CHAPTER 3

RESEARCH METHODOLOGY

3.1 INTRODUCTION

This chapter describes the methodology of the study. The research hypotheses are first presented, followed by the measurement of constructs, questionnaire design, sampling technique, data collection technique and finally a description of the data analysis techniques.

3.2 RESEARCH HYPOTHESES

Based on the research framework in Chapter 2, below is the list of hypotheses in this study.

H1: Service quality directly and positively influences customer satisfaction.

H2: Food quality directly and positively influences customer satisfaction.

H3: Perceived value directly and positively influences customer satisfaction.

H4: Customer satisfaction directly and positively influences behavioural intentions.

H5a: Customer satisfaction mediates the relationship between service quality and behavioural intentions.

H5b: Customer satisfaction mediates the relationship between food quality and behavioural intentions.

H5c: Customer satisfaction mediates the relationship between perceived value and behavioural intentions.

3.3 MEASUREMENT OF CONSTRUCTS

Generally the main objective of descriptive research is to investigate the relationships among specific variables. From the theoretical view, a construct cannot be observed directly. The definitions of the constructs in a study are highly related to the objectives of the study. From an empirical view, constructs are the properties used to examine the proposed hypotheses in the study (Cooper and Schindler, 2003).

In this study, multi-item scales were developed to measure consumers' perceptions of service quality, food quality, perceived value, customer satisfaction and behavioural intentions. The measurements of the constructs in this study were adapted from previous studies. All the scales were reported reliable and valid in previous studies and were weighted with seven-point Likert scale ranging from 1 with strongly disagree to 7 with strongly agree.

3.3.1 Measuring the Service Quality Construct

Service quality is generally described as the consumer's assessment of the overall excellence of the service (Zeithaml, 1988). In attempting to measure service quality, Parasuraman et al. (1988) formulated a 22-item SERVQUAL scale which incorporated with five dimensions namely Tangible, Reliability, Responsiveness, Assurance and Empathy. A number of studies have applied the SERVQUAL items to assess service quality in different service activities (Bojanic and Rosen, 1994; Gournaris, 2005, Fu and Parks, 2001).

This study employed the five dimensions of SERVQUAL which were adapted from the work of Lee and Ulgado (1997). Lee and Ulgado (1997) made changes of wording

on the original 22 SERVQUAL scales to better fit in FFRs context. They measured service quality of FFRs in the United States and Korea with using SERVQUAL scale. In this study, only items measuring a customer's perception of service performance were adapted instead of the expectation-gap score approach (Cronin and Taylor, 1992, 1994). The rationale for choosing Lee and Ulgado (1997) as the main reference for this construct measurement was based on the fact that the reliability of the five dimensions of service quality had been ascertained with alpha values ranging from 0.81 to 0.88.

3.3.1a Tangible

The dimension of tangible was described as a physical evidence in a service facility. The items in Table 3.1 were intended to evaluate consumers' perceptions on the physical facilities of service, the equipment and the appearance of employees.

Table 3.1
Items to Measure the Tangible Dimension of Service Quality

Item No.	Statement	Source
4	The appearance of the physical facilities of these restaurants is in keeping with the types of service provided.	Lee and Ulgado (1997)
20	Their physical facilities are visually appealing.	Lee and Ulgado (1997)
42	Fast food restaurants have modern-looking equipment.	Lee and Ulgado (1997)
47	Their employees have a neat appearance.	Lee and Ulgado (1997)

3.3.1b Reliability

This dimension was intended to ask the respondents about their perception on the reliability dimension of service quality in FFRs. The items to measure reliability reflected the ability of FFRs to provide services accurately and dependably. The items are shown in Table 3.2.

Table 3.2
Items to Measure the Reliability Dimension of Service Quality

Item No.	Statement	Source
3	They insist on error-free records.	Lee and Ulgado (1997)
5	When their employees promise to do something by a certain time, they actually do so.	Lee and Ulgado (1997)
8	They provide their services at the time they promised to do so.	Lee and Ulgado (1997)
39	When customers have problems, the employees show a sincere interest in solving them.	Lee and Ulgado (1997)
45	These restaurants perform the service right the first time.	Lee and Ulgado (1997)

3.3.1c Responsiveness

The dimension of responsiveness was captured using four items related to the readiness or quickness of employees to be helpful and provide prompt service to the customers. The items are shown in Table 3.3.

Table 3.3
Items to Measure the Responsiveness Dimension of Service Quality

Item No.	Statement	Source
10	Their employees tell customers exactly when the services will be performed.	Lee and Ulgado (1997)
25	Their employees provide prompt services.	Lee and Ulgado (1997)
37	Their employees are never too busy to respond to my request.	Lee and Ulgado (1997)
41	Their employees are willing to help me.	Lee and Ulgado (1997)

3.3.1d Assurance

This dimension contained four items which measure the overall perception of the respondents on the assurance dimension of service quality. The items were used to measure employee's knowledge and courtesy and their ability to inspire trust and confidence to the customers. The items are shown in Table 3.4.

Table 3.4
Items to Measure the Assurance Dimension of Service Quality

Item No.	Statement	Source
2	I feel safe in their transactions.	Lee and Ulgado (1997)
16	The employees are consistently courteous with customers.	Lee and Ulgado (1997)
51	Their employees have the knowledge to answer my questions.	Lee and Ulgado (1997)
53	The behaviour of employees in excellent fast food restaurants will instill confidence in customers.	Lee and Ulgado (1997)

3.3.1e Empathy

The empathy dimension was measured using five items: specific needs, individual attention, best interest and convenient operating hours. The items are shown in Table 3.5.

Table 3.5
Items to Measure the Empathy Dimension of Service Quality

Item No.	Statement	Source
12	Their employees understand my specific needs.	Lee and Ulgado (1997)
18	Excellent fast food restaurants give me individual attention.	Lee and Ulgado (1997)
23	These restaurants have my best interest at heart.	Lee and Ulgado (1997)
54	The fast food restaurants have operating hours convenient to all customers.	Lee and Ulgado (1997)
56	Employees of fast food restaurants give me personal attention.	Lee and Ulgado (1997)

3.3.2 Measuring the Food Quality Construct

This construct was measured using 14 items which were taken from Qin and Prybutok (2009), Ha and Jang (2009) and Liang and Zhang (2009). Minor rewording was made to the items to better fit FFRs context. A consumer's evaluation on food quality was measured in terms of food safety, serving size, personal hygiene in preparing food, quality, nutrition, freshness, presentation, well cook, ingredients used, taste, workplace sanitation, consistency and environmental friendly. The items are shown in Table 3.6.

Table 3.6
Items to Measure the Food Quality Construct

Item No.	Statement	Source
6	The foods offered by fast food restaurants are safe to eat.	Liang and Zhang (2009)
13	Food portion in the fast food restaurant is enough, satisfying my hunger.	Ha and Jang (2010)
14	Fast food restaurants reinforced personal hygiene in preparing foods.	Liang and Zhang (2009)
19	The foods offered by fast food restaurants have good quality.	Liang and Zhang (2009)
24	The foods offered by fast food restaurants have nutrition value.	Liang and Zhang (2009)
26	The foods offered by fast food restaurants are fresh.	Qin and Prybutok (2009)
30	The foods offered by fast food restaurants have good presentation.	Qin and Prybutok (2009)
33	The foods offered by fast food restaurants are well cooked.	Qin and Prybutok (2009)
35	The quality of the ingredients used is good.	Liang and Zhang (2009)
38	The foods offered by fast food restaurants have good taste.	Liang and Zhang (2009)
44	Fast food restaurants offer varieties of food to customer.	Qin and Prybutok (2009)
49	The foods offered by fast food restaurants are produced in an environmental friendly way.	Liang and Zhang (2009)
50	Fast food restaurants reinforced the workplace sanitation in preparing food.	Liang and Zhang (2009)
52	The foods offered by fast food restaurants are always same quality.	Liang and Zhang (2009)

3.3.3 Measuring the Perceived Value Construct

In this study, perceived value was measured in terms of how the consumers perceived the price-related attributes of FFRs and the waiting time in FFRs. Respondents were asked whether services offered by FFR are good value for money. Three items were taken from Qin and Prybutok (2009) and Stamer and Diller (2006) respectively and two items were taken from Lee and Ulgado (1997). Minor rewording was made to the items to better fit FFRs context. The items are shown in Table 3.7.

Table 3.7
Items to Measure the Perceived Value Construct

Item No.	Statement	Remark
1	Fast food restaurants offer beverages with competitive price.	Qin and Prybutok (2009)
17	The price of fast food attracts me to buy.	Stamer and Diller (2006)
21	Fast food restaurants offer food with competitive price.	Qin and Prybutok (2009)
28	The price that I paid for fast food guarantees my satisfaction.	Stamer and Diller (2006)
36	The price of fast food reflects the service quality of the fast food restaurant.	Stamer and Diller (2006)
40	Fast food restaurants offer services of good value for money.	Qin and Prybutok (2009)
46	The food and services offered by fast food restaurants are a very good bargain, considering the prices.	Lee and Ulgado (1997)
55	Excellent fast food restaurants do not keep their customers waiting for a longer time compared to other restaurants.	Lee and Ulgado (1997)

3.3.4 Measuring the Customer Satisfaction Construct

This construct measured the overall evaluation of the customer's experience included overall pleasure and satisfaction with service and product received. Four items were taken from Qin and Prybutok (2009) and one item was taken from Liu and Jang (2009). Minor rewording was made to the items to better fit FFRs context. The items are shown in Table 3.8.

Table 3.8
Items to Measure the Customer Satisfaction Construct

Item No.	Statement	Remark
15	I made a wise choice if I dine in fast food restaurants.	Qin and Prybutok (2009)
22	The overall feeling I got from fast food restaurant put me in a good mood.	Liu and Jang (2009)
27	I did a right thing if I dine in fast food restaurants.	Qin and Prybutok (2009)
34	I have an enjoyable dining experience in fast food restaurants.	Qin and Prybutok (2009)
48	Overall I am satisfied with dining in fast food restaurants.	Qin and Prybutok (2009)

3.3.5 Measuring the Behavioural Intentions Construct

The seven items that measured behavioural intentions were adapted from previous studies. Three items were taken from Qin and Prybutok (2009) and Santonen (2007) and one item from Ryu et al. (2008). A consumer's behavioural intentions were measured in the form of recommendation, intention to dine again, saying good things about the FFRs, frequency of visit, FFRs would be the first choice and first come to

mind and willingness to pay more. Minor rewording was made to the items to better fit FFRs context. The items are shown in Table 3.9.

Table 3.9
Items to Measure the Behavioural Intentions Construct

Item No.	Statement	Remark
7	Whenever I think of visiting a restaurant, the fast food restaurant first come to my mind.	Santonen (2007)
9	I will more frequently visit fast food restaurant.	Ryu et al. (2008)
11	I will say good things about fast food restaurant to my friends.	Qin and Prybutok (2009)
29	I'll pay more for fast food if the fast food restaurants' services are good.	Santonen (2007)
31	I will recommend my friend to dine in fast food restaurant.	Qin and Prybutok (2009)
32	I will dine in fast food restaurant again.	Qin and Prybutok (2009)
43	I will consider fast food restaurant as my first choice among other restaurants.	Santonen (2007)

3.4 QUESTIONNAIRE DESIGN

For the purpose of this study, questionnaire was used as the data collection instrument. This data collection method was used mainly because the researcher could collect all the completed responses within a short period of time and could collect information from the respondents who were conveniently available to provide it. Any doubts that the respondents might have on any question could be clarified on the spot.

The researcher was also afforded the opportunity to introduce the research topic and motivate the respondents to offer their frank answers. This method is less expensive, consumes less time than interviewing and can reach a large number of individuals at the same time (Sekaran, 2003).

3.4.1 Designing the Questionnaire

Based on the thorough literature review, a 6-page questionnaire was developed as the survey instrument (see Appendix 1 for the survey questionnaire). The questionnaire was prepared in A4 size paper. The questionnaire included a covering letter to describe the researcher's background and the objective of the study. A total of 66 closed-ended questions were included in the questionnaire. All the questions in the questionnaire were adapted and replicated from previous marketing and food researches.

The questionnaire comprised two sections. The first section consisted of 56 conceptual items intended to elicit the respondents' responses on their perception about the five dimensions of the service quality, food quality, perceived value, customer satisfaction and behavioural intentions. Of the 56 items, 22 items are original items in the SERVQUAL scale to measure perceived service performance, 14 items on food quality, eight items on perceived value, five items on customer satisfaction and the remaining seven items on bahavioural intentions. In order to fit the FFRs situation, some items were slightly reworded. Each item in the questionnaire consisted of a statement and is followed by a given point Likert type scale to indicate the respondent's agreement or disagreement with the stated statement. In this study, all items were measured on a seven-point Likert scale where 1 = strongly disagree, 4

= neither disagree nor agree and 7 = strongly agree. Respondents were asked to weight each item based on their most recent visits to the FFRs. In the attempt to prevent the respondents from being aware of the measured constructs, the questions were not arranged based on their own respective constructs but in a random manner. The question items are shown in Appendix 1.

Section 2 was designed to capture each respondent's personal information and dining behaviour. Seven questions dealt with the respondent's demographic characteristics and consumer's profile such as gender, age, race, marital status, occupation, parent's monthly income and level of education. To have a better understanding of consumer behaviour, it also included three dining behaviour questions on what kind of restaurants they most often visit, when is their last visit to the FFRs and how frequently they dine at the FFRs in a month. The question items are shown in Appendix 1.

3.4.2 Pilot Test

Bryman and Bell (2007) have shown support for conducting a pilot test with a group of representatives of the sample chosen for the study. In developing the questionnaire for this study, the researcher administered a pilot test on 30 undergraduate students of the University of Malaya. Pilot test was conducted in order to identify and eliminate potential problems in the questionnaire. The pilot test demonstrated the below problems:

1) Some respondents ticked more than one answer for question which required them to tick only one answer.

2) Some respondents had misunderstood the question about their monthly income where in fact the question was about their parents' monthly income.

After inspecting the returned questionnaires, the researcher made further refinements to the questionnaire with clearer instructions.

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3.5 SAMPLING DESIGN

According to Malhotra (2004), sampling refers to the information about the characteristics of the population under study. The population and sample for this study was the undergraduate students of the University of Malaya in Klang Valley, both males and females and all ethnic groups.

3.5.1 Target Population

The target population for this study was undergraduate students of the University of Malaya. Although there was a concern with the use of students as surrogate consumers, they were believed appropriate for this study because they were actual, not "surrogate" customers of FFRs (Lee and Ulgado, 1997). They were selected since they were patronising the FFRs and also because of modern lifestyle pattern inclined towards eating outside and socialising with friends (Goyal & Singh, 2007). Additionally, undergraduate students are the major customers of the fast food industry (Kaynak et al., 1996) and they are spending millions each year (Knutson, 2000).

3.5.2 Sampling Procedure

A non-probability sampling, specifically quota sampling, was used to select research respondents in this study. The respondents were approached based on a convenience

basis. The quota sampling used in this study is an attempt to represent the Malaysian context. Convenience sampling was used because it is a viable alternative to obtain quick and timely information from members of the population who are conveniently available to provide the feedback.

The questionnaires were distributed to the undergraduate students of the University of Malaya on a convenience basis and according to the sampling quota: 50:30:20 for Malay, Chinese and Indian and other ethnic group respectively. In other words, the preset sample is 150 Malay students, 90 Chinese students and 60 students are Indian and other ethnic group such as Kadazan, Dusun, Iban and so forth. The population of Indian and other ethnics was preset at 20%, which is slightly higher than actual percentage of their composition in the Malaysian population, is to ensure the number of respondents is sufficient for the analysis required by the proposed research framework. Overall, the distribution of the sample size is similar to Malaysia population is an effort to represent the Malaysian consumers perception towards FFRs in Malaysia.

3.5.3 Sample Size

The sample size is important since it influences the magnitude of difference in covariance matrices (Loehlin, 2004). Findings of a study cannot be generalised as representative of the existing population if the number of samples used is inappropriate (Pallant, 2005). The research framework in this study was derived from the studies of Qin and Prybutok (2009). In order to investigate the relationship among service quality, food quality, perceived value, customer satisfaction and behavioural intentions in FFRs in the United States (Qin and Prybutok, 2009) and China (Qin,

Prybutok and Zhao, 2010), the researchers used only 282 respondents and 171 respondents in their studies, respectively. Hence, 300 respondents were adequate in this study.

3.6 DATA COLLECTION TECHNIQUE

The data were collected in a survey of students of University of Malaya using a self-administered questionnaire. A total of 350 questionnaires were distributed and 326 questionnaires were returned. More specifically, 250 questionnaires were distributed randomly to the respondents in the library of the University of Malaya and 100 questionnaires were distributed in the class through the students of Sports Science, Engineering and Islamic Studies. A total of 231 questionnaires and 95 questionnaires were obtained from the library and class, respectively. Respondents were requested to fill out a survey questionnaire on the spot based on a voluntary basis. Data were collected in two weeks time. Of the 326 questionnaires collected back, only 300 questionnaires were used for analysis after excluding 26 questionnaires due to high percentage of incomplete responses.

3.7 DATA ANALYSIS TECHNIQUES

All the data collected through the self-administered questionnaire were analysed using the Statistical Package for Social Sciences (SPSS) Version 16 program. All survey data were coded, categorised and input into SPSS. In order to achieve the objective of the study, several statistical analyses were used namely Descriptive Statistics, Cronbach's Alpha, Pearson Correlation and Hierarchical Multiple Regression.

3.7.1 Descriptive Statistics

Descriptive statistics was used to profile the main characteristics of the data collected by exploring questionnaire data, summarising and describing observations. In this study, descriptive statistics was used to generate frequency and percentage and to explain the demographic characteristics of respondents and also their dining behaviour.

3.7.2 Reliability Assessment

In this study, Cronbach's alpha was performed to assess the internal consistency of the variables to ensure that there was consistent measurement across time and various items in the instrument (Sekaran 2003). Cronbach's alpha is the most widely accepted and has the most utility for multi-item scale (Cooper and Schindler, 2003). Construct with low reliability alpha of less than 0.5 will be considered not reliable and dropped from further analysis. The acceptable Coefficient alpha should be equal or greater than 0.5 (Smith et al., 1969).

3.7.3 Pearson Correlation Analysis

Pearson correlation is a technique used to describe the relationship between two variables in a linear fashion (Pallant, 2001). In this study, Pearson correlation was used to describe the strength and direction of the linear relationship between each of the independent variables and the dependent variable. The relationship between two variables, whether it is positive or negative, is determined by the correlation value while the strength of the relationship is determined by the correlation coefficient value which ranges from -1 to +1.

3.7.4 Hierarchical Multiple Regression

A number of researchers agree with the suggestion of Baron and Kenny (1986) that Hierarchical Multiple Regression is one of the clearest ways to examine the mediating effect. According to Baron and Kenny (1986), four criteria are necessary for mediation. They are:

1) The independent variable is significantly associated with the mediator.
2) The independent variable is significantly associated with the dependent variable.
3) The mediator is associated with the dependent variable (with the predictor accounted for).
4) The addition of the mediator to the full model reduces the relation between the independent variable and dependent variable.

Thus in this study, it is appropriate to use Hierarchical Multiple Regression analysis to test the mediating effects of customer satisfaction in the relationship between service quality, food quality, perceived value and behavioural intentions.

3.8 CONCLUSION

This chapter has presented the research methodology of this study. The discussion in this chapter includes measurement of constructs, questionnaire design, sampling design, data collection technique and lastly, data analysis techniques.

Questionnaire was used as an instrument in this study. The questionnaire was developed based on previous marketing and food studies. Minor modifications were done to better fit the questionnaire to the study.

The sample of this study consisted of undergraduate students of the University of Malaya with the sample size of 300 respondents. Data were collected through self-administered questionnaire. A non-probability sampling via quota sampling method was used to select the samples of the study. The samples of the study were approached based on a convenient basis. A number of statistical techniques were employed in this study. Descriptive analysis was employed to illustrate the main characteristics of the respondents. The reliability of the constructs was tested using Cronbach coefficient alpha. Pearson correlation analysis and hierarchical multiple regression were used to test the hypotheses in this study.