

## **CHAPTER 3 RESEARCH METHODOLOGY**

### **3.1 Introduction**

This chapter discusses the research methodology employed for this study. The chapter begins with sample selection and sampling, followed by instrument design and data collection.

### **3.2 Research hypotheses**

The research hypotheses of this study discussed in the previous chapter are reiterated as follows:

*H1:* Service quality has a significant and positive effect on customer perceived service value.

*H2:* Service brand image has a significant and positive effect on customer perceived service value.

*H3:* Brand trust has a significant and positive effect on perceived service value.

*H4:* The higher the perceived price, the lower the customer perceived value.

*H5:* Customer perceptions of the value of the market offer positively influences customer loyalty.

### **3.3 Research Design**

Research design is the most essential component in fulfilling objectives and answering questions. The quantitative research method was employed in this study. This method allows the researcher to use flexible questioning and provides qualification that aids the

researcher in the quest for precision in reporting the results. As a result, hypotheses can be developed and tested. The instrument was employed by previous studies (Johnson and Sirikit, 2002; Brodie *et al.*, 2009). This study specifically adopted an analytical survey, which attempts to describe and explain the factors that contribute to the antecedents of customer loyalty in Malaysia's mobile service provider market. The instrument design was a self-administrated questionnaire that was distributed through email and by hand to the respondents in the form of a survey. The data collected was primary data for the analysis.

### **3.4 Selection of Sample**

In this study, the sample selected is a non-probability sample. The targeted sample of this study was mobile users who were currently subscribing to any of the three main established mobile service providers in Malaysia – Maxis, Celcom or DiGi. The convenience sample was employed in this study based on the rationale of the drastic increase in the mobile penetration rate in Malaysia. According to the Malaysian Communications and Multimedia Commission (MCMC), the country is currently overflowing with mobile phone users. As at the end of September 2008, there were 26 million mobile subscriptions or 94 percent population penetration and at the close of September 2009, the mobile subscription rate rose to 27 million with almost close to 100 percent population penetration rate. Consequently, the sample selected is easily accessible and adequately represents the actual mobile users in Malaysia.

### 3.5 Sampling

The sampling frame of this study was established based on experienced mobile users who currently subscribe to any of the three main mobile service providers in Malaysia and have done so for at least three months. The researcher also took into consideration the representativeness of the sample frame based on various possibilities. First, some mobile users subscribe to more than one mobile service, hence, only the most frequent mobile service usage for the particular service provider will be evaluated.

Second, switching from one mobile service provider to another has made it easy for mobile users since the implementation of Mobile Network Portability (MNP). Mobile Network portability allows end users to keep their phone number when they switch service providers. Number portability makes it easier for customers to shop around for the best deal and has shifted the market to a *consumer-centric* number ownership model, rather than the *service provider-centric* number ownership model that was previously in place. With MNP implementation in mind, the three month criteria is built on the basis of experience with a particular mobile service provider on service used and disregards the switching that took place during the time the survey was conducted. Therefore, respondents were asked to identify the mobile service provider to which they were currently subscribing based on the most frequent usage and the period of subscription with the existing mobile service provider as the qualifying criteria for the sampling process.

Acknowledging the above stated criteria, the sample was drawn from university and college students on the basis of convenience sampling, namely, DiGi's Yellow Army and SEGi University College.

DiGi's Yellow Army comprises student's from 15 public and private universities who voluntarily participate in the Youth community engagement programme organized by DiGi Telecommunications Sdn Bhd, which aims to develop dynamic and inspiring mindset opinion leaders in society by instilling social values through community programmes. Participants of the Yellow Army are mobile users of different mobile service providers. Hence, the responses drawn from this group of the sample are mainly based on their experience with their existing mobile service providers. The self-administrated questionnaires in e-survey format were sent to a representative of DiGi's Yellow Army and a total of 100 e-survey links were forwarded to the emails of 100 members of DiGi's Yellow Army for completion.

With access to SEGi University College sampling, ten e-survey forms were forwarded to final year Diploma students of SEGi University College at Kota Damansara and the respondents consist of mobile users who were currently subscribed to different mobile service providers.

### **3.6 Instrument of Measurement**

The instrument used in this present study was designed based on previous studies to examine the major antecedents of customer loyalty. The instrument was a structured self-administered questionnaire that contained six main sets of questions concerning the four

independent variables, one mediating variable and one dependent variable, followed by demographic questions.

Responses to three IVs and DV were measured based on a ten-point Likert scale, in increasing order, where 1 is “strongly disagree” and 10 is “strongly agree”. For one IV and the MV, namely, service quality and customer value, respectively, both were measured based on a seven-point Likert scale, where 1 is “strongly disagree” and 7 is “strongly agree”. Subjects were asked to express agreement or disagreement to both the seven-point and ten-point scale accordingly. Each degree of agreement was given a numerical value from one to seven and one to ten, respectively. Consequently, a total numerical value can be calculated from all the responses

### **3.7 Data Collection**

Self-administered questionnaires were distributed in the form of a survey and completed by the respondents voluntarily. The data for this study was collected through a self-administered questionnaire; 426 questionnaires were distributed in electronic format and by hand. The questionnaires were randomly and conveniently distributed by hand and mailed electronically to respondents located in the Klang Valley, Penang, and Ipoh in the form of a survey. Respondents were requested to complete the questionnaire and return.

### **3.8 Data Analysis Technique**

Data was coded using the Statistical Package for Social Studies (SPSS), Windows Version 17.0. Data was screened and cleaned to identify any significant outliers or missing values. In this study, preliminary analyses was performed. In the preliminary

analyses, analysis, normality test, descriptive analyses, validity test, reliability test, inferential analyses and mediator test were conducted.

The normality test was performed initially by using SPSS to ensure that the variables were normally distributed and randomly selected. It was also to determine whether the parametric or non-parametric test could be used in this study. In addition, descriptive analyses were conducted. Mean and standard deviation for items in each variable were computed.

The validity test of the instrument in this study was performed by factor analysis. The objective of the validity test in this study was to determine whether the proposed items were valid for measuring the underlying concept. In short, the validity test was demonstrated to analyze and ensure the appropriateness of the instrument used in this study.

The reliability test of this study was examined through Cronbach's Alpha Coefficient. The objective of the reliability test was to ensure that the measurable items of each variable were measuring the same underlying construct.

Two inferential analyses were performed to examine the relationship between the proposed IVs and DV in the present study, namely, Pearson's correlation and multiple linear regression. First, correlation analysis was conducted to identify the significant strength and direction of the linear relationship between the proposed IVs and the DV. In addition, multiple linear regression analysis was performed to evaluate the prediction of the DV from the proposed IVs. This analysis was used to indicate the predictors and its contribution towards the criterion.

Sobel/Aroian/Goodman tests were used to examine whether a mediator carries the influence of an independent variable (IV) to a dependent variable (DV). The test is designed to examine whether the existence of the indirect effect of IV over DV is significantly different from zero. The test is conducted by using the web-based online calculator with the input value of coefficient and standard errors of the coefficients between the path of IV-mediator and mediator-DV.

### **3.9 Summary of the Chapter**

This chapter extensively discussed the research methodology employed in this study. The discussion included research hypotheses, research design, sample selection, instrument of measurement, data collection, and data analysis techniques. The findings of these analyses are exhibited in **Chapter 4**.