TESTING THE EFFECTS OF FOOD QUALITY, PRICE FAIRNESS, AND PHYSICAL ENVIRONMENT ON CUSTOMER SATISFACTION IN FAST FOOD RESTAURANT INDUSTRY

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Abstract
Building customer satisfaction is considered to be a key priority for business success. Therefore, determining the factors that affect customer satisfaction is important. This paper was designed to examine the effects of food quality, price fairness and physical environment on customer satisfaction in fast food restaurant industry in Malaysian market. The data were collected from 242 customers of international fast food restaurants in east coast Malaysia. The collected data were analysed using SPSS and structural equation modelling (SEM). The findings indicated that food quality has a significant positive effect on customer satisfaction. Moreover, the findings revealed that price fairness and physical environment have significant positive effects on customer satisfaction. These findings provide useful suggestions and guidelines for the policy makers in fast food restaurant industry and confirm the importance of the selected factors in affecting customer satisfaction.

1. INTRODUCTION
Customer satisfaction has received significant attention from several marketing practitioners and scholars and is considered as a key indicator of a brand’s past, present, and future performance (Oliver, 1999). According to Dube et al. (1994), customer satisfaction is “an indicator of whether customers will return to a restaurant” (p. 39). Similarly, Vavra (1997) reported that “customer satisfaction is the leading criterion for determining the quality delivered to customers through the product/service and by the accompanying servicing”. Furthermore, Homburg and Stock (2004) described customer satisfaction as the degree to which a product or service fulfils or exceeds the expectations of customers. Customer satisfaction is established as one of the most widely researched constructs in marketing studies. In general, customer satisfaction is related to two primary aspects; customer’s assessment of product or service quality, and his/ her perception toward the interaction experience with the brand’s service provider (Dapkevicius & Melnikas, 2009).

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The rapidly changing competitive market environment in the hospitality industry has urged restaurant managers to search for the best strategies to build customer satisfaction in order to sustain their businesses and stay competitive. Building customer satisfaction is considered nowadays as a key priority for brand success and performance. For example, in the food and beverage industry, service quality and product quality were considered as the key factors in determining customer satisfaction. Namkung and Jang (2007) regarded food quality as a key factor that affects customers’ overall evaluations toward a restaurant and repurchase intention. The quality of food is deemed to be evaluated based on the taste, freshness, and how the food is being presented to customers. Physical environment is another important factor that gets the attention of customers in restaurant industry. Ryu et al. (2012) stated that the quality of a restaurant’s food and its physical environment were significant factors in predicting the perceived value and satisfaction of customers. Additionally, the perception of a fair or affordable price has a positive impact on consumer brand associations (Beristain & Zorrilla, 2011)

The ability to manage customer satisfaction and enhance customer loyalty seems to be very crucial in improving restaurants ‘competitiveness. For this reason, it has become vital for policy makers to address the key factors that could have significant effects on satisfaction and business performance. Although the literature established that price fairness and food quality had significant effects on customers’ satisfaction; there is still few empirical research on this link (Dapkevicius & Melnikas, 2009). Therefore, this paper is designed to investigate the effects of food quality, price fairness, and physical environment on customer satisfaction in fast food restaurant industry. The next section starts by the literature review, then methodology and analysis of results follow. Finally, discussion of results and conclusion are presented.

2. LITERATURE REVIEW

2.1. Customer satisfaction
In this competitive era, strengthening customer satisfaction is viewed as a key strategic issue for organizations. According to Sabir et al. (2014), customer satisfaction has become the most significant aspect in the field of business, because satisfied customers have significant impact on the profits of business. Gregory et al. (1997) also stated that meeting customers’ expectations reinforces restaurant’s competitive advantage and enable it to compete with other rivals. Lee (2004) added that customer satisfaction represents the main indicator of a firm’s performance and long-term commitment. That is, customers who feel satisfied about a brand’s products are likely to purchase the same products from that brand frequently and recommend them to others (Oliver & Swan, 1989; Reichheld & Teal, 1996). Previous literature also supported that customer satisfaction can influence the trust of customers (Hanaysya & Hilman, 2015) as well as their future purchase behaviour (Clemes et al., 2008; Cronin & Taylor, 1992). Additionally, higher degree of customer satisfaction will lead to better economic returns, such as return on investment, profitability, and market share (Anderson et al., 1994).

There are several definitions being suggested for customer satisfaction in the prior literature. For instance, Hui and Zheng (2010) described satisfaction as the overall evaluation or judgment of customers towards the quality of products or services offered by a service provider. Hansemark and Albinsson (2004) also referred customer satisfaction to the overall assessment of customers towards the products or services of a brand and their emotional reactions regarding the capability of that brand in fulfilling some of their needs and desires. Similarly, Kotler (2000) thought about satisfaction as “a person’s feeling of pleasure or disappointment resulting from comparing a product’s perceived performance (or outcome) in relation to his or her expectations”. Rahman et al. (2012) demonstrated that customer satisfaction can be explained based on the feelings of happiness, acceptance, relief, delight, and pleasure. The authors added that customers’ satisfaction is likely to be established after evaluating the products and services of a brand in meeting certain needs and wants.
2.2. Food quality

Food quality has largely been acknowledged as an important component in the operation of any restaurant, and therefore, it has a main influence on customer satisfaction and future purchase intention (Namkung & Jang, 2007). There is a considerable agreement among a number of scholars that food quality plays an important role in determining customer loyalty and brand image. In other words, superior food quality is a key marketing tool that can be employed to satisfy and retain customers and further ensure their positive purchase experience. Sulek and Hensley (2004) demonstrated that when consumers tend to decide on visiting a fast food restaurant, they are likely to consider food quality, as it plays a key role in reflecting the core attributes of that restaurant. Similarly, Vangvanitchayakorn (2000) indicated that food quality represents the foremost important criteria in consumer's overall evaluation of a restaurant. Furthermore, Peri (2006) demonstrated that food quality is an important ingredient that should be provided by restaurants in order to meet the needs and satisfaction of customers. An extensive review of past literature indicates that the common characteristics of food quality emphasize that it comprises several elements such as: the presentation of food, taste, diversity of choices, healthy options, freshness, and temperature.

Food quality has widely been considered as an essential aspect in the success of any restaurant (Liu & Jang, 2009). Past studies reported that food quality had direct positive effect on customer satisfaction (Canny, 2014; Namkung & Jang, 2007; Nasir et al., 2014). Susskind and Chan (2000) also found that food quality was one of the significant determinants of customers’ evaluations toward a restaurant. Similarly, Kivela et al. (2000) underlined the significance of providing healthy foods in restaurants and advised to put sufficient emphasis on nutritious food as one of the fundamental aspects for building customer satisfaction. Peri (2006) also considered food quality as an essential condition to fulfill various expectations and needs for customers. Furthermore, Gagić et al. (2013) found that food quality was a key contributor to customer satisfaction and behavioral intention. From the above discussion, the following hypothesis is proposed as follows:

H1: Food quality has positive effect on customer satisfaction.

2.3. Price fairness

Price has widely been accepted as an important marketing factor that influences consumer behavior. While brands put high efforts to exploit their business profits typically based on the price of their product or services, consumers tend to search for the best priced products and services which would deliver maximum values for them. Certain scholars confirmed that the perception of price fairness has a significant effect on the reactions of customers to strategic decisions related to pricing (Sinha & Batra, 1999; Kahneman et al., 1986). As defined by Xia et al. (2004), the perceptions of price fairness refer to consumers’ overall assessments of whether the offered price of a product or service of a seller is really reasonable, can be accepted or justified. Particularly, customers are likely to rely on various reference sources to make better judgments such as cost of goods sold, previous prices, and rivals’ prices when evaluating price fairness in order to form comparisons (Bolton et al., 2003). The rational facet of this definition reveals that the evaluation of price fairness involves comparing the price with a certain standard or reference. For instance, customers usually do benchmarks or reference prices in several ways such as recalling past transactions, looking at competitors’ prices, seller costs, or through observing the prices paid by other customers (Briesch et al., 1997).

According to Anderson et al. (1994), the prices of a product or service can affect the degree of satisfaction among customers, because whenever they assess the given value of a purchased product or service, they tend to consider its price. Similarly, Campbell (1999) considered price fairness as a key factor that influences brand image, and therefore, perceived price unfairness may lead to negative word of mouth and switching behavior. Rothenberger (2015) also found that customers’ perceptions of unfair prices lead to negative outcomes, such as: higher degree of dissatisfaction, lower levels of repurchase behavior, negative word of mouth, and increased customers’ complaints. Greater support was reported by certain scholars (Herrmann et al., 2007; Kaura, 2012) who found that price fairness had a significant positive effect on customer satisfaction. Therefore, based on the above discussion, the following hypothesis is presented:
2. Physical environment

Physical environment is another aspect in which a restaurant can build its competitive advantage. Physical environment consists of all the tangible and intangible elements that exist inside and outside a restaurant. To improve the physical environment, the restaurants’ managers should invest substantially on interior designs; decorations, floor cleanliness, and other accessories, because such expenditures are the most important investments for attracting customers (Azim et al., 2014). Additionally, ambient environment includes intangible background features that have significant influence on consumers’ perceptions and relative responses towards the environment of a service provider (Nguyen & Leblanc, 2002). Such intangible features consist of temperature, lighting, scent, noise, quality of air and music (Bitner, 1992). A well maintained physical environment in a restaurant should then provide distinctive customers’ experiences and makes them willing to revisit the restaurant frequently. Choi et al. (2013) highlighted that the elements of physical environment include aesthetics, the surroundings, functionality, and convenience.

The significance of constructing a good-looking physical environment has received high emphasis from several scholars and restaurants’ managers considering it as an important factor for reinforcing and increasing the satisfaction of customers in the hospitality industry (Ryu & Han, 2010). Past studies found that the physical quality of a restaurant’s environment has a positive influence on the satisfaction of customers (Nasir et al., 2014). According to Canny (2014), physical environment is a key marketing factor for differentiating a restaurant by establishing a remarkable customer experience with a pleasant and comfortable atmosphere. Therefore, physical environment has greater effect on maintaining existing customers as well as attracting new ones. Moreover, a well-designed physical environment is considered to be important for influencing consumers’ pre-purchase decisions as well as their post-purchase behaviour while evaluating their satisfaction towards the quality of products and services of a service provider (Bitner, 1992). From the above discussion of prior literature, the following hypothesis is proposed:

H3: Physical environment has positive effect on customer satisfaction.

3. METHODOLOGY

This study is designed to test the effects of food quality, price fairness, and physical environment on customer satisfaction toward international fast food restaurant brands in east coast region of Malaysia. In relation to that, quantitative research approach was utilized for collecting the relevant data. Specifically, a survey instrument was utilized for obtaining the responses from customers of international fast food restaurants in east coast Malaysia. A total of 384 questionnaires were distributed on the respondents using convenience sampling technique. As the population of respondents exceeded one million, the sample size employed in this study is considered acceptable according to the suggestions of Krejcie and Morgan (1970). Moreover, the selected sample size fulfils the requirements of AMOS which is utilized for data analysis in this study.

In designing the questionnaire, the measurement scales of variables were taken from previous studies. For example, a five-item scale was taken and adapted from the research of Canny (2014) to measure customer satisfaction. To measure food quality, six items were adopted and adapted from Gagić et al. (2013) to fit the context of this study. Moreover, price fairness was measured using four items being taken from Hassan et al. (2013); Namkung and Jang (2010). Finally, a five-item scale was taken from Ryu and Han (2011) to measure physical environment. All of the measurement scales were selected because they had acceptable values of Cronbach’s alpha that is higher than 0.7 (Hair et al., 2010). Moreover, the designed questionnaire was verified by three academicians and two managers from the industry in order to confirm its face validity and obtain useful feedback on the questions. The items were also measured using a five-point Likert scale that ranges between 1 = “strongly disagree” and 5 = “strongly agree”. 

H2: Price fairness has positive effect on customer satisfaction.
4. ANALYSIS OF RESULTS

Out of 384 set of questionnaires being personally distributed on the respondents, only 293 were returned back. The descriptive statistics indicate that approximately 33.1% of the respondents are represented by male, and 66.9% are female. About 19.4% of the respondents came from the age group that ranges between 16 to 25 years, whereas 53.2% represented the age group of 26 to 35 years. The age profile also indicated that 20.5% of the respondents are aged from 36 and 45 years, but 6.9% were 46 years and above. In terms of education characteristics, the frequency table showed that 79 (26.9%) of the participants are holders of high school certificate, 79 (23.6%) hold diploma certificate, 111 (37.9) acquire bachelor degree certificate, and 34 (11.6%) hold postgraduate certificate. Furthermore, 16.3% of the respondents receive an average monthly income of less than RM500, 6.8% receive a monthly income between RM500 and RM1000. Last but not least, those whose average monthly income ranges between RM1000 and RM3000 accounted for 21.2% of total response, whereas 55.7% obtain an income of RM3000 or above in every month.

Examining the reliability of constructs is very important in order to proceed with data analysis. However, this study relied on Cronbach’s alpha procedure which was done using SPSS 19 to calculate the reliability of constructs. The findings confirmed that all constructs achieved the suggested value of Cronbach’s alpha of 0.6 as recommended by Pallant (2007); food quality (0.677), price fairness (0.839), physical environment (0.735), and customer satisfaction (0.889). Therefore, the results of reliability are satisfactory. To examine the convergent validity, confirmatory factor analysis was used (CFA). Specifically, this study relied on AMOS 18 to execute CFA and calculates the factor loadings. CFA instead of EFA was used, because the measurement scales were taken from previous studies and reported at acceptable Cronbach’s alpha. Based on the initial analysis of CFA, the items which had factor loadings of lower than 0.50 were deleted from the measurement model. Consequently, convergent validity of the constructs with the remaining items is confirmed. The analysis also supported the assumptions of the absence of multi collinearity issues between constructs as suggested by Tabachnick and Fidell (2007) since the correlation between any two constructs is below 0.90.

After achieving acceptable fit for the initial measurement model and ensuring that the data is free from multicollinearity issues, the structural model was then drawn on AMOS. As the model requires fulfilling some criterion fit values, several indices were used. As it can be seen in Figure 1, the structural model in general suggests a reasonable fit to the current data. For instance, Chi-square ($\chi^2$) is reported at an acceptable value of 222.421 (p-value = 0.000). Other fit values also fulfilled the assumptions of model fit; Goodness of Fit index (GFI) = 0.836; Comparative Fit Index (CFI) = 0.901, Average Goodness of Fit index (AGFI) = 0.786; and Root Mean Square Error of Approximation (RMSEA) = 0.076. These results reveal that the current structural model adequately fits the data (Hair et al., 2010).
The hypotheses which were presented above were verified using regression table based on the outputs of structural model. As shown in Table 1, the findings indicate that food quality has a significant positive effect on customer satisfaction ($\beta = 0.508$, t-value = 2.389, $p < 0.05$) which means that $H_1$ is supported. The impact of price fairness on customer satisfaction is also positive and statistically significant ($\beta = 0.255$, t-value = 2.464, $p < 0.05$), therefore, $H_2$ is accepted. Moreover, the findings indicated that physical environment has a significant positive effect on customer satisfaction ($\beta = 0.139$, t-value = 4.781, $p < 0.05$), thus, $H_3$ is supported. Overall, food quality, price fairness, and physical environment explain 60% of total variance in customer satisfaction.

<table>
<thead>
<tr>
<th>Hypothesized Effect</th>
<th>Std. Beta</th>
<th>S.E.</th>
<th>C.R.</th>
<th>P</th>
<th>Support</th>
</tr>
</thead>
<tbody>
<tr>
<td>$H_1$: Food quality has positive effect on customer satisfaction</td>
<td>0.508</td>
<td>0.276</td>
<td>2.389</td>
<td>0.016</td>
<td>Yes</td>
</tr>
<tr>
<td>$H_2$: Price fairness has positive effect on customer satisfaction</td>
<td>0.255</td>
<td>0.103</td>
<td>2.464</td>
<td>***</td>
<td>Yes</td>
</tr>
<tr>
<td>$H_3$: Physical environment has positive effect on customer satisfaction</td>
<td>0.139</td>
<td>0.248</td>
<td>4.781</td>
<td>***</td>
<td>Yes</td>
</tr>
</tbody>
</table>

5. DISCUSSION AND CONCLUSION

The main objective of this research was to test the effects of food quality, price fairness, and physical environment on customer satisfaction in fast food restaurant industry. The findings indicated that food quality has a significant positive effect on customer satisfaction. Greater support was reported in certain previous studies (Al-Tit, 2015; Nasir et al., 2014) which confirmed food quality as one of the key drivers of customer satisfaction. Thus, restaurant managers are advised to put significant emphasis on the key attributes of food quality that can stimulate customer satisfaction in the restaurant industry context. For instance, customers tend to evaluate food quality based on certain factors such as: proper freshness, reasonable temperature, variety, taste quality, and attractive presentation. According to Canny (2014), food quality is considered as the main product of restaurants. For this reason, restaurant managers should focus on food quality in order to satisfy their customers and keep their values on the long term.

The findings also revealed that price fairness has a significant positive effect on customer satisfaction, and this is in line with previous research works (Gagić et al., 2013; Herrmann et al., 2013).
2007; Kaura, 2012). In other words, this study confirms that perceived fairness of the price can be considered as one of the key criterions for assessing customer satisfaction in the restaurant industry. As a matter of fact, consumers tend to make some comparisons between diverse brands either before or after purchasing in order to form better judgments about the perceived value and conclude their satisfaction level. The findings of this paper provide restaurant managers with better suggestions to develop superior pricing strategies and effective pricing mechanisms in order to enhance customer satisfaction. Restaurant managers are also advised to put consideration into pricing issues and price adjustments which directly can influence customers’ perceptions. Such practices are likely to enable a restaurant to stay competitive and improve its performance on the long-term.

Finally, the outcomes of this study showed that physical environment has a significant positive impact on customer satisfaction, and were supported by past researches (Gagić et al., 2013; Haery & Badiezadeh, 2014; Nam et al., 2011; Ryu et al., 2012). Haider et al. (2010) also found that physical environment was a key driver of brand preference. This means that customers who have favourable perceptions toward a restaurant’s physical environment are more likely to develop higher degree of satisfaction. Certain scholars illustrated that physical environment is one of the crucial signals that customers tend to use for assessing the value they receive from a restaurant’s offerings (Ali et al., 2013; Yang & Chan, 2010). Therefore, restaurant managers should constantly plan, construct, improve, and observe physical environments to form distinct images about their brands. Additionally, fast food restaurant managers should emphasize on physical environment while designing their marketing strategies in order to attract larger number of customers from different backgrounds. For example, using an attractive decoration in diverse styles can deliver various messages to customers.

There are some limitations in this paper that can be considered in future researches. For instance, convenience sampling methodology was used for collecting the data from respondents; thus, it is suggested that future studies should employ other sampling techniques in order to overcome the issue of generalizability of findings. Second, the data were collected in east coast area of Malaysia, focusing on international fast food restaurants. Further research should include other regions and other categories of restaurants to increase the number of participants and enhance the generalizability. Thirdly, this study was conducted in the restaurant industry; thus, further studies are recommended to include various sectors in hospitality industries. Finally, only three factors were examined as predictors of customer satisfaction in this study; therefore, the inclusion of other marketing factors would be important to widen the generalizability and implications.

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**References**


### Appendix A: Measurement scales of constructs

<table>
<thead>
<tr>
<th>Code</th>
<th>Construct/ Items</th>
<th>Factor loadings</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Food Quality (Cronbach’s Alpha = 0.677)</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>FQ1</td>
<td>The restaurant offers a variety of menu items.</td>
<td>0.581</td>
</tr>
<tr>
<td>FQ2</td>
<td>The food is tasty.</td>
<td>0.569</td>
</tr>
<tr>
<td>FQ3</td>
<td>The food presentation is visually appealing.</td>
<td>0.642</td>
</tr>
<tr>
<td>FQ4</td>
<td>The food is served at the appropriate temperature</td>
<td>0.713</td>
</tr>
<tr>
<td>FQ5</td>
<td>The food is always served fresh.</td>
<td>0.593</td>
</tr>
<tr>
<td>FQ6</td>
<td>The dishes in which the food is served are neat and clean.</td>
<td>0.640</td>
</tr>
<tr>
<td><strong>Price Fairness (Cronbach’s Alpha = 0.839)</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PF1</td>
<td>This restaurant offers the best possible price plan that meets my needs.</td>
<td>0.684</td>
</tr>
<tr>
<td>PF2</td>
<td>The food price charged by this restaurant is reasonable.</td>
<td>0.903</td>
</tr>
<tr>
<td>PF3</td>
<td>The costs in this restaurant seem appropriate for what I get.</td>
<td>0.827</td>
</tr>
<tr>
<td>PF4</td>
<td>Overall, this restaurant provides superior pricing options compared to other service providers.</td>
<td>0.614</td>
</tr>
<tr>
<td><strong>Physical Environment (Cronbach’s Alpha = 0.735)</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PHE1</td>
<td>The interior design and decorations of the restaurant are visually appealing.</td>
<td>0.555</td>
</tr>
<tr>
<td>PHE2</td>
<td>The furniture of the restaurant (e.g., dining table, chair) is clean.</td>
<td>0.732</td>
</tr>
<tr>
<td>PHE3</td>
<td>The temperature in this restaurant is comfortable.</td>
<td>0.518</td>
</tr>
<tr>
<td>PHE4</td>
<td>The seating arrangements in the restaurant are comfortable and give me enough space.</td>
<td>0.572</td>
</tr>
<tr>
<td>PHE5</td>
<td>The restaurant’s lighting and colours create a sense of ambience.</td>
<td>0.645</td>
</tr>
<tr>
<td><strong>Customer Satisfaction (Cronbach’s Alpha = 0.889)</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SATISF1</td>
<td>I am pleased that I have visited this restaurant.</td>
<td>0.758</td>
</tr>
<tr>
<td>SATISF2</td>
<td>I really enjoyed myself at this restaurant.</td>
<td>0.852</td>
</tr>
<tr>
<td>SATISF3</td>
<td>Considering all my experiences with this restaurant, my decision to visit it was wise one.</td>
<td>0.823</td>
</tr>
<tr>
<td>SATISF4</td>
<td>The food quality and services of this restaurant fulfil my expectations.</td>
<td>0.763</td>
</tr>
<tr>
<td>SATISF5</td>
<td>Overall, I am satisfied about this restaurant.</td>
<td>0.738</td>
</tr>
</tbody>
</table>