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The Effect of Perceived Waiting Time on Customer's Satisfaction: A Focus on Fast Food Restaurant

Johanudin Lahap[1], Rabiatul Iylia Azlan[2], Khairil Anuar Bahri[3], Noraslinda Mohd Said[4], Dahlan Abdullah[5] & Razlan Adli Zain[6]

Faculty of Hotel & Tourism Management, University Teknologi MARA, Penang Campus, 13500, Malaysia.

[1]`johanudin785@ppinang.uitm.edu.my`
[2]`iylia116@gmail.com`
[3]`khairil777@ppinang.uitm.edu.my`
[4]`noraslinda698@ppinang.uitm.edu.my`
[5]`dahla707@ppinang.uitm.edu.my`
[6]`razlan75@tganu.uitm.edu.my`

Abstract - **Past research reveals that perceived waiting time was found to influence customer satisfaction and post-purchase behaviour. However, the present study aims to examine the effect of perceived waiting time on customer satisfaction in the context of fast food restaurant in Malaysia. In this study, simple random sampling method was employed and a total of 384 questionnaires were distributed. Consequently, 205 usable responses were successfully collected, representing 53% response rate. The data were analysed using SPSS software including descriptive analysis, reliability and validity test, factor analysis and correlation analysis. The result reveals that perceived waiting time significantly influence customer satisfaction towards fast food restaurants. Theoretically, this study confirmed the effects of perceived waiting time on customer satisfaction in the context of fast food restaurant. Practically, these findings are invaluable to fast food operators to improve the quality of their service delivery.**

Keywords: *Perceived waiting time, Customer satisfaction, Fast food restaurant.*

1. Introduction

The foodservice industry is one of the most lucrative industries in Malaysia, the revenue of foodservice industry is forecasted to increase due to growing disposable income and acceptance of fast food restaurant among Malaysian [1]. There are different types of food service operation such as hotel's restaurant, cafeteria, takeaways, canteens and function rooms. Each foodservice operation carries different types of service and concept. For example, fine dining restaurant offer distinguish service, whilst fast food restaurant in general deal with time and speed for service [2]. Some fast food restaurant is categorized as quick service restaurant, but not all of them fast food. Speed in service, inexpensive food and simple décor are examples of the quick service restaurants [3]. In addition, some types of fast food restaurant provide drive-thru, delivery, and take out services [4]. Minimum preparation time and serving the food is the main feature of fast food restaurant [5]. According to

Abdullah et. al., [1] fast food restaurant has become a popular choice of eatery because it served ready to eat food, and it was acknowledged that time is very important to busy customers. In addition, they added that the main factors that attract customer to purchase fast food due to food safety, speed in delivery and the taste of the food. Working schedule and limited time to prepare meals at home is also one of the major influence in shaping consumer's eating lifestyles today, and this is the case of Malaysia [6]. Davis and Heineke [7] assert that in general families opt to rely on quick service restaurant, because of the convenience, comfort and time.

Davis and Heineke [7] in their study have found that customers are a bit intolerable during lunch time because that duration of time is not sufficient as compared to dinner time. Besides that, customers in a restaurant that is disgruntle about waiting time may complaint about the food even the food is tasty. Therefore, it can be suggested that, waiting time was known to impacting customer judgment and buying decision [8]. This contend that choosing fast food restaurant could be the best choice for customer to avoid waiting time. Lee and Lambert [9] opined that customer have different tolerable waiting time, as some people may feel that 5 minutes is long and others will find it 'just okay''. They added that human perception on waiting time is subjective, because it is literally based on personal experience, background and value. Notwithstanding, it can be concluded that customer's perception of waiting times in the fast food restaurants varies in different situations.

2. Literature Review

Waiting to be served or waiting for numbers to be called in private or public counter service is part of everyday routine and it can be distressing. Waiting time can be defined as unoccupied time, pre-process waits, uncertain waits, unexplained waits, unfair waits, solo waits and group waits [9]. Bielen and Demoulin [10] asserted that waiting time in many

circumstances gives problems to service providers and it can get intense if the demand for a service is high. The act of waiting is always regarded as a negative experience, because of its economic and physical costs, in addition, delay worsen the waiting time, when customers have high expectation about the service [11] [12]. Customers in a restaurant who are unhappy waiting to be seated may complain about the quality of the food even though the food is delicious [7]. Waiting lines have been associated to reduce service evaluation, negative perception of service quality and reduce satisfaction, having to wait for some amount of time for a service to be delivered creates negative implication to a first-time customer [13]. According to Wu, Lu and Ge [14] consumer's evaluation towards the service is a key factor. Besides that, customers have a different tolerable waiting time as Lee & Lambert [9] suggested that human perception of waiting time is subjective. Customers who are dissatisfied with a service will be less likely to return in the future [7]. Alsumait [15] proposed that study on waiting time were found to influence the profit and sustainability of fast food operation and it is a detrimental issue for many food service providers.

2.1 Perceived Waiting Time
The duration of waiting time for a service is called perceived waiting time [16]. According Palawatta [17], perceived waiting time depends on factors such as; whether the customer is occupied or not, are they in the waiting stage, are they anxious or not, do the wait is certain or not, does the reason for the wait is explained or not, whether the customer is alone or not, and finally does the effort of waiting gives them value. Time is considered as one of the scarce resources that should be cautiously spent, because time is money, or time is business, both customer and provider value time as an important aspect (perishable) to be productive (input = output) [16]. The 'perceived duration of the waiting time' is how individuals perceive and feel about the time before and after the service [12].

When customers have to wait for a long time, their perception about that overall 'service experience' might be influenced and the 'perceive wait' differs from one place to another or one individual to another according to level of service provided [15] [17] [7]. Lee and Lambert [9] study reported that customers feel that 'expected reasonable waiting time' was longer than 'perceived waiting time' and this impacting customer satisfaction. Luo, Liberatore, Nydick, Chung and Sloane [18] supported that contention by asserting that perceived and actual waiting times depends on different types of waiting lines in various food service outlets.

2.2 Customer Satisfaction
Customer satisfaction is one of the most important antecedent towards the success of hospitality and tourism. According to Dudovskiy [19] satisfaction is a result from comparing a product or service perceived performance in relation to his or her expectations. Customer satisfaction is known to be the most important element in business, because when the customer is satisfied they are not only bring profit to business but they become repeat customer [20]. To support that argument, Sze (2006) coined that customers are the source of profit to organization. In addition, Davis & Heineke [7] stated that customer loyalty is the manifestation of customer satisfaction, thus, it will be demonstrated through repeat visitation and loyalty is a key determinant for service organization to survive. In other words, customers who are dissatisfied will be less likely to return in the future [7]. The degree of satisfaction can be measured through the number of repeat customer [21]. Customer satisfaction, leads to various effects and it was known to be one of the indicator of a company's profit. If a customer waiting time is longer than expected, their level of satisfaction was found to decline [22] [23]. Nonetheless, service provider should put a priority to reduce customer's waiting time [24]. High level of customer satisfaction was known to create repeat customers [25]. The study on customer satisfaction, service perception and actual service delivery is well established by [26] [27] [28] study.

2.3 Fast food
Nowadays, fast foods restaurant become a popular place to dine in Malaysia and people incline to buy fast food because of convenient and time saving. According to Sumaedi and Yarmen [8] fast food is characterised as food that is prepared in a short period of time. Besides that, several choices of food that is produced in a standardize-line and specialize products is also called fast food (for example Subway, Sushi King). There are many types of fast food restaurant that sells fried chicken, hamburger, fries and pizzas that can be found in in Malaysia. According to Quoquab and Abu Dardak [29] fast food restaurant is the world fastest growing business, because it is quick, priced reasonably and readily available alternate to home cooked food. A & W was the first fast food restaurant established in Malaysia which begin their operation in Jalan Tunku Abdul Rahman back in 1961 [30].

3.0 Methodology
The target sample for this study focused on people who has the experience patronizing the fast food restaurants in Malaysia. The researcher employed a survey questionnaire to collect the required data for the study. The questions used in this study were adapted from Davis and Heineke [7] and Tsaur and Lin [31]. Simple random sampling method was employed and 384 questionnaires were sent. As a result, 205 responses were successfully collected which represents 53% response rate. In this study,

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waiting time was measured as independent variable and customer satisfaction was examined as dependent variable, representing part of a more complex research framework.

3.1 Calculation of sample size
Formula than being used to determine the sample size is (Z-score) ^{2} x standard deviation x (1-standard deviation) / (margin of error) ^{2}
Sample Size = (Z-score) ^{2} x Std Dev x (1-StdDev) / (margin of error)
Sample size = (1.96^2) x 0.5 x (1- 0.5) / 0.05^2
Sample size = (1.96^2) x 0.5 x 0.5 / 0.05^2 Sample size = 3.8416 x 0.25 / 0.0025 Sample size = 0.9604 / 0.0025 Sample size = 384.16
Sample size adjusted with the population of 31 240 187
Sample size adjusted = (Sample Size) / 1 + [(Sample Size – 1) / population
= 384.16 / 1 + [(384.16-1) / 31 240 187]
=384.16

4. Findings
4.1 Gender
For the analysis, 205 responses were successfully collected. 173 of them were completed by female respondents, representing 84.4% of total respondents. While male respondents represent only 15.6% (32 responses). From the result, it shows that the percentages of female respondents are dominating the samples. The distribution of respondents by gender is presented in table 4.1.

| | Gender | | Total |
	Female	Male	
Count	173	32	205
Percentage	84.4%	15.6%	100%

Table 4.1: Respondents' gender

4.2 Age
It was found that the highest respondents' age range is 17 to 20 years old that represent 109 (53.0%) of the total sample. Respondent from the age 21 years old to 24 years old is the second highest respondent (36.0%). The third in rank is respondent from 25 to 28 years old which has 11 respondents (5.0%). The remaining respondents are a range from 29 to 32 years old, 33 years old to 36 years old and 37 years old to 40 years old that represent 63.0%, 1.4 % and 1.0% respectively. Table 4.2 below shows the age range of the respondents.

Table 4.2: Respondent's Age

Age Range	Frequency	Percentage (%)
17- 20	109	53.0
21- 24	74	36.0
25- 28	11	5.0
29 - 32	6	3.0
33 - 36	3	1.4
37 - 40	2	1.0

4.3 Race
In this analysis, it was found that the highest respondents are Malay represent 199 (97%) of the total sample. Chinese respondents are the second highest respondent, which is 3(1.46%) followed by Indian respondents is 2 (0.97%). The reason why

Malays respondents tops the charts is due the higher acceptance of them patronizing fast food restaurant and responding to the questionnaire. Table 4.3 depict the age range of the respondents.

Table 4.3: respondents' race

Race	Total	Percentage (%)
Malay	199	97.0
Chinese	3	1.46
Indian	2	0.97
others	1	0.57
Total	205	100

4.4 Education level
In this analysis, it was found that college students recorded the highest number which represent 137 people (66.8%). Graduates represent 15.6% and post graduate students registers 9.8% respondents. Secondary school and others represent 1.5% and 6.3% respectively. Table 4.4 below depicts the education level of the respondents.

Table 4.4: respondents' education level

Education level	Total	Percentage (%)
Secondary School	3	1.5
College	137	66.8
Post Graduate	20	9.8
Graduate	32	15.6
Others	13	6.3
Total	205	100.0

4.5 Reliability and Validity Test
Reliability refers to the extent to which a scale produces consistent result if the measurements are made repeatedly. The type of reliability analysis used to analyze reliability in this research is the Cronbach Alpha Coefficient. Cronbach's alpha is designed by Lee Cronbach to measure the internal consistency and the stability of the research items and expressed as a number between 0 and 1 [32]. Internal consistency describes the extent to which all the items in a test measure the same concept or construct and hence it is connected to the inter-relatedness of the items within the test. It should be determined before a test can be employed for researcher examination purposes to measure validity. There are different reports about the acceptable values of alpha, ranging from 0.7 to 0.95. However, a low value of alpha could be due to a low number of questions, poor inter-relatedness between items or heterogeneous construct [32]. Reliability that less than 0.6 is generally acceptable, but the reliability that over 0.8 is even better [33]. Table 4.5 below depicts the result of the reliability test.

Table 4.5: Reliability of measure of the variability

Section	No of Item	Cronbach's Alpha
B	9	0.736
C	5	0.769

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Section B consist of 9 items in this study achieved a reliability of 0.736. While section C consists of 5 items in this study achieved a reliability of 0.769. So, it shows that all the items are above 0.6. The results and the overall variables item is acceptable.

4. 6 Chi-Square Tests

The Chi Square statistic is commonly used for testing relationship between categorical variable. It is also known as test for goodness-of-fit and test of independence. The most important of the chi square testing is researcher could use the statistical methods that did not depend on the normal distribution to interpret the findings [34]. Cross tabulation presents the distribution of two categorical variables simultaneously, with the intersections of the categories of the variables appearing in the cells of the table. Descriptive analysis about time expectation and fast food preference is presented below.

Table 4.6: Fast food preferences*time expectations cross tabulation.

fastfoodpre * timeexp Crosstabulation

			less than 5 minutes	5 to 10 minutes	11 to 15 minutes	more than 15 minutes	others	Total
					timeexp			
fastfoodpre	kfc	Count	31	51	13	0	0	95
		Expected Count	34.8	45.4	13.9	.5	.5	95.0
	McDonald's	Count	37	30	4	0	1	72
		Expected Count	26.3	34.4	10.5	.4	.4	72.0
	A&W	Count	0	5	2	1	0	8
		Expected Count	2.9	3.8	1.2	.0	.0	8.0
	Dominos pizza	Count	4	7	9	0	0	20
		Expected Count	7.3	9.6	2.9	.1	.1	20.0
	others	Count	3	5	2	0	0	10
		Expected Count	3.7	4.8	1.5	.0	.0	10.0
Total		Count	75	98	30	1	1	205
		Expected Count	75.0	98.0	30.0	1.0	1.0	205.0

Table 4.7: Chi-Square test result of fast food preferences*time expectations

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	55.551[a]	16	.000
Likelihood Ratio	37.078	16	.002
Linear-by-Linear Association	4.496	1	.034
N of Valid Cases	205		

a. 17 cells (68.0%) have expected count less than 5. The minimum expected count is .04.

4.7 Interpretation of Result Analysis

H_o: No relationship between fast food preferences and time expectation.

H_1: Some relationship between fast food preferences and time expectation.

Based on the results, since the p-value (0.000) <0.05, therefore, null hypothesis is rejected. This research concludes that there is enough evidence to suggest that there is a positive correlation between food preferences and time expectation.

4.8 Mean and Standard Deviation
4.8.1 Waiting Time

Descriptive analysis in Table 4.8 provides information about waiting time towards customer's satisfaction in fast foods restaurants. The analyzed revealed that the highest mean score on Likert's Scale of 1 to 5 is "the customer do not mind waiting as long as they know why" that scored is 3.77 (SD= 1.005). It shows that, most of the customers agreed that "they are willing to wait if they know the reason why". The second highest score is statement related to "I do not mind waiting if I see things happening" scored 3.54 (SD= 0.957). I do not mind waiting as long as I know for how long, with the mean of 3.48 (SD= 0.942). Then, the statement of "if I see a queue I go elsewhere" has mean of 3.40 (SD= 0.958). I do not feel like spending after long waiting, has a mean of 3.37 (SD=1.024). The lowest mean score is 3.31 (SD= 0.693) that represent a statement of "a good meal but a long wait is a bad experience" has lowest mean score which is 3.10 (SD = 1.109).

Table 4.8: Descriptive analysis about waiting time towards customer's satisfaction in fast food restaurants

Statement	N	Mean	S.D
I do not mind waiting if I see things happening	205	3.54	0.957
I do not mind waiting as long as I know why	205	3.77	1.005
I do not mind waiting as long as I know for how long	205	3.48	0.942
a good meal but a long wait is not a bad experience	205	3.10	1.109
if I see a queue I will stay	205	3.40	0.958
I feel like spending after I have been waiting.	205	3.18	1.019
How satisfied are you with the amount of time that you waited in line?	205	3.39	1.030

4.9 Customer's Satisfaction

Descriptive analysis in Table 4.9 shows 5 questions regarding customer satisfaction. The question asked about the satisfaction in fast food restaurant been attend by them. The outcomes revealed that the highest mean score is on statement on "the consideration that the fast food restaurants always maintain its service" with mean of 3.61 (SD=0.915). The second highest mean statement is "I am satisfied with the service provided by the staff of the fast food restaurants with a mean of 3.53 (SD=0.808). They also agree that the staffs are very kind and can solve the customers' problem well and rapidly (Mean, 3.49, SD=0.889). Other than that, they also agree that "the fast food service has exceeded their highest expectation (mean 3.38, SD=0.767). The statement of the fast food restaurant is among the best, has the lowest score of 3.339 (SD=0.819).

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Table 4.9: Descriptive analysis about customer's satisfaction in fast foods restaurants

Statement	N	Mean	S.D
I am satisfied with the service provided by the staff of the fast food restaurants.	205	3.53	0.808
The fast food service has exceeded my highest expectation.	205	3.38	0.767
The staffs are very kind and can solve the customers' problem well and rapidly.	205	3.49	0.889
The fast food restaurants always maintain its service.	205	3.61	0.915
The fast food restaurant is among the best.	205	3.39	0.819

4.10 Principles Component Analysis

In this research 'factor analysis' was employed, in order to reduce the number of item [35]. The aim of Principle component analysis is to find the significance of each question. The technique relies on the correlation between the large number of items by looking at the correlation and the inter-correlation to group items. The most important of the factor analysis in this research study is to examine the structure or relationship between variables. The analysis is focused on 14 questions that representing two dimensions which are waiting times (9 questions) and customer satisfaction (5 questions). It was essential for multivariate analysis to be conducted in this research to explore the most significant among the questions and Principle Component Analysis was seen as the most suitable multivariate method to be employed in this analysis. Factor loadings that is generally considered to be meaningful when it exceeds 0.30 or 0.40 [36].

4.11 Waiting Time

Based on the data analysis, the Kaiser-Meyer-Olkin Measure of the sampling Adequacy value of 0.796 exceeded the recommended values of 0.6 by Hair, Black, Babin and Anderson [37]. Therefore, it is statistically significant. It shows that there is a high degree of interrelationship between the questions within the scope of waiting times. Referring to table 4.10, these 9 components account for 100% of the explained variance with the first factor explained 41.794% of the variance (Table 4.10).

Table 4.10: Extraction method of principal component analysis.

Component	Eigenvalues	% of Variance	Cumulative %
1	3.761	41.794	41.794
2	1.133	12.586	54.380
3	1.002	11.135	65.515
4	0.877	9.748	75.263
5	0.778	8.646	83.909
6	0.539	5.984	89.893
7	0.372	4.135	94.028
8	0.316	3.506	97.534
9	0.222	2.466	100.000

Kaiser-Meyer-Olkin Measure of the sampling Adequacy = 0.796

Referring to Table 4.11, the highest factor loading is the respondent stated that they do not feel like spending after they have been waiting (0.718). The second highest is the respondent stated that the amount of time that they satisfied waited in line (0.682). They do not mind waiting as long as they know why (0.857). The factor loading of they do not mind waiting if they see things happening (0.805). The time they expect to wait upon entering the line in fast food restaurants (0.710). They do not mind waiting as long as they know for how long (0.702). A good meal but a long wait is a bad experience for them (0.688). They see a queue they will go elsewhere (0.533). Lastly, the fast food restaurants they prefer most (0.740).

Table 4.11: The result of Varimax rotated factor matrix for the waiting times

Waiting Time	Factor Loading
How much time do you expect to wait upon entering the line?	0.706
I do not mind waiting if I see things happening	0.805
I do not mind waiting as long as I know why	0.857
I do not mind waiting as long as I know for how long	0.765
a good meal but a long wait is not a bad experience	0.688
if I see a queue I will stay	0.533
I feel like spending after I have been waiting.	0.718
How satisfied are you with the amount of time that you waited in line?	0.682

4.12 Customer's Satisfaction

Based on the result presented in Table 4.12, the Kaiser-Meyer-Olkin Measure of the sampling Adequacy value of 0.730 exceeded the recommended values of 0.6 by Hair, Black, Babin and Anderson [37]. Therefore, it is statistically significant. It shows that there is a high degree of interrelationship between the questions within the scope of customer satisfaction. Referring to table 4.12, these 5 components account for 100% of the explained variance with the first factor explained 52.117% of the variance.

Table 4.12: Extraction method of principal component analysis of customer's satisfaction

	Eigenvalues	% of Variance	Cumulative %
1	2.606	52.117	52.117
2	1.045	20.900	73.017
3	0.571	11.413	84.430
4	0.396	7.913	92.344
5	0.383	7.656	100.000

Kaiser-Meyer-Olkin Measure of the sampling Adequacy = 0.730

Based on the result of data analysis presented in Table 4.13, the highest factor loading is respondents stated that the fast food restaurant is among the best to them (0.891). Besides that, the respondents also reported that the fast food restaurants always maintain its service. (0.828), the service provided by the staff of

the fast food restaurants. (0.864) and factor loading for the staffs are very kind and can solve the customers' problem well and rapidly is (0.677). Lastly, they agree that the fast food service has exceeded their highest expectation. (0.787).

Table 4.13: The result of varimax rotated factor matrix for the customer satisfaction

Customer's Satisfaction	Factor Loading
I am satisfied with the service provided by the staff of the fast food restaurants.	0.864
The fast food service has exceeded my highest expectation.	0.787
The staffs are very kind and can solve the customers' problem well and rapidly.	0.677
The fast food restaurants always maintain its service.	0.828
The fast food restaurant is among the best.	0.891

4.13 Pearson Correlations

Based on the result in Table 4.14, it is shown that the Pearson correlation between waiting times and customer satisfaction show the value of $r = 0.292 >$ value of $p = 0.05$. It is shown that both variables have weak positive linear relationship.

Table 4.14: Correlation between waiting time and customer's satisfaction

		Waiting Times	Customer Satisfaction
Waiting Time	Pearson Correlation	1	.292**
	Sig. (2-tailed)		.000
	N	205	205
Customer Satisfaction	Pearson Correlation	.292**	1
	Sig. (2-tailed)	.000	
	N	205	205
**. Correlation is significant at the 0.01 level (2-tailed).			

5. Delimitation, Limitation and Recommendation

In this study, it was found that time and money is the main constraints, as this research is conducted in 6 months where, the budget for this study was found to be scarce. Therefore, in the future, the researchers may find bigger fund to support this study turn it into a bigger scale fully funded research. Limitation that occurs in this study involves the response of respondent, as the number of questionnaires via email were send to almost 1000 people, however, the response is adequate enough to cater the sampling chosen to this study. It can be proposed that, the fast food operator in Malaysia should give more consideration to improve the speed of their service, by improving employee skills, knowledge and aptitude. It was also important to food service operator to improve the existing technology and durability of their machine, as failure in the line of service means delay. Once a service is delayed, dissatisfaction among customer will occur. Delay also occur due to employee inefficiency, failed to follow procedure, communication breakdown and external factor (supplier, repair, maintenance etc.).

6. Discussion and Conclusion

Surprisingly, the present study revealed that, perceived waiting time has a positive relationship with customer satisfaction towards fast food restaurant. Since this finding is not consistent with most of the previous studies, further investigation is recommended to find the role of contextual variables that might influence the relationship. For instance, in Malaysia, people are willing to que to get good food from well-known restaurants. The longer the que which translated to longer waiting time, the more the intention of curious customers to patronize the restaurant. Psychologically, this phenomenon is known as bandwagon effect. Generally, in Malaysia, customers are willing to sacrifice their time to get good food. One of the factors contributed to this is the influence of electronic word-of-mouth [38]. This research has finally achieved its goal and contributed to the existing body of knowledge about the role of perceived waiting time on customer satisfaction in fast food restaurants. The relationship between waiting times and customer satisfaction in fast food restaurants has been the focal point to many researchers in fast food industry. To sum up, it is hoped that this research will contribute to the body of knowledge and make a significance impact to the fast food operators, specifically in Malaysia. The present study did not examine the roles of mediator or moderator variables that might influence the findings. Therefore, future researchers may integrate their findings from this study with factors that might have significant influence to customer buying behavior towards patronizing or revisiting fast food restaurant.

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