

## **CHAPTER 3 RESEARCH METHODOLOGY**

### **3.1 Research Design**

The research methodology pursued can be divided into two phases. The first phase involves literature review to identify attributes of loyalty and WOM concepts and theories, resulting in the construction of a research model. Using work reported by Casaló et al. (2008) as the basis, the second phase involves a questionnaire survey research to validate the Casaló et al.'s model in the context of Internet Banking in Malaysia. Quantitative analytical techniques then are used to draw inferences from data collected.

### **3.2 Research Framework**

As supported by McMahon (1996), to sustain in long-term relationships, banking institutions have to embrace the concept of customer satisfaction. Many previous studies reported that satisfaction leads to an increased probability that consumers will give positive comments about an organization and recommend the firm to other customers (Dolen et al., 2007). Further to these findings, in one marketing study conducted by Beeline Labs, Deloitte and the Society for New Communications Research (2008) identified that online communities increase WOM. This sounds reasonable in the context of online banking as the referrals can spread faster through the Internet. Therefore, the first hypothesis is depicted as:

*H1 Greater customer satisfaction is directly and positively related to greater levels of positive WOM with respect of an Internet Banking website.*

Today's businesses are working harder than ever to earn their customers' loyalty. The most successful businesses have learned that highly satisfied customers are twice as loyal as merely satisfied customers. Oliver (1997) suggested that customer satisfaction can be thought of as a basis for loyalty. Many researchers (Bontis et al., 2007, Spiteri and Dion, 2004, Anderson and Srinivasan, 2003) often associated customer satisfaction with higher customer loyalty rates. On the relationship between website satisfaction and subsequent behavioral and attitudinal outcomes, Anderson and Srinivasan (2003) reported that overall satisfaction with online service led to customer loyalty towards the service provider. Bearing these considerations in mind, the second hypothesis is refined as:

*H2 Greater customer satisfaction is directly and positively related to greater levels of loyalty in the Internet Banking.*

WOM is said to be an effective means to increase the revenues and profits of firms (Reichheld et al., 2000). In the consumer behavior literature, loyalty is regarded as an even prominent factor in the survival of online business because recommendations and support from loyal customers can be spread faster across the Internet than in face-to-face media (Reichheld and Scheffer, 2000). Reichheld (2003) stated that the act of referring a friend puts the actor's social image at risk, and thus WOM would not occur without the person's faithful dedication, or loyalty. Consistent with these findings, much research demonstrates that the greater the degree of loyalty a customer has to an online service, more likely he or she is to say positive things about the service to others (Gefen, 2002; Reichheld, 2003; Srinivasan et al., 2002).

Taken together, these findings imply that loyal customers are willing to say positive things about the service based on a rational faith that the service will continue to offer an excellent value. Therefore, the next hypothesis is proposed as:

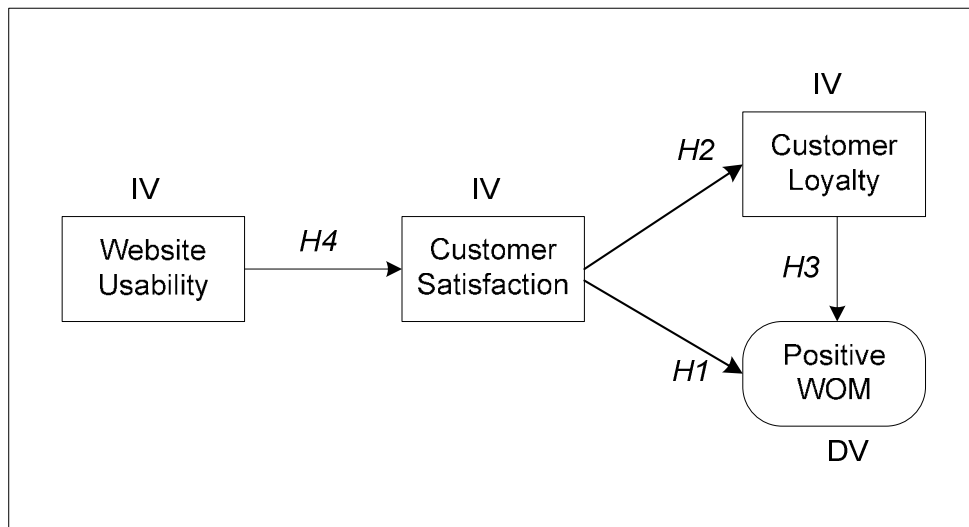
*H3 Greater customer loyalty is directly and positively related to greater levels of positive WOM with respect of an Internet Banking website.*

Usability in ISO/IEC 9126-1 (1) is defined as "The capability of the software product to be understood, learned, used and attractive to the user, when used under specified conditions" while the ISO 9241-11 (7) referred to usability as the extent to which a product can be used by specified users to achieve specified goals with effectiveness, efficiency and satisfaction in a specified context of use. Nielsen (1993, 2000), in his study on Website usability contended that Website usability was equivalent to a set of design principles, including consistency of the interface, response time, mapping and metaphors, interaction styles, multimedia and audiovisual, navigation, credibility and content. Szymanski and Hise (2000) contended that consumer perceptions of online convenience, merchandising (product offerings and product information) and site design play important roles in satisfaction assessments. In sum, greater usability favors lower support costs, decreased need for redesign, improve user experience and increase customer satisfaction.

*H4 Website usability has a direct and positive influence on customer satisfaction in the Internet Banking.*

Drawing on the above, a theoretical framework similar to the model of Casaló et al. (2008) is depicted in Figure 3.1. The framework consists of the independent variables (IV) of determinants of PWOM and the dependent variable (DV) of PWOM. The model focuses on the factors influencing customer PWOM which consists of the relationship of website usability, customer satisfaction and customer loyalty with PWOM towards Internet Banking website.

Figure 3.1:  
Theoretical Framework Determining Effect of Website Usability and Customer Satisfaction on Loyalty and Positive Word-of-mouth: Malaysia Internet Banking.



### 3.3 Questionnaire Design and Construct Measurement

In developing the research instruments, two sources of data are obtained. The primary source of the data will come from a researcher-made questionnaire which will be given to the respondents. The secondary sources of data will come from brochures and banks annual reports that can set up the expected sample segments.

The research is conducted through self-administered questionnaire whereby the questionnaire is in two sections. The target questions focus on the construct variables such as website usability, customer satisfaction, customer loyalty and PWOM. The scaling used in this research is the 7-point Likert scale of 1-strongly disagree, 2-disagree, 3-somehow disagree, 4-neutral, 5-somehow agree, 6-agree, 7-strongly agree. The measures were developed and modified based on the instruments recorded in journal titles *The role of satisfaction and website usability in developing customer loyalty and positive word-of-mouth in the e-banking services* (Casaló et al., 2008). The questionnaire items are depicted in Table 3.1.

Table 3.1:  
Measurements of Research Variables

Variable	Measurement Items	Literature Based
Website Usability - Navigation	<ol style="list-style-type: none"> <li>1. In this Internet Banking website everything is easy to understand</li> <li>2. This Internet Banking website is simple to use, even when using it for the first time</li> <li>3. It is easy to find the information I need from this Internet Banking website</li> <li>4. The structure and contents of this Internet Banking website are easy to understand</li> <li>5. The organization of the contents of this Internet Banking website makes it easy for me to know where I am when navigating it</li> </ol>	Casaló et al. (2008)
Customer Satisfaction	<ol style="list-style-type: none"> <li>1. I think that I made the correct decision on use this Internet Banking website</li> <li>2. The experience that I have had with this Internet Banking website has been satisfactory</li> <li>3. In general terms, I am satisfied with the way that this Internet Banking website has carried out my banking transaction</li> <li>4. In general, I am satisfied with the service I have received from the Internet Banking website</li> </ol>	Casaló et al. (2008)
Customer Loyalty	<ol style="list-style-type: none"> <li>1. I would feel that using Internet Banking would be pleasant</li> <li>2. Using Internet Banking is a good idea</li> <li>3. I believe using this system is necessary</li> </ol>	Cheng et al. (2006)

Table 3.1 continued

	for completing my banking transactions	
	4. In my view, using Internet Banking is a wise idea	
	5. I have the intention to continue my relationship with this Internet Banking website	Casaló et al. (2008)
	6. Based on my experience, I am very likely to continue my relationship with this Internet Banking website for my next banking transaction	
PWOM	1. I will say positive things about the Internet Banking website to other people	Babin et al. (2005)
	2. I will recommend the portal Internet Banking website to anyone who seeks my advice	
	3. I will refer to person I know to this Internet Banking website	Kim and Son (2009)
	4. I will recommend this Internet Banking website to other customers	Casaló et al. (2008)
	5. I will point out the positive aspects of this Internet Banking website if anybody criticize it	

The demographic variables asked are gender, age, occupation, education level of the respondents. To be able to screen the responses, a control question was included in the survey questions to ensure the subjects are a user of Malaysia Internet Banking. Figure 3.2 in the next page shows a summary view of survey instruments used in the study.

The detailed contents of the final form including the statement of the questionnaire items and the scale are shown in Appendix A.

Figure 3.2:  
Survey Instruments – Questionnaires

PART A	<ul style="list-style-type: none"> <li>▪ 7 items</li> <li>▪ Nominal scale to gather personal information about the respondents such as gender, age, occupation, education level, banks name of their Internet banking account and the reason they have the Internet banking account with these banks</li> </ul>	
PART B	Website Usability (IV)	<ul style="list-style-type: none"> <li>▪ 5 items</li> <li>▪ Seven-point Likert scale for each item with “1” indicating that they were “strongly disagree” and “7” indicating that they were “strongly agree” with web perceived usability of the Internet banking website</li> </ul>
	Satisfaction (IV)	<ul style="list-style-type: none"> <li>▪ 4 items</li> <li>▪ Seven-point Likert scale for each item with “1” indicating that they were “strongly disagree” and “7” indicating that they were “strongly agree” on their satisfaction towards the Internet banking website</li> </ul>
	Loyalty (IV)	<ul style="list-style-type: none"> <li>▪ 6 items</li> <li>▪ Seven-point Likert scale for each item with “1” indicating that they were strongly disagree” and “7” indicating that they were “strongly agree” on their loyalty level towards the Internet banking website</li> </ul>
	PWOM (DV)	<ul style="list-style-type: none"> <li>▪ 5 items</li> <li>▪ Seven-point Likert scale for each item with “1” indicating that they were strongly disagree” and “7” indicating that they were “strongly agree” to engage in WOM for the Internet banking website</li> </ul>

### 3.4 Data Sampling and Collection

Sampling is a survey-based research where researcher needs to analyze the sample about a population to answer the research questions or meet the research objectives (Saunders, 2000). It is crucial to clearly define the target population from whom sample will be taken. Usually, the population is too large for the researcher to attempt to survey all of its members. Hence, a small, but carefully chosen sample can be used to represent the population.

Quota sampling, one of the non-probability sampling techniques was applied for this study. In determining the sample, the stratum and their proportions as they are represented in the population is first identified by making references

to the literature in chapter 2 (Table 2.2). Then convenience or judgment sampling is used to select the required number of subjects from each stratum.

Table 3.1 shows the sample frame for the study.

Table 3.2:  
Sample frame

<b>Internet Banking User</b>	<b>Targeted Population</b>
Maybank2u.com	48%
CIMBClicks.com.my	19%
P Be Bank.com	14%
Other banks	19%

Data was collected through questionnaire survey with a pre-planned sample size of 400 respondents, that is, 192 surveys to samples with Internet Banking account with Maybank, 76 surveys to samples with Internet Banking account with CIMB, 56 surveys to samples with Internet Banking account with Public Bank and 76 surveys to samples with Internet Banking account with other banks in Malaysia.

The questionnaire survey was distributed in Klang Valley, which is the most populous region in Malaysia with total estimated population of 6.8 million in 2010 (National Census, 2000). Taking into considerations that the target audiences must be an Internet Banking user to Malaysian banks, two steps pre-screening process was conducted to find the correct audiences to the research questions:

Step 1: The respondents of the research questions must be an active Internet Banking website user.



Step 2: The respondents must hold Internet Banking account(s) with Malaysian banks.

Prior to distributing the questionnaires, the participants were interviewed to confirm the pre-screening requirements were fulfilled. The feedback will provide the needed database for the study. The data collected is cross-sectional in nature i.e. collected at a particular point of time.

Overall, from the total of 400 questionnaires distributed during a one month of data collection period, there were only 220 valid questionnaires that can be used for further analysis after excluding the non-experienced Internet Banking users. This represents a response rate of 55%, in which it is still adequate to arrive at the desired and expected achievement of this study as compare to similar past studies that involved sample size of 335 with 142 valid respondents (Casaló et al., 2008).

### **3.5 Data Analysis Techniques**

Statistical software SPSS version 16 is employed for both descriptive and inferential statistics.

#### ***3.5.1 Pre-Analysis Data Screening***

Preliminary analyses were performed to ensure there is no violation of the assumptions of normality and regression test. Normality test was performed to determine whether the variables are normally distributed, to remove extreme outliers and also to determine whether parametric or non-parametric test can

be used in this study. Such normality test would include Skewness and Kurtosis analysis.

### **3.5.2 Reliability and Validity**

In order to reduce the possibility of getting incorrect answers, attention needs to be given to validity and reliability (Saunders et al., 2000). Good research instruments produce valid and reliable results. Validity and reliability often are called psychometric properties of the research instrument (Gaberson, 1997), which means they represent how well instruments measure the variables of interest to the researcher.

Reliability refers to consistency of measurement. Reliability analysis is a measure of the internal consistency of indicators for a construct (Hair et. al, 1998). The purpose of reliability analysis is to determine how well a set of items taps into some common sources of variance (Viswanathan, 2005), and is frequently measured with Cronbach's coefficient alpha. Cronbach's coefficient alpha is "the ratio of the sum of the covariance among the components of the linear combination (items), which estimates true variance, to the sum of all elements in the variance-covariance matrix of measures, which equals the observed variance" (Nunnally & Bernstein, 1994). Cronbach's alpha tests were conducted using the survey variables: website usability, customer satisfaction, customer loyalty and PWOM. George and Mallery (2003) suggest the following rules of thumb for evaluating alpha coefficients, "> .9 excellent, > .8 good, > .7 acceptable, > .6 questionable, > .5

poor, < .5 unacceptable.” The measure (alpha or  $\alpha$ ) assumes that items measuring the same thing will be highly correlated (Welch & Comer, 1998).

Validity refers to the extent to which a test or data collection method accurately measures what it intended to measure (Saunders et al., 2000). It is vital for a test to be valid in order for the results to be accurately applied and interpreted. In this study, construct validity is determined by computing a correlational coefficient. The test is said to achieve validity when it is demonstrated to be effective in predicting criterion of a construct.

### ***3.5.3 Multiple Regression***

Multiple regression analysis is employed to explore and examine the relationship between two or more variables. Multiple regression can establish that a set of independent variables explains a proportion of the variance in a dependent variable at a significant level (significance test of R square), and can establish the relative predictive importance of the independent variables (comparing beta weights) (Garson, 2005). Multiple regression analysis is used to test the proposed hypotheses on the constructs of website usability, customer satisfaction, customer loyalty and PWOM. The regression analysis will determine how effectively the predictor variables (website usability, customer satisfaction and loyalty) influence the criterion variable (PWOM) towards Internet Banking website in Malaysia.

### **3.6 Chapter Summary**

This chapter presents the research design, reports the development of theoretical framework and discusses the participants, the instruments to be used, the data analysis plan and the sample size justification.