below.

<table>
<thead>
<tr>
<th>Hypothesis</th>
<th>Hypothesis Statement</th>
<th>Path Coefficient Value</th>
<th>P Value</th>
<th>Mediation Analysis</th>
</tr>
</thead>
<tbody>
<tr>
<td>H4</td>
<td>Physical Environment → Customer Satisfaction → Customer Loyalty</td>
<td>0.314</td>
<td>0.000</td>
<td>Full mediation</td>
</tr>
<tr>
<td></td>
<td>Physical Environment → Customer Loyalty</td>
<td>0.104</td>
<td>0.153</td>
<td></td>
</tr>
<tr>
<td>H5</td>
<td>Food Safety → Customer Satisfaction → Customer Loyalty</td>
<td>0.212</td>
<td>0.000</td>
<td>Full mediation</td>
</tr>
<tr>
<td></td>
<td>Food Safety → Customer Loyalty</td>
<td>-0.005</td>
<td>0.473</td>
<td></td>
</tr>
</tbody>
</table>

Based on the test results above, it can be known that all hypotheses are supported because the p values are below 0.05 (<0.05) and the path coefficients values are above 0 (>0). Furthermore, the fourth hypothesis and the fifth hypothesis are full mediation because the indirect effects are significant, whereas the direct effects are not significant.
Discussion

Based on the first hypothesis’s test result, it can be stated that physical environment has positive influence on customer satisfaction at fast food restaurant “X” in North Jakarta because the p value is 0.000 which is below 0.05 and the path coefficient value is 0.491. Thus, H1 is supported. This result is in line with previous research (Ryu & Han, 2010; Ali et al., 2016) which showed that physical environment has positive influence on customer satisfaction. Therefore, the customers from fast food restaurant “X” in North Jakarta perceive that the restaurant’s environment is clean, the arrangement of the tables and chairs provides adequate space, the lighting in the room provides comfort, the temperature in the room provides comfort, and the aroma in the room provides comfort then these make customers feel satisfied with the dining experience at the restaurant.

Based on the second hypothesis’s test result, it can be stated that food safety has positive influence on customer satisfaction at fast food restaurant “X” in North Jakarta because the p value is 0.000 which is below 0.05 and the path coefficient value is 0.329. Therefore, H2 is supported. This result is in line with previous research (Cha & Borchgrevink, 2018; Wei, 2021) which showed that food safety has positive influence on customer satisfaction. Thus, the customers from fast food restaurant “X” in North Jakarta perceive that the chances of getting the diseases caused by the restaurant’s food is small, perceive that the food are safe for consumption, believe in the quality of the food, optimistic about the safety of the food, and perceive that the food are fresh then these make customers feel satisfied with the restaurant.

Based on the third hypothesis’s test result, it can be stated that customer satisfaction has positive influence on customer loyalty at fast food restaurant “X” in North Jakarta because the p value is 0.000 which is below 0.05 and the path coefficient value is 0.706. Thus, H3 is supported. This result is in line with previous research (Cha & Borchgrevink, 2018; Cheng et al., 2019; Mohd-Any et al., 2019) which showed that customer satisfaction has positive influence on customer loyalty. Therefore, the customers from fast food restaurant “X” enjoy eating at the restaurant, perceive that their choice to dine at the restaurant is a wise choice, happy with their decision to dine at the restaurant, perceive that the dining experience at the restaurant meets their expectations, and feel satisfied with the dining experience at the restaurant then these make customers willing to continue to choose to dine at the restaurant even though there are other alternatives.

Based on the fourth hypothesis’s test result, it can be stated that physical environment has positive influence on customer loyalty through customer satisfaction at fast food restaurant “X” in North Jakarta because the p value is 0.000 which is below 0.05 and the path coefficient value is 0.314. Therefore, H4 is supported. The mediation is a full mediation, which means
that physical environment has positive influence on customer loyalty through customer satisfaction at fast food restaurant “X” in North Jakarta, whereas physical environment does not have positive influence on customer loyalty at fast food restaurant “X” in North Jakarta. The fourth hypothesis is supported by previous research (Gabriela & Tan, 2022) which showed that physical environment has positive influence on customer loyalty through customer satisfaction. Thus, the customers from fast food restaurant “X” perceive that the restaurant’s environment is clean, the arrangement of the tables and chairs provides adequate space, the lighting in the room provides comfort, the temperature in the room provides comfort, and the aroma in the room provides comfort then these can create customer loyalty if mediated by customer satisfaction.

Based on the fifth hypothesis’s test result, it can be stated that food safety has positive influence on customer loyalty through customer satisfaction at fast food restaurant “X” in North Jakarta because the p value is 0.000 which is below 0.05 and the path coefficient value is 0.212. Hence, H5 is supported. The mediation is a full mediation, which means that food safety has positive influence on customer loyalty through customer satisfaction at fast food restaurant “X” in North Jakarta, whereas food safety does not have positive influence on customer loyalty at fast food restaurant “X” in North Jakarta. The fifth hypothesis is supported by previous research (Cha & Borchgrevink, 2018) which showed that food safety has positive influence on customer loyalty through customer satisfaction. Therefore, the customers from fast food restaurant “X” in North Jakarta perceive that the chances of getting the diseases caused by the restaurant’s food is small, perceive that the food are safe for consumption, believe in the quality of the food, optimistic about the safety of the food, and perceive that the food are fresh then these can create customer loyalty through customer satisfaction.

Conclusion

The conclusions that can be drawn from this research are physical environment has positive influence on customer satisfaction at fast food restaurant “X” in North Jakarta, food safety has positive influence on customer satisfaction at fast food restaurant “X” in North Jakarta, customer satisfaction has positive influence on customer loyalty at fast food restaurant “X” in North Jakarta, physical environment has positive influence on customer loyalty through customer satisfaction at fast food restaurant “X” in North Jakarta, and food safety has positive influence on customer loyalty through customer satisfaction at fast food restaurant “X” in North Jakarta. It is expected that fast food restaurant “X” in North Jakarta will be able to improve the physical environment and the food safety, so that customer satisfaction can be increased which will then lead to customer loyalty.
References


