Influence of Service and Product Quality towards Customer Satisfaction: A Case Study at the Staff Cafeteria in the Hotel Industry

Dayang Nailul Munna Abang Abdullah, and Francine Rozario

Abstract—The main objectives of this study were to identify attributes that influence customer satisfaction and determine their relationships with customer satisfaction. The variables included in this research are place/ambience, food quality and service quality as independent variables and customer satisfaction as the dependent variable. A survey questionnaire which consisted of three parts to measure demographic factors, independent variables, and dependent variables was constructed based on items determined by past research. 149 respondents from one of the well known hotel in Kuala Lumpur, MALAYSIA were selected as a sample. Psychometric testing was conducted to determine the reliability and validity of the questionnaire. From the findings, there were positive significant relationship between place/ambience ($r=0.553**$, $p=0.000$) and service quality ($r=0.544**$, $p=0.000$) with customer satisfaction. However, although relationship between food quality and customer satisfaction was significant, it was in the negative direction ($r=-0.268**$, $p=0.001$). New findings were discovered after conducting this research and previous research findings were strengthened by the results of this research. Future researchers could concentrate on determining attributes that influence customer satisfaction when cost/price is not a factor and reasons for place/ambience is currently becoming the leading factor in determining customer satisfaction.

Keywords—Ambience, Customer Satisfaction, Food Quality, Service Quality.

I. INTRODUCTION

SERVICE quality is an attitude or global judgment about the superiority of a service [1]. To be globally competitive service industries must achieve a quality service that exceeds customers’ expectation. Service quality determines an organization’s success or failure. Companies and organizations that virtually every industry employs customer satisfaction measures for the straightforward reason that satisfied customers are essential for a successful business [2].

Service quality also determines a customer’s satisfaction. However, the determinants of service quality are complicated with the dynamic business environment [3]. Therefore, this measurement dimensions depend on the industry itself.

Service quality is influenced by expectation, process quality and output quality; in other words the standards of service is defined by customers who have experienced that service and used their experience and feelings to form a judgment [4].

In order to achieve a quality service organization, commitment from employees and support from all levels of management is necessary. Therefore, it is important for managers who provide goods or services constantly to keep track of information about the company’s well being as far as meeting its customers’ needs are concerned [5]. Service companies are trying to find ways to improve and provide superior quality service to satisfy their customers [6]. He also mentioned that satisfying customers is an ultimate goal for every company, as customers are the greatest resources, both short-term and long term survival of the company.

Quality plays a significant role in determining and influencing customer satisfaction [5]. There are many types of food service providers such as hotels, restaurants, canteens and cafeterias. Service-based industries such as hotels and restaurants are spending a tremendous effort to measure and improve the service quality of their businesses [7]. All of them share one thing in common, that is to provide customer satisfaction.

Service satisfaction is a function of consumers’ experience and reactions to a provider’s behavior during the service encounter; it is a function of the service setting [8]. This study will be applied in the Malaysian context to identify the quality factors of a food service provider that influences customer satisfaction.

The level of customer satisfaction may be influenced by various attributes from internal and external factors. Customer satisfaction may be identified as internal and external customer satisfaction of an organization. From the literature review, researchers on external customer satisfaction have been identified. However, there seems to also be dissatisfaction of internal customer satisfaction from organization’s point of view. This is an issue that has raised concern among certain organizations who are interested in employees’ welfare.

Such dissatisfaction has been identified through opinion surveys conducted in organizations. These dissatisfactions are based on the facilities provided by the organization for the employees, such as the staff cafeteria. As mentioned by John Feilmeier, director of retail management for Morrison Healthcare Food Service (cited from [9]), we need to run
cafeterias similar to what an outside business or regular restaurant would do.

Many food service providers have a perception that people only go to eating outlets for the food. There is an assumption that the primary reason people go to restaurants is for the meal [10]. Therefore, as long as customers get the food they want, they are satisfied. However, this view may not hold true for those full service restaurant visitors whose main purpose is to transact business or to enjoy the company of cherished others (friends, family, spouse, etc.) [10].

Despite some recent studies in customer satisfaction and service quality, similar investigations in the restaurant industry have remained limited [11]. Internal customer satisfaction with regards to staff cafeteria in Malaysia has gone virtually untouched. This research attempts to clarify the attributes of quality staff cafeteria in influencing internal customer satisfaction by explicitly examining how quality factors, including responsiveness of staff, food quality and restaurant ambience affect internal customer satisfaction. Specifically, this study is designed to answer the following question:

• Does improving the quality of food service provider attributes increase customer satisfaction?
• What are possible factors that may influence customer satisfaction?
• How can these attributes be improved by the organization to increase the level of internal customer satisfaction?

A. Research Objectives

The main objective is to identify the relationship between place/ambience, food quality and service quality of the staff cafeteria, and the internal customer satisfaction.

B. Significance of the Study

Gathering of this data will lead to a better understanding of the influencing level of the attributes on customer satisfaction. The results of this study will not only contribute to the awareness of the relationship between the variables but it will also direct managers in areas for quality improvement to increase customer satisfaction. Through the statistical analysis, a conclusion on the existence of a relationship between qualities attributes of a food service provider and customer satisfaction will be more obvious. In turn, this will either lead to the agreement or disagreement to the adapted and modified Transaction-Specific Model.

II. LITERATURE REVIEW

The literature review is based on researches that have been conducted in other countries. However, the factors analyzed that influence the customer satisfaction in restaurants are the same, for example, all research done in Spain, China, Hong Kong and USA used the basic factors to determine customer satisfaction. Factors that are considered are service quality and product quality. Although these researches used different conceptual frameworks in their research, they are still aligned with the model that has been adapted and modified in this research, which is the Transaction-Specific Model. However, the importance of a particular attribute varies according to the type of restaurant and the type of customer [2].

A. Transaction-Specific Model

![Fig. 1 Transaction-Specific Model](image)

This model was suggested by Teas (1993) and later expanded by Parasuraman, Zeithaml and Berry (1994) – PZB henceforth [10]. This model posits a customer’s overall satisfaction with a transaction to be a function of his or her assessment of service quality, product quality and price [12]. Transaction-specific satisfaction significantly influences overall customer satisfaction [13]. Customers are likely to consider specific aspects of the transaction such as product features (e.g. food quality and restaurant ambience), service features (e.g. responsiveness of the server), as well as price to be satisfied with the overall restaurant experience [10].

The full model was found to be significant [10]. They further state that the results suggested that the model satisfactorily explains customer satisfaction and that full service restaurant owners should focus on three major elements, which are service quality (responsiveness), price and food quality (reliability).

B. SERVQUAL Model

As adapted from the research conducted by Andaleeb and Conway (2006), not all the five dimensions of SERVQUAL were used in this research. This is because not all the dimensions play an important role in determining customer satisfaction in the restaurant industry. In the restaurant industry, the customer’s risk is low given the purchase price, the outcome of the service and the alternatives available. Hence assurance is not as important in this industry. However, there is a possibility of only particular elements of the dimensions relevant to the study. Andaleeb and Conway (2006), acknowledges that elements of assurance – knowledge and courtesy – are important but may have contextually modified meanings.

The dimension empathy may not be applicable in the restaurant industry context [10]. Empathy is defined in the SERVQUAL literature as provision of care and individualized attention that is displayed to each customer [12]. Customers do not want doting server providing personal attention when all they want is to enjoy the food and the company [10]. Therefore, only elements related to the researched industry was used by Andaleeb and Conway (2006). However, this
study will use the transaction specific model in a staff cafeteria where the preference of factors related to customer satisfaction may be different. Therefore, elements of the SERVQUAL Model as well as other factors have been included in this research. Nonetheless, since perception of customer satisfaction will be studied in this research, the SERVPERF Model will be used since its elements are the same as in SERVQUAL. The SERVPERF Model will be further illustrated in the consequent literature review.

C. Models Used to Evaluate Service Quality

A related theory to customer satisfaction that has been adapted by Bartlett and Han (2007) in customer satisfaction is the SERVQUAL model by Parasuraman, Zeithaml & Berry (1991). This model indicates that there are five dimensions used in measuring customer service quality. The dimensions included in this model are tangibles, reliability, responsiveness, empathy and assurance. The tangibles include the physical appearance of the facilities, equipment, personnel and materials used to communicate with customers [14]. Elements within the tangibles dimension are cleanliness, space, atmosphere, appearance of server and location. Measuring element of responsibility and reliability are speed, willingness to respond, accuracy and dependability. The dimension of assurance and empathy may be measured using elements of knowledge, trained professional, communications and caring.

Other models that have been used to evaluate service quality are DINESERVE by Stevens et al (1995, cited from [5]), Two-Way by Schvaneveldt, Enkawa and Miyakawa (1991), SERVPERF by Corin and Taylor (1992), Normed Quality by Teas (1994) and QUALITOMETRO by Franceschini and Rossetto (1997) (cited from [6]). The theoretical background of the Two-Way model uses latent evaluation factors: services quality is evaluated by answers given by customers to questions about “objective” (quality attributes) and “subjective” (satisfaction levels).

The SERVPERF model evaluates service quality by perceptions only, without expectations and without importance weights. While in the Normed Quality model, the problems for expectations become a redefinition of this component and discrimination between ideal expectation and feasible expectation. In the QUALITOMETRO model, customer expectations and perceptions are evaluated in two distinct moments.

Finally in the DINESERVE model, expectations were the measure of this instrument. Quality evaluation according using this model is carried out by means of a comparison between quality expectations and perceptions profiles using MCDA. Although these stated models use different response scales but all of them consist of five dimensions which are tangibles, reliability, assurance, responsiveness and empathy.

A research using the DINESERVE model as a basis was conducted by Aigbedo and Parameswaran (2004). They used this evaluation model in their research where it was a performance-only measure. Their research was conducted in USA regarding importance-performance analysis for improving quality of campus food service. An example of a research conducted using the SERVPERF model is by Soriano (2002) determining customer satisfaction factors in restaurants, a situation in Spain.

D. Attributes of Quality Service to Measure Customer Satisfaction

The research studied in Spain by Soriano (2002), also looks into these main factors. Offering good food and service is not enough to attract and retain consumers [15]. In order to gain a competitive advantage in today’s market; restaurants have to offer meals that offer good value in a favorable ambience [15].

The research done by Bartlett and Han (2007) was based on experiences from dining in China. Their research was based on the SERVQUAL model; however, many items did not fit within those categories or needed to be analyzed further. Other categories that evolved in terms of customer satisfaction in the restaurants in China included quality of dishes and price [14]. They further state that in the restaurant industry both the food and the service quality create the total experience for the consumer.

The research conducted in Hong Kong by Kivela, Inbakaran and Reece (2000), analyzed customer satisfaction factors based on five-dimensions which are first and last impressions, service excellence, ambiance excellence, food excellence and feeling comfortable eating there and reservations and parking [16]. Another Hong Kong research conducted by Pun and Ho (2001), mentioned that the competitive location, prices, food quality and customer services were among the main determinants of people considering the restaurant services.

The purpose of the research conducted in USA by Andaleeb and Conway (2006) was to determine the factors that explain customer satisfaction in the full service restaurant industry. According to them, full service restaurants should focus on three elements which are service quality (responsiveness), price and food quality (reliability) if customer satisfaction is to be treated as a strategic variable.

III. METHODOLOGY

The population was 600 employees which consist of the total number of employees at the hotel, while the number of sample was 149. The type of sampling that was used was simple random sampling.

The type of instrument used in this research was a five-point likert scale questionnaire. The questionnaire was divided into four sections. Section A included demographic factors while section B tested the independent variables (food quality, service quality and place/ambience) and section C tested the dependent variable (customer satisfaction). The five-point likert scale assigned points 1,2,3,4 and 5 to terms of strongly disagree, disagree, neutral, agree and strongly disagree as in the order of the numbers.

The data collected through the questionnaires were analyzed using the Statistical Package for Social Sciences (SPSS) version 14.0. Two major approaches of data analyses being used were descriptive statistic and inferential statistic (Pearson correlation analysis).
A. Results of Pilot Test

<table>
<thead>
<tr>
<th>Measures</th>
<th>Items</th>
<th>Factor Loadings</th>
<th>KMO</th>
<th>Bartlett’s Test of Sphericity</th>
<th>Eigenvalue</th>
<th>Variance Explained</th>
<th>Cronbach’s Alpha</th>
</tr>
</thead>
<tbody>
<tr>
<td>Place/Ambience</td>
<td>6</td>
<td>0.69 to 0.94</td>
<td>0.644</td>
<td>107.708, p = 0.000</td>
<td>4.365</td>
<td>72.742</td>
<td>0.92</td>
</tr>
<tr>
<td>Food Quality</td>
<td>4</td>
<td>0.70 to 0.75</td>
<td>0.667</td>
<td>55.404, p = 0.000</td>
<td>2.837</td>
<td>70.917</td>
<td>0.86</td>
</tr>
<tr>
<td>Service Quality</td>
<td>4</td>
<td>0.65 to 0.71</td>
<td>0.641</td>
<td>22.576, p = 0.000</td>
<td>2.375</td>
<td>59.364</td>
<td>0.77</td>
</tr>
<tr>
<td>Satisfaction</td>
<td>3</td>
<td>0.82 to 0.91</td>
<td>0.708</td>
<td>25.11, p = 0.000</td>
<td>2.349</td>
<td>78.299</td>
<td>0.81</td>
</tr>
</tbody>
</table>

A Crohnbach alpha of more than 0.63 indicates the variables met the acceptable standard of reliability analysis [17]. Items of each variable had factor loadings of 0.50 and above, eigenvalues larger than 1, indicating it met acceptable standard of validity analysis [18]. Values of factor loadings, KMO, Bartlett’s Test of Sphericity, eigenvalue and variance explained assist in determining items from a questionnaire that are valid enough to be used on the actual sample of the research.

IV. FINDINGS & DISCUSSION

A. Demographic Data

The total number of respondents who participated in this research was 149 people. The participants consisted of 53.7% male and 46.3% female. Most of the respondents (46.3%) were in the age range of 25 to 34 years old. Only 4% of respondents were 55 to 64 years old.

Majority of the respondents were Malays (53.0%) followed by Indians (24.8%), Chinese (15.4%) and others which included people from Sabah and Sarawak (6.7%). Most of the respondents (47.0%) participating in the research had rendered their services to this organization between 1 to 5 years. While only 2.7% rendered their services between the range of 16 to 20 years and those in service for 21 years. While only 2.7% rendered their services between the range of 16 to 20 years and those in service for 21 years and above consist of 6%.

B. Results of Pearson Correlation Analysis

Table II shows the results of the analysis from the research conducted. From the results of the significant value p < 0.05, this indicated that there is a relationship between place/ambience and customer satisfaction. The positive value of Pearson correlation, r, indicates that the relationship between place/ambience and customer satisfaction is positive. Therefore, when perception towards place/ambience is good, customer satisfaction will also be high and vice versa.

However, not all past research agree with this finding. For example, the research conducted by Andaleeb and Conway (2006) resulted in physical design not having a significant relationship with customer satisfaction. Physical design in their research was similar to place and ambience in this research. This may be so because the perception of the respondents towards the place and ambience of their cafeteria determined their satisfaction. Nonetheless, most secondary research supported the idea that place/ambience will influence customer satisfaction.

For example, a research conducted by Soriano (2002) in Spain stated that attribute quality of place/ambience were significant (p < 0.05) to customer satisfaction. In the research conducted by Bartlett and Han (2007) in China, they included place/ambience in service quality. Nevertheless, the results indicated that it had an influence on customer satisfaction. They mentioned in their research that cleanliness, space and atmosphere are critical factors for many people. This implies that in order for customers to be satisfied, these factors have to be well managed and gain a positive perception from customers. Furthermore as mentioned previously by Kim, Moreo and Yeh (2004), in their findings atmosphere of dining hall had a positive relationship with customer satisfaction.

Their result supports the findings from this research [19].

In this research, the variable quality of place/ambience is measured through customers’ perceived satisfaction with comfort of the place, noise level, appearance, temperature, cleanliness and layout of furniture in the cafeteria. Hensley and Sulek (2007) also agree with Pun and Ho (2001) stating that customer perceptions may be influenced with proper lighting, temperature and comfortable furnishings. The value of Pearson correlation, r in table 4 is bigger than in table 3 indicating the strength to be greater. This can be explained by Thongsamak (2001), where he mentions that service attributes are more uncertain than the product. In this research, besides food quality, place/ambience is also characterized as product quality. There is a higher variance of making a match between perceived needs and service is greater than perceived needs and product match [6].

** Correlation is significant at the 0.01 level.

Table III shows the results of the analysis from the research conducted on the relationship between food quality and customer satisfaction. The results are aligned with most
Therefore, there is a relationship between service quality and customer satisfaction, where Ho2 was rejected. A research conducted in China by Bartlett and Han (2007) stated that food quality impact customer satisfaction. Soriano (2002) stated that food was significant \( p < 0.05 \) to customer satisfaction. Hensley and Sulek (2007) stated that food quality showed a significant relationship with customer satisfaction. Findings from Andaleeb and Conway (2006) indicated that food quality had a significant relationship with customer satisfaction.

However, unlike the research conducted by Kim, Moreo and Yeh (2004), the findings in this research indicated food quality was significantly negatively correlated with customer satisfaction. The findings from other research instead indicated that food quality had a positive relationship with customer satisfaction. From the results of this research, the negative value suggests that when food quality is not in accordance with perceptions (with negative deviation), customer satisfaction declines. Consequently if food quality is higher than what the customer perceives, customer satisfaction will be adversely affected.

These findings were considered to be unusual as in other research conducted, food quality was found to influence customer satisfaction positively. Therefore, to justify this outcome, opinions of respondents on food quality had to be analyzed from the open ended questions. As satisfaction level of service quality and place/ambience was relatively higher, this may have influenced customers' satisfaction. Even though the food at a restaurant may not be as delicious as other famous restaurants, the customer will recognize the restaurant and tend to be satisfied if the service of the restaurant is excellent [6]. Therefore, customer satisfaction is high although food quality is low. Customers were also not influenced by price factor because the food was free and they could eat as much as they wanted, therefore, customers may not have considered getting their money worth.

Customers may have also perceived the food quality to be low but the food was still edible and they enjoyed their meals causing their satisfaction to be higher. Finally, there could be a possibility that respondents do not consider food quality when determining customer satisfaction. Most of the respondents had rendered their services to the organization between 1 to 5 years and may have therefore not been in the organization long enough to consider food quality as a positive influence on customer satisfaction.

### TABLE IV

<table>
<thead>
<tr>
<th>Variable</th>
<th>Pearson Correlation, ( r )</th>
<th>Significant, ( p )</th>
<th>Mean</th>
<th>Standard Deviation</th>
<th>Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Service quality</td>
<td>0.544**</td>
<td>0.000</td>
<td>3.1544</td>
<td>0.83149</td>
<td>Ho3 rejected</td>
</tr>
</tbody>
</table>

**Correlation is significant at the 0.01 level.**

The results from Table IV indicate that Ho3 was rejected. This is because the significant value \( p \) is less than 0.05. Therefore, there is a relationship between service quality and customer satisfaction. From the positive value of Pearson correlation, \( r \), it can be concluded that service quality has a positive relationship with customer satisfaction. This indicates that when perception of service quality is high, customer satisfaction is also high. This result is supported by past research conducted in other countries in the hotel industry.

Service quality does impact customers overall satisfaction [14]. Service quality was also found to be a significant contributing factor in determining customer satisfaction in the restaurant setting (Baker, Parasuraman, Grewal & Voss, 2002; Pettijohn, Pettijon, & Luke, 1997; Stevens, Knutson, & Patton, 1995; Qu, 1997, cited from [21]). In a research conducted by Kim, Moreo and Yeh (2004), service quality had a positive relationship with customer satisfaction. An empirical analysis by Nicholls, Gilbert and Roslow (1998), suggested that where there is more personal service, there is greater satisfaction in the customer experience. As discovered by Oh (1999, cited from [21], a significant path relationship exists between perceived service quality and customer satisfaction.

Based on the results of this research which is in accordance with past research, customer satisfaction is high when customers perceive the service quality to be good. Good service quality in this context is determined by quickness of correcting problems, reliability of information provided, politeness, friendliness and helpfulness of the cafeteria staff and dining privacy. Therefore, customer satisfaction is influenced by these factors. From this research, it is clear that customer satisfaction increases when they perceive reliability of information provided is high. It is important for cafeteria staff to have personal characters of polite, friendly and helpful in order for customers to feel satisfied.

Not all cafeterias can offer dining privacy but this research suggests that a cafeteria that can offer dining privacy when required can increase customer satisfaction. Prompt service also influences customer satisfaction. Responsiveness may be demonstrated through speed of being entertained, willingness to respond, accuracy and dependability [14]. The willingness to respond when a problem arises increases customer satisfaction because this may show efficiency. Further mentioned by them, it is important for customers to feel business is responsive to their needs. As when a problem is corrected immediately without the customer having to report the problem numerous times, the customer feels satisfied as in their perception, the cafeteria staffs are responding quickly to their dissatisfaction. Server attentiveness influence customer satisfaction as a customer who feels neglected or treated rudely does not want to experience it again [20].

These explanations suggest reasons for service quality to be positively correlated with customer satisfaction. Therefore, when perception of service quality is high, customer satisfaction is high and vice versa.

### V. CONCLUSION

Upon conducting this research, new findings were discovered. However, the main objectives of this research were achieved. The research managed to determine the relationship between qualities attributes of food, service and...
place/ambience with customer satisfaction. From the analysis conducted to test relationships, all three attributes had a significant relationship with customer satisfaction. However, only service quality and place/ambience had a positive relationship. Food quality revealed an unsuspected result of a negative relationship. This result showed that although perception of customers towards food quality was low, their satisfaction was still high.

Finally, to conclude it all, future research is still needed to justify and strengthen the outcomes of this research. There may have been research similar to this topic but the situations in all the researches may be different, including this research. A slight change in the research context could bring about changes in findings. Therefore, future researchers are welcomed to conduct a similar research as this in the same context.

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