

CHAPTER 3: RESEARCH METHODOLOGY

3.0 Chapter Overview

This chapter details the research design and methodology used for collecting and analyzing data in order to test the conceptual model on the factors influencing brand loyalty among Malaysian consumers in their choice of mobile phone brands. It is organized into six sections as shown in Figure 3.1.

Figure 3.1

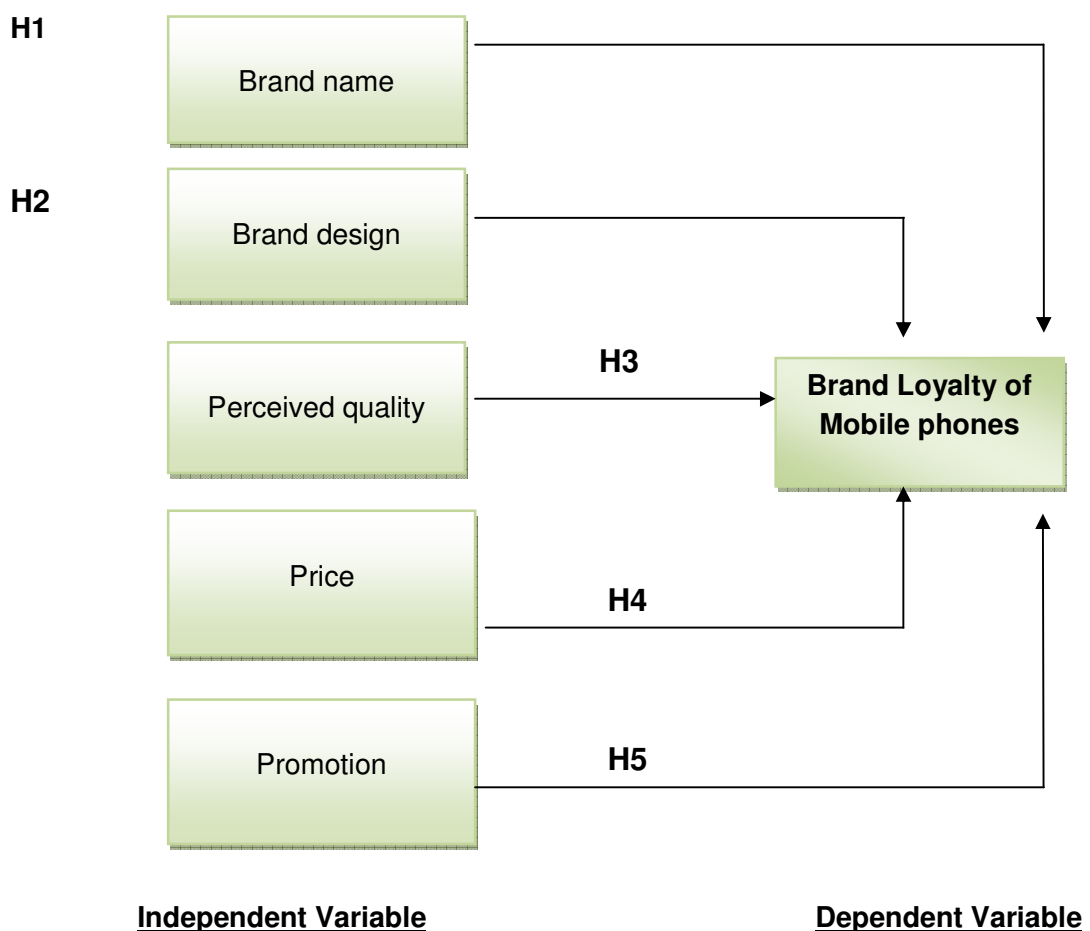
Outline of Chapter 3



3.1 The Theoretical Framework

The theoretical framework in Figure 3.2, is based upon the work of Lau et al. (2006). Five out of the seven factors of brand loyalty are replicated from the previous study in order to understand and predict brand loyalty decisions by Malaysian consumers in their selection of mobile phone brands.

Figure 3.2: Theoretical Framework - Factors affecting Brand Loyalty of Consumers in their Choice of Mobile Phone Brands



In this framework, brand loyalty is the dependent variable while the independent variables are brand name, brand design, perceived quality, price and promotion.

From the theoretical framework, the hypotheses, which are predictive statements about the outcomes will be tested in the research as shown in Table 3.1.

Table 3.1: Summary of Hypotheses for this Study

No	Hypotheses
H ₁	Brand name will have a significant positive influence on brand loyalty among Malaysian consumers in their choice of mobile phone brands.
H ₂	Brand design will have a significant positive influence on brand loyalty among Malaysian consumers in their choice of mobile phone brands.
H ₃	Perceived quality will have a significant positive influence on brand loyalty among Malaysian consumers in their choice of mobile phone brands.
H ₄	Price will have a significant positive influence on brand loyalty among Malaysian consumers in their choice of mobile phone brands.
H ₅	Promotion will have a significant positive influence on brand loyalty among Malaysian consumers in their choice of mobile phone brands.

3.2 Research Instrument

After an extensive literature review, the survey instrument (questionnaire) was designed (see Appendix 1.1). There were three main types of response formats used in the questionnaire as follows:

- 1) Closed-ended questions - Dichotomous (with two possible answer, e.g. 'Yes' and 'No' and multiple-choice or multichotomous questions to ensure that all possible answers were offered to the respondents);
- 2) Open-ended questions;
- 3) Summated Ratings scale - A five-point Likert scale (1=strongly disagree to 5=strongly agree) to indicate the respondents' level of agreement with each statement. The higher the score the more important were the variables or constructs as evaluative criteria.

The questions were also designed in a format which would enhance the possible responses, obtained accurate answers and could be easily filled in by the respondents. Check-boxes were also used throughout the questionnaire to make it looked simple and easy to complete and increase the response rate (Kinnear and Taylor 1996; Zikmund 1997).

A seven-page survey questionnaire was developed, which contained questions pertaining to different parts of the study. The questionnaire was divided into three sections which were presented in the following order:

- 1) Section A: General information on mobile phone usage;
- 2) Section B1 & B2: The respondent was asked to rate the level of agreement towards each statement on the various factors influencing brand loyalty in their choice of mobile phone brands. The items were measured based on a five-point Likert scale ranging from 'Strongly agree' to 'Strongly disagree';
- 3) Section C: Demographic information.

In Section A, there were seven questions using a combination of dichotomous style, multiple response and open-ended questions related to mobile phone usage.

First, the respondent was asked to indicate 'Yes' or 'No' on whether he/she used a mobile phone. If 'Yes', the second question asked about how many mobile phones (personal/business) that he/she was using currently. This was followed by the third question which asked the respondent the brand of the personal mobile phone that he/she was using currently. The fourth question asked the respondent to indicate how long he/she had been using a mobile phone. Then, for the fifth question, the respondent was asked who purchased his/her the personal mobile phone. If it was purchased by the company, the respondent was asked to discontinue answering the questionnaire. The sixth question asked the

respondent to choose one of the five options that best described his/her attitude toward technology: “I find pleasure in mastering the intricacies or complicated parts of the technology on my mobile phone”, “I am not a technologist but I exploit new capabilities on my mobile phone”; “I wait and see how useful other people find a technology before I consider using it”; “I am not comfortable with technology and will wait until something has become an established standard before I consider using it”; and “I am not interested in new technology and try to avoid using it”.

Finally, the respondent was asked to list down the three most preferred choices of mobile phone brands if he/she was to consider buying a new mobile phone now.

Section B1 and B2, were regarded as the most important parts of the study or the main contents of the questionnaire as they provided the basic information required by the research objectives.

In Section B1 of the questionnaire, brand loyalty behavior and attitude were covered. This consisted of ten questions rated on a 5-point Likert scale where (1) indicates ‘Strongly disagree’; (2) ‘Disagree’; (3) ‘Not sure’; (4) ‘Agree’; and (5) ‘Strongly agree’.

Section B2, focused on the five factors or variables that influenced brand loyalty. In this section, the respondent was asked to evaluate the importance of the factors that influence brand loyalty towards their favorite mobile phone brands. These included brand name, brand design, perceived quality, price and promotion. As shown in Table 3.2, the measurement scale items for each factor or variable were as follows: brand loyalty (10 items), brand name (12 items), brand design (8 items), perceived quality (8 items), price (6 items), and promotion (5 items). All these factors were measured using 5-point Likert scale ranging from (1) 'Strongly disagree'; (2) 'Disagree'; (3) 'Not sure'; (4) 'Agree'; and (5) 'Strongly agree'. The factors or variables which had higher mean value between 4 and 5 would be considered to have more influence on brand loyalty. If the mean value was between 1 and 2, they were considered to have weak influence on brand loyalty. The factors or variables were considered to exert an average influence if the mean was 3. The measurement scale items were adapted from previous studies.

Section C of the questionnaire was designed to explore the demographic profile or characteristics of respondents. The demographic data was collected using a closed ended multiple choice format, questions included were gender, age, marital status, ethnicity, educational qualifications, income occupation, the organization's core business function, and the respondent's tenure in the organization. This section was deliberately designed to be asked at the end of the questionnaire to prevent unnecessary resistance from the respondents in

completing their questionnaire and to reduce biased response in case the respondents were aggravated with the confidential nature of the questions.

Table 3.2: Measures

Variables/Constructs	Reference
Brand Loyalty	Mellens, Dekimpe et al. (1996)
Brand Name	Aaker (1996), Keller (1993), Radder & Huang (2007)
Brand design	Roth & Romeo (1992)
Perceived Quality	Alben (1996)
Price	Cadogan & Foster (2000), Teas (2000)
Promotion	Czerniawski & Maloney(1999), Garretson & Burton (2003)

On the academic rigor aspects, to assure that the quality and credibility of this study were achieved, the two important factors were reliability and validity.

According to Hair et al. (2003), data validation is the process of determining, to the largest possible extent, if survey, interview or observation is conducted correctly and free of fraud and bias. In order to improve the reliability of this study, the survey questionnaire had been personally designed to obtain data from the individual respondents.

A pretest was administered after the initial questionnaire development in order to improve the accuracy of measures and to test reliability of pre-existing measures. It was conducted to make the questionnaire as simple and understandable to the respondents and also to ensure that the questionnaire was interpreted as

intended. Based on the results obtained from the pretest, some items were then modified, added or deleted if necessary.

3.3 Sampling Design

Hair et al. (1998) and Sudman (1976) state that a suggested sample size of 200 to 500 should be adequate for the data analysis technique. In this study, a convenience sampling method was used to collect data in view of time, cost constraints and because of the large population of mobile phone users in Malaysia. It also enabled the completion of the survey questionnaires quickly, cost effectively and the respondents were most readily available to participate in the study and could provide the information required. Even though this sampling method had its limitations in terms of generalizability, it was assumed that the sample would represent the whole population of mobile phone users in Malaysia.

Prior to data collection, a sample size of 250 respondents was determined. In terms of sample size determination, in general the larger the sample size, the more likely the responses would reflect the true picture of the population under study, according to the Central Limit Theorem. A small sample, however, can often provide highly reliable findings depending on the sampling procedures adopted (Schiffman and Kanuk 2000). In this study, a final sample of 214 respondents was reached and this was related to the existing resources for the exercise.

3.4 Data Collection Procedure

This section justified the use of a survey questionnaire as the research instrument for data collection in this study. The methods of collecting the quantitative survey data included personally-administered and emailed questionnaires.

The questionnaires were distributed at the waiting area of the Income Tax Department, Celcom Head Office, The University Malaya Graduate School of Business (UMGSB), University Malaya Main Campus Library, Affin Bank, Honda Service Center, Toyota Service Center, National Library Kuala Lumpur, and others.

Data was collected using a convenience sample of 230 respondents. All participants who participated in this survey owned a personal mobile phone.

Each of the response received was screened for errors, incomplete and missing responses. After the screening process was carried out, only 214 responses were considered complete and valid for data analysis. This represented a success rate of 93%, which was considered to be good in view of the time and cost constraints.

3.5 Data Analysis Techniques

The data collected was analyzed through Statistical Package for Social Sciences (SPSS) Version 13 as shown in Appendix 2.1. The data was first coded in alphabetical and numerical order and then keyed in into the statistical program. Then, the data was screened and treated for errors and missing values. The selection of techniques to analyze the results of this study was based on the research objectives.

Descriptive analysis, and independent sample t-test/ ANOVA analysis, factor analysis, reliability analysis, Pearson's correlation and multiple regression analysis were used to test the hypotheses. The rationale for the selection of these techniques was as follows:

- 1) A descriptive statistics to describe the characteristics of the respondents and demographic comparison and to illustrate the means, and standard deviation of each research variable.
- 2) An independent sample test (t-test) and ANOVA analysis were used to determine whether there were any significant differences between the factors of brand loyalty and groups (i.e. gender, income, race and age).
- 3) Factor analysis to summarize the correlations among variable items and the reduction of a large set of variable items into a smaller number of factors. Factor analysis can identify the basic underlying variables which account for

the correlations between actual test scores. The purpose of factor analysis is to explore the underlying variance structure of a set of correlation coefficients.

- 4) A reliability or internal consistency analysis to test the reliability of each construct using Cronbach's Coefficient Alpha (Cronbach and Meehl 1955). Coefficient alpha (α) is the measurement of squared correlation between observed scores and true scores. In other words, reliability is measured in terms of the ratio of true score variance to observed score variance. It can test the internal consistency of each factor. According to Robinson & Shaver (1973), if α is greater than 0.7, it means that it has high reliability and if α is smaller than 0.3, then it implies that there is low reliability.
- 5) A Pearson's correlation analysis to examine the strength and direction of the linear relationship between brand loyalty – the dependent variable or criterion) and brand name, brand design, perceived quality, price and promotion – the independent variables or predictors.
- 6) A multiple regression analysis to analyze the interrelations between variables i.e. to determine the prediction power between a between a single dependent variable or criterion and a single independent or several independent variables or predictors.