

International Business and Management
Vol. 2, No. 1, 2011, pp. 198-208
www.cscanada.net

ISSN 1923-841X [PRINT]
ISSN 1923-8428 [ONLINE]
www.cscanada.org

Food Quality Attributes among Malaysia's Fast Food Customer

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Abstract: This paper examines the attributes which influence customers' decisions to purchase fast food products in Malaysia. Despite vague definition of the 'quality' term by each individual, this study takes a step in determining the customer's significant quality attributes towards the overall food quality dimensions. The findings of the study indicated that generally Malaysian consumers place relatively high level of importance on food freshness, followed by presentation and taste of the food. However, less importance is being placed on innovative food that indirectly could have minimal effect in the customers' behavioral intention towards fast food products. Customers are seen more interested in the output' (which is the end product) rather than 'input' (which is raw materials used in producing the foods) of food. Hence, this study is expected to contribute to the existing knowledge on the dimension of consumer purchase intention to the industry players, as well as academicians. Future research should focus on the similar study with the extended scope to other fast food restaurants in Malaysia. By doing this, hopefully we can get a clearer picture on the existing as well as explore new variables which can further contribute to the topic of the study.

Key words: Freshness; Presentation; Taste; Innovative Food; Fast Food Restaurant

1. INTRODUCTION

The demand of fast food supply is on the increasing trend especially in a society where consumers are busy working. Past researches have shown that most of the working populations are having too little time at home. Therefore, they are demanding a suitable product such as fast food that suits to their lifestyle. Furthermore, the changing stay-at home mothers' going back to work especially during economic downturn in the year 2007-2009 has reduced quality hours time spend with their families (McDaniel, Lamb & Hair, 2011).

The issue of food quality is one that is impacting us today and it is a crucial factor to consumers to become aware of it. We continually read stories of dangers that exist in our food due to additives, improper food preparation and poor food choices. On top of that, additives are used in processed foods to preserve the

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*Received 20 January 2011; accepted 23 February 2011

food so it will stay fresh. Sometimes additives are mixed into food to make it smell, taste or look more pleasing. The consumers' choices of food and eating habit are cultivated based on their customs, culture and religion they live in. However, they can be taught to make healthier choices. Through doing and learning, consumers acquire beliefs and attitudes. As a consequent, it will influence their buying behaviour (Kotler & Armstrong, 2010).

In choosing food, consumers are looking beyond than the physical product alone. Normally, the customers will form their own value and expectations on the various market offerings (Kotler & Armstrong, 2010). They expect and demand more from the food supply. Among the things demanded by consumers are varieties of food, quality, nutritiousness, safe foods and at a reasonable cost.

Restaurant operators fear about the growing concern of customers' expectation in the next years ahead (Dailey, 1998). The search for attributes that customers are looking for can help the management to reduce the chances of failure in the food-service business. Customers have their own reasons to want to visit or to return to any restaurant. Among the attributes that they are constantly seeking are : quality, value and rejuvenating and comfortable environment. To them, offering good food and service are not sufficient to attract new and retain existing consumers. As mentioned by Peri (2006), food quality is a very important key that customers will always look for to satisfy their needs and expectation towards the restaurant they choose. In order to win the competition in today's market, restaurateurs have taken efforts to offer good value of their food and provide customers with a favorable ambience (Soriano, 2002). It will guarantee a continuous demand if the value of the product exceeds the expectation and satisfaction of the customer (Shaharudin, Hassan, Salleh, Ali, Harun, Aziz & Jalil, 2011).

The attributes of food quality depend on the type of food and the individual's food preference itself. The attributes that constitute quality in the mind of the consumer, and especially their weights, may change over time as well (Grunert, 2005). Furthermore, it is difficult to understand the consumer behaviour when it comes to the differences of each individual underlying cognitive determinants on food quality (Rijswijk & Frewer, 2008). According to Grunert, 2005, consumers are often poor at predicting quality and are dissatisfied despite the fact that they act in a situation where they are unable to confirm on their own expectations for a particular product. Perhaps, the past researches were inconsistent on the quality dimensions used in the studies due to this reason. For better understanding, table 1 below shows the summary of food quality dimensions and comparison from the previous researches:

Table 1: Summary of food quality dimensions and comparison from the past researches

No.	Author	Food Quality Dimensions Used/Mentioned in the Study
1	Grunert, Larsen, Madsen & Baadsgaard, 1996	Taste and appearance, health, convenience, and process
2	Soriano, 2002	Food quality, quality of service, cost/value and place/ambience
3	Brunso, Fjord, & Grunert, 2002.	Process characteristics such as organic production, natural production, animal welfare, GMO-free, etc.
4	Grunert, 2005	Sensory, health, convenience and process
5	Rijswijk & Frewer, 2008	Taste, good product, natural/organic and freshness
6	Namkung and Jang, 2008	Presentation, healthy options, taste, freshness and temperature.
7	Shaharudin, Ismail, Mansor, Elias, Jalil, & Omar, 2011	Freshness, presentation, taste & innovative food.

By assessing the quality dimensions mentioned above, it is clear that the term 'quality' has varied definitions to a customer. It is difficult to meet the customer expectation on quality since their understandings are varied and inconsistent (Shaharudin, M.R., Hassan, A.A., Mansor, S.W., Elias, S.J., Harun, E.H., Aziz, N.A., 2010). Usually, meeting any one of the dimensions implies that the supply is of suitable quality, but there are always situations where failure to meet the dimension does not mean a failure of the supply quality. For example, a supply of a service or product may be of the highest standard, but the customer may have unreasonable expectations, which cannot be met by any means at all (Wankhade and Dabade, 2006).

Hence, it is essential to link the quality attributes with the customer's quality understanding. Thus, this study takes a step in determining the customer's significant quality attributes towards the overall food quality. Such discovery especially in the food industry is vital in the sense that the result subsequently can be used to benchmark the 'actual performance' against the 'perceived requirement'. By this way, the discrepancies or differences surfaced can be channeled for immediate improvement for the sake of building long term profitable relationship with the customers.

1.1 Quality Definitions and Attributes

One of the important elements in consumer food perceptions and food choice decisions is the quality (Grunert, 2005; Röhr, Lu'ddecke, Drusch, Muller & Alvensleben, 2005). In general, consumers prefer products of high quality including the choice of food that they are consuming. Thus, it is essential to understand consumers' own perceptions of quality as consumers usually will be making purchasing decisions on these beliefs (Rijswijk & Frewer, 2008).

This is supported by Becker, 2000 where according to him quality has a diverse meaning which depends specifically to the background of the person using the term. Furthermore, the term quality is very vague and un-structured when used by different persons or even by the same person in different conditions. However, the most popular definition of quality and accepted by almost all people working in this area is the definition developed by International Standardization Organization (ISO). ISO defined quality as "the totality of features and characteristics of a product or service that bear on its ability to satisfy stated or implied needs" (ISO 8402) (Becker, 2000).

Since there are many attributes of quality mentioned in the past researches, this study is focusing on several description of food quality such as freshness (Peneau, Hoehn, Roth, Escher, & Nuessli, 2006), presentation (Kivela, Inbakaran, & Reece, 1999), taste (Kivela et al., 1999) and innovative food (Clarysse, Dierdonck, Gabriels, Lambrechts, & Uytterhaegen, 1998). This study applied the quality attributes in a way it assesses the importance of freshness of the product, food tastier, innovation on the food and how the food supplier presented the food that can change the preference and purchasing behavior of the consumers towards the food on sale.

1.1.1 Freshness

Freshness is one of the quality factors that needs to be focused by the management team in the food industry in order to serve their customer at the right standard of quality required. As mentioned by Peneau et al., 2006, freshness refers to the crispness, juiciness, and aroma of the food. Besides that, as mentioned by Acebron & Dopico, 2000; Johns & Tyas, 1996; Kivela et al., 1999, one of the vital signs of quality is the freshness of food. Furthermore, according to Whitehall, Kerkhoven, Freeling, & Villarino, 2006, fresh food is relatively a current phenomenon in parallel with the consumers' growing awareness of nutrition and quality. It is therefore an important attribute to be learned by all parties who are involved in the food industries such as cruise ships, themed restaurant, food courts and many others in order to satisfy the need and wants of their customers.

Every customer needs to be served with food that is fresh. It is a process that the customer always desire but expensive for the operators. A typically fresh food setting is just like a salad bar which displays all the fresh products that have been taken freshly out from chiller without any further processes such as toast and heat. Only large scale operations can afford the cost of fresh food business. When we talk about preparing fresh food, we need to understand that most of the operators need to produce just in time (JIT) deliveries. JIT deliveries need a lot of labor energy to make the service fast. To reduce the operational cost, most of the pioneers in fast food restaurant have chosen the location of their business at high volume traffic locations such as airports, motorways and railway stations. In other words, as mentioned by Davis, Aquilino & Chase, 2002, in the operational sense, fresh food relies on the principles of lean manufacturing. The effectiveness and efficiencies of operations is important to ensure the food can be served at the lowest time possible to ensure the freshness of the food itself.

1.1.2 Presentation

Presentation is associated with how the food is being prepared and presented to the customers. It is a part of tangible cue and by successfully presenting a good-looking and well-decorated food can stimulate the customer perception of quality. The presentation of the food is a key food attribute in modeling dining satisfaction (Kivela et al., 1999). When the food is well presented, it may catalyze the feeling and mood towards consuming the food. Consequently, it will help to create a good relationship and emotional attachment between customer and the server of the food.

Presentation of the food actually is about how the consumer perceived the value of the product physically or internally (ingredients). Physically, the product may be perceived as good quality if it is presented with attractive packaging or informative labeling about the product. Internally, food may be associated with quality if the ingredients are in a complete mixture of necessary raw materials. As described by Caswell & Mojduszka, 1996, nutritional characteristics and the content level of various chemical substances are attributes that influence consumers perceived quality.

1.1.3 Taste

Every human has the opportunity to taste different tastes of food around the world. The taste of a kind of food depends on the culture and geographical locations. The flavor of the food has become a taste for each human being on this planet. It can be sweet, salty, or spices. According to Kivela et al., (1999), taste is the main attribute in food that influences customer satisfaction at the restaurant thus, it might create a future behavior intentions. Taste is like a message that comes with food informing the consumers that it has a quality towards the ingredients mixed in the cooking. As food is eaten within a meal, the attractiveness of its appearance, smell, texture and taste declines (Hetherington, M., Burley, V.J. & Rolls, B.J., 1989) and the intake of this food decreases relative to intake of other foods (Rolls, Duijvenvoorde, & Rolls, 1984).

1.1.4 Innovative Food

As we can see today, most of the food manufacturers have started applying some innovations and modern technology equipment into their productions. According to Avermaete et al. (2003), the increased competitions have pushed food companies to become more efficient in processing, to re-organize management, develop new products, and explore new markets in order to meet the needs and wants of consumers competitively. Among the benefits of technological innovation are low costs, convenience, flexibility and safety (Alexander, 1999).

Many researchers have developed various classifications of innovation with a very broad concept (Cumming, 1998; Grunert, Harmsen, Meulenberg, Kuiper, Ottowitz, Declerck, Traill, & Goransson, 1997; Johannessen, Olsen, & Lumpkin, 2001). Lundvall (1992) has defined innovation as an ongoing process of leaving, searching, and exploring which results in new products; new techniques; new forms of organizations; as well as new markets. Kotler (1991) and Grunert et al. (1997) described product innovation as any goods, service, or idea that is perceived by someone as new. Therefore, a product maybe considered an innovation to one person or organization but not to one another (Johannessen, Olsen, & Lumpkin, 2001). As we have noticed over the last decades, a few new market segments have been introduced by the food industry, ranging from organic and nutritional foods to ready-made meals. These segments did not exist on its own but resulting from the food development and innovation itself.

1.2 Food Quality Attributes and Consumers' Preference

Past researches have mentioned on the ranking of food quality attributes. In a study made by Soriano, 2002, customers of restaurants in Spain are looking into the first attribute that is food quality, followed by quality of service, cost of the meal and ambience in order to return to a restaurant for another meal. Furthermore, Rijswijk & Frewer, 2008 discovered in their study that German respondents rated freshness, taste, natural/organic and good product as being link to food quality. French respondents have chosen taste and appearance whereas Italian respondents linked good product, taste and liking as essential quality definitions. On the other hand, Spanish respondents associated good products, taste and safeness with food quality dimensions.

From the review of literature, Chart 1 depicted the proposed theoretical framework of the study:

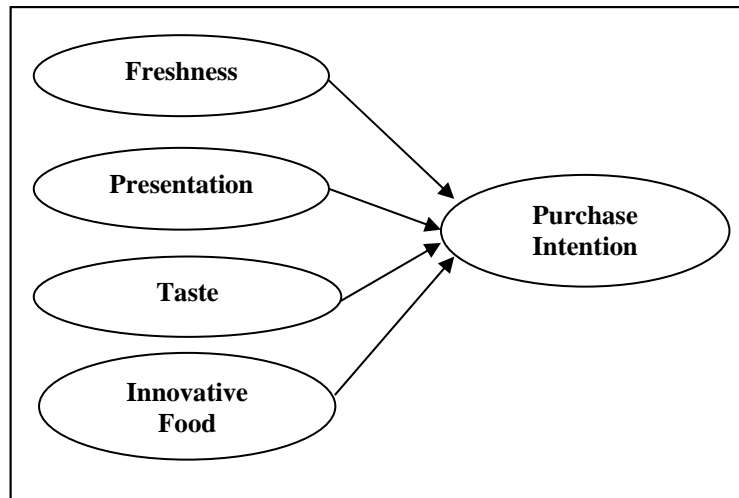


Figure1: Proposed Theoretical Framework

2. RESEARCH METHODOLOGY

2.1 Hypothesis Development

Given the preceding discussion, the following hypotheses are proposed:

- H₁: There is a significant influence of freshness towards purchase intention of fast food product
- H₂: There is a significant influence of presentation towards purchase intention of fast food product
- H₃: There is a significant influence of taste towards purchase intention of fast food product
- H₄: There is a significant influence of innovative foods towards purchase intention of fast food product

2.2 Research Design

This research is a quantitative research where sources of information are gathered from questionnaires. The instrument utilized was through the self-administered questionnaire containing closed-ended and scales to matrix questions. This study is a descriptive study which is interested in describing the characteristics of a population or phenomenon. This study also uses hypotheses testing to determine the influence of innovative food towards customer purchase intention of fast food products. The type of sampling is non-probability sampling. Data collected were based on convenience sampling since the respondents were selected mainly from the Subway Restaurants customers in the state of Penang, Malaysia. Three branches of Subway Restaurant have been chosen as the avenue for data collection; namely E-Gate in Gelugor, Queensbay Mall in Bayan Lepas and Autocity in Juru. The population identified to be estimated as 400 customers who patronize the three branches per day. Out of the total population, 120 respondents responded to the research survey. The sample size fulfils the rule of thumb as proposed by Roscoe (1975), for which sample sizes larger than 30 and less than 500 are appropriate for most research. Pre-testing of the questionnaire was made during the pilot study. The scale was piloted amongst a sample of ten (10) university students.

2.3 Data Analysis Method

For the purpose of this study, the researcher used the Statistical Software Package for Social Sciences (SPSS) Version 17 to compute all the data gathered from the questionnaires. The techniques of analysis used in this study were descriptive (mean, standard deviation) and inferential analysis (multivariate regression) to sum up the data collected. The questionnaires used are adopted from the questionnaires developed from past researches. In order to describe the sample characteristics in the data analysis report,

demographic data such as age, gender, ethnicity, religion, place of living and education level are included in the questionnaire. In the subsequent sections, all the study variable scales are measured using Likert scale rated varying from 1 to 5 (highly disagree to highly agree). Purchase intention was constructed in ten measurement items and innovative food in five measurement items.

Besides that, another four more variables were included (for inferential analysis) in the study such as freshness in five measurement items, presentation in five measurement items and taste in four measurement items.

Pre-Testing of the questionnaire was made during the pilot study.

3. RESULTS AND DISCUSSION

This section presents the findings of this study. The data are interpreted using the mean, factor analysis and regression methods of SPSS.

3.1. Pilot Study

There was no improvement required to the questionnaires as the respondents' feedbacks were satisfactory and appropriate.

3.2 Demographic Profile

The result of the demographic profile shows that majority of the respondents are male (69%), age from 21 until 30 years old (61%), single status (74%), Chinese race (50%), working in private sector (40%) and income ranging from RM2,000 to RM3,000 (51%). Furthermore, it was also discovered that most of the respondents visited the restaurants more than 10 times (43%) during breakfast (23%) and lunch (39%).

3.3 Factor Analysis

This study has utilized two types of factor analysis namely exploratory and confirmatory. Exploratory factor analysis attempts to determine the number of factors, while confirmatory factor analysis attempts to test how well the measured variables represent the number of constructs. From the result of exploratory factor analysis, all five factors can be accepted for the rotation component matrix. In confirmatory factor, items with the result of less than 0.5 were omitted and disregarded from data analysis. This reduction is possible because the attributes are related and the rating given to any one attribute is partially the result of the influence of other attributes.

Based on KMO measure of sampling adequacy test in table 2, it was found that the factor analysis data was appropriate with the value of 0.783, which falls between the ranges of being great and appropriate of factor analysis data. KMO should be 0.60 or higher in order to proceed with factor analysis. Bartlett's Test was utilized with the result which indicates a highly significant result with $p=0.000$ ($p<0.05$) and therefore factor analysis is appropriate and accepted.

Table 2: Factor analysis result

KMO and Bartlett's Test	Result
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.	.783
Bartlett's Test of Sphericity (Sig.)	.000

3.3 Reliability Analysis

From the reliability analysis in table 3, all factors including independent and dependent variables were found to be good reliability with all the Cronbach's Alpha results are of above 0.6. The result of reliabilities that are under 0.6 is considered to be poor, while in the range of 7.0, the result can be acceptable and if the result show range between 0.8, it is considered as a good result (Sekaran, 2003).

Table 3: Reliability analysis result

Factor	Variable	Cronbach's Alpha Result
Freshness	Independent Variable	.699
Presentation	Independent Variable	.812
Taste	Independent Variable	.685
Innovative food	Independent Variable	.697
Purchase Intention	Dependent Variable	.747

3.4 Regression Analysis

Table 4 shows the R-Square and Durbin-Watson test. R-Square test result of 0.597 can be accepted for the regression analysis. The Durbin-Watson test result of 1.687, an indicator that the autocorrelation is almost reaching to zero (no autocorrelation) or there is a significant difference which exists between the dependent and independent variables. From the ANOVA test in table 5, it appears that the four predictor variables are not all equal to each other and could be used to predict the dependent variable, customer purchase intention as is indicated by F value of 15.887 and strong significance level of 0.000 ($p < 0.05$). Furthermore, as shows in table 6, the results show that out of four factors, only freshness and presentation have significant ($p < 0.05$) influence towards purchase intention with high Beta 0.308 and 0.286 respectively. However, taste and innovative food have less significant impact ($p > 0.05$) with low Beta of .170 and .046 respectively. The VIF value of less than 10 for all variables show that the problem of multi-collinearity has not existed and all data are mutually exclusive. As for the interpretation, the test indicates that food freshness, presentation and taste have significant influence towards the customer purchase intention of fast food product. By examining the t statistic for all the independent variables it has apparently confirmed that these variables have significant relationship due to strong significant level ($p < 0.05$) with purchase intention. On the other hand, only innovative food has an opposite influence towards the customer purchase intention. Due to the lower t statistic value of 0.618 and insignificant relationship between the independent variable and dependent variable ($p > 0.05$), it is likely to state that the hypothesis for H_4 is wrong and can be rejected.

Table 4: R-Square and Durbin-Watson Test

Test	Result
R-Square	.597
Durbin Watson	1.687

Table 5: ANOVA Test

Test	F	Significant
ANOVA	15.887	.000

Table 6: Result of Coefficients

Variable	Standardized Coefficients			Collinearity Statistics	
	Beta	t	Sig.	Tolerance	VIF
Freshness	.308	3.737	.000	.827	1.209
Presentation	.286	3.164	.002	.686	1.458
Taste	.170	1.931	.046	.725	1.380
Innovative Food	.046	.618	.538	.992	1.008

3.5 Discussion

From the analysis of statistical data, the results show that Malaysian consumers place relatively high level of importance on food freshness, followed by presentation and taste of the food. However, less importance is being placed on innovative food that indirectly could have minimal effect in the customers' behavioral intention towards fast food products.

Based from the study, freshness has a significant towards the customer purchase intention. As we all know, customers are always looking for food that is served in a fresh manner which they believe is good for their health. In order to ensure the freshness, the food must be served in a timely manner. Similarly, the purchasing of the raw materials need to be done at the right time to avoid the higher cost of material purchasing. To save cost, the purchasing of raw materials in bulk quantity may be appropriate; however, this will put the freshness in risk. All the fresh raw materials or ingredients cannot last long although being kept in the chiller. The use of Just in Time (JIT) deliveries may be suitable so that the raw materials will be delivered on daily basis without having to keep stocks. In order to build long term profitable relationship with the customers, restaurants should convince the customers to believe that they always produce the fresh product from the oven. Once the customers have a good experienced with the restaurant, they will become loyal and spread good story through the word of mouth to other potential customers.

What customers see is what they believe. From their eyes it will give the signal to their heart to create an intention to buy the product that can satisfy them. This is why presentation of the product is important to the customer. Presentation may start from how the restaurant presents the food at the bar, how the service from the staff, the ambience in the outlet and the standard of procedure promised by the restaurant. In order to maintain the presentation at the best moment, the food producer should maintain the efficiency of the equipment. Any variance in the machinery should be repaired as quickly as possible. They should also make sure that all the equipments used to present the sandwich are always in a clean condition since a high quality food can be perceived through 'tangible' cleanliness. Similarly, the presentation can also be observed by customers through decoration and settings of the restaurant itself. A conducive ambience in a restaurant can indirectly affect the customers' perceptions towards the quality of the food served.

Most of the respondents agreed that the taste of food is the third main factor to be considered before purchasing any food products. Past experiments have indicated that repeated exposure to the taste will increase the liking felt towards a particular food of choice (Pliner, 1982). Taste plays an important role to give a positive sensory effect towards customer satisfaction. Flavor and types of food play an important role to be offered to the customer. However, it all depends on each of individual since each of us is unique and has different taste buds.

On the other hand, innovation of food has been rated by consumers as the least important from the rest of attributes in the study. This is possibly due to the vague term itself which consumers are difficult to see the difference of innovation being offered to them by the fast food operators. Innovation is a very broad concept and various classifications have been developed and applied by many previous researchers before (Johannessen et al., 2001). Therefore, a product maybe considered an innovation to one person or organization but not to one another (Johannessen et al., 2001). Nevertheless, innovation must be practiced in business environment so that the consumer will have a fresh look towards product offerings and also the restaurant as a whole.

4. CONCLUSION

As a conclusion, freshness was rated as the most important attribute, followed by presentation and taste of product among Malaysian customers. However, the customers are putting less importance on innovative food in their decision to purchase food product. Here, customers are seen more interested in the 'output' (which is the end product) rather than 'input' (which is raw materials used in producing the foods) of food. This happened especially to the Malaysia market environment where the final food product is vital regardless of how it is being produced. To a certain extent, a main factor to most of consumers such as cleanliness (input) is less important as long as the food tastes good, presentable and fresh.

Nevertheless, the 'input' also plays important part in the preparation of food. The 'input' will definitely determine the quality of 'output' in such a way that only the fresh raw materials can consequently produce the fresh end products.

Furthermore, the consumers are looking too narrowly at the concept of innovation as being only a technology-related innovation served to them either by international or local fast food providers. These kinds of innovations have already been in service to them and they see no less effect to the preparation of the food. Since the fast food providers are offering almost similar business environment setting, the

consumers are not able to differentiate and always perceived no difference between one to another. Furthermore, with the demand that emphasizes more on the 'output' rather than 'input', there will always be less concern on the process as long as the food has good taste, presentable and fresh.

5. RECOMMENDATIONS

As for recommendation to maintain the food freshness, it is suggested that the food producer to improve the delivery of raw materials through JIT deliveries concept on hourly basis instead of daily basis. Through this system, the raw materials can be delivered more frequently and the freshness can be kept at the highest level possible. Another possible action that the food producer can take is to emulate the Vendor Managed Inventory system which is similar to that of the manufacturing sector practices but in a small scale. This can reduce the overall inventory cost which can be translated into cost saving that can be passed to the customer through reduction in the overall product price.

To achieve food presentation quality, it is suggested that the cleanliness of the place and equipments to be given the highest priority. Cleaning should be done on a constant basis so that the food could be served in a clean and hygienic environment. Another way is to prevent a cross-contamination whereby unknown items are checked from being added to the food by keeping a neat and well organized kitchen. Furthermore, unsold food should be kept at an appropriate amount of time to ensure the freshness in the food presentation.

In terms of food taste, the food producer should ensure a standard quality of raw materials being used in the production of food. This is to ensure that the customers could enjoy the same taste no matter how many times they are taking the food. Tastier food will make customers become loyal to the food and the restaurant of their choice. They are willing to travel far as long as they can enjoy the taste of food that they like.

In order to produce the product that can create an intention from the consumer, the company should continuously do some new development in the production and also to the organizational structure. A customer loves to experience an innovation in every product that he/she purchases. Innovation in food industry must come with creativity and new ideas have to be presented to the customers' expectation, thus it will create an intention to purchase food product in the market.

6. FUTURE RESEARCH

Future research should focus on the similar study with the extended scope to other fast food restaurants in Malaysia. This is because this study is limited to only three branches of Subway Restaurant in Penang, Malaysia and the results may not be applicable to all fast food consumers in the country. The comparison could be used to ascertain on the roles of quality attributes and their effects to the purchase intention of the slow-changing food sector in Malaysia. Eventually, a comparison can be made between the findings so that other constructible findings and conclusions can be made to the study. Furthermore, the tested factors and new variables also can be further examined in order to increase the accuracy of the research findings.

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