CHAPTER 4:   RESEARCH METHODOLOGY

4.0   Introduction

The previous chapter covered the conceptual model of the study and discussed the hypotheses that are to be tested. In this chapter the analysis methods are presented, questionnaire development is discussed. In addition, sampling, data collection and data analysis techniques are explained. Overall, this chapter will cover "how" the study will be carried out.

4.1   Research Design

Having identified research variables and theoretical framework, we need to design the study in a way that the requisite data can be gathered and analyzed to arrive at a solution. Purpose of this study is 'Hypothesis Testing' with a 'quantitative approach' in order to test the hypotheses that are developed in chapter three. This approach is seen as having objective observations, precise measurements, statistical analysis and verifiable truths. Using statistics, the constructed variables will be analyzed.

As for data collection method, combinations of both primary and secondary sources are employed for this study. The secondary data is obtained from past literature accessed through published journals and books and are employed to design the survey. The primary data is collected through questionnaires distributed among respondents.

4.2 Pilot study

The questionnaire was assembled partly based on previous literature (Franken et al., 1992; Kau and Liu, 1997; Deltsidou, 2009) and due to the original nature of the study, was partly developed by the researcher. Therefore pilot test was essential to assure about reliability of the designed questionnaire. After finalizing the questionnaire, it was conveniently distributed among 17 colleagues and friends to test the reliability of the questions. Using SPSS, Cronbach's alpha was analyzed for each variable (see Table 4.1). Using the results of this test, some items were deleted in order to enhance the Cronbach's Alpha ratio.

Variable	Initial Number of items	Cronbach's Alpha before Improving	Number of items after improvement	New Cronbach's Alpha
Self-Confidence	10	0.207	6	0.556
Assertiveness	7	0.563	5	0.680
Conservativeness	5	0.659	5	0.659
Risk-Taking Attitude	8	0.722	5	0.710
Sense of Justice	6	0.802	5	0.711
Attitude Towards Conventional WOM	5	0.903	5	0.903
Attitude Towards Online WOM	7	0.543	5	0.697
Actual Behavior of Conventional WOM	3	0.838	3	0.838
Actual Behavior of Online WOM	3	0.774	3	0.774

Table 4.1 Reliability test and improvement of the variable' items design

Although Cronbach's Alpha of 0.7 is considered to be acceptable, according to Nunnaly (1978) in management science studies, a common practice is to accept Cronbach's Alpha of 0.6 and above.

As mentioned in Table 4.1, number of items representing each variable was initially high; therefore questionnaires took longer time to be filled by the respondents. Thus, our main objective was to reduce the number of items in a way that increases the reliability of the test.

As illustrated in table 4.1 the only non-reliable item is considered 'self-confidence' with alpha of 0.207 which is quite low for the variable to be reliable. The reason can be routed in using two different sources in designing questions. Therefore in order to improve the items of this variable, only one reference (Kau and Liu, 1997) is considered in the new questionnaire. Consequently, the chronbach's alpha is expected to boost up into acceptable level.

Reliability in four variables (assertiveness, risk-taking attitude, sense of justice, and attitude towards online WOM) were enhanced by deducting number of less relevant items; and three variables remained unchanged. This pilot study resulted in an improved questionnaire which is presented in the appendix.

4.3   Questionnaire Development

The improved questionnaire was designed in five (5) sections and twelve (12) sub-sections (See table 4.2). The first section covers questions about independent variables; section two is measuring mediating variables and section three covers dependent variables. The forth section includes questions about familiarity with internet in order to facilitate analysis of dependent variables and the latter part asks for respondents demographics.

In the first three sections of the questionnaire, respondents answered to close-ended questions asking for items of each variable using five item Likert scale varying from 1 (strongly disagree) to 5 (strongly agree). There are no open ended questions in this survey.

In section four, two multiple choice questions ask about online websites familiarity and respondents purpose of visit. This section continues with two yes/no questions asking about word of mouth ultimate behavior in offline and online environments.

Section five, covers demographic related matters (including: gender, age, marital status, citizenship, education and occupation) to discover possible relationships of personal profiles and their attitude and behavior of word of mouth. (refer to Appendix A for complete questionnaire)

Section	Sub-Section	Type of Variable	Variable Measurement	Code of items
One	A	Independent	Self-Confidence	SC01-SC06
	B	Independent	Assertiveness	AS01-AS05
	C	Independent	Conservativeness	CV01-CV05
	D	Independent	Risk-Taking Attitude	RT01-RT05
	E	Independent	Sense of Justice	SJ01-SJ05
Two	F	Mediating	Attitude Towards Conventional WOM	AC01-AC05
	G	Mediating	Attitude Towards Online WOM	AO01-AO05
Three	H	Dependent	Actual Behavior of Conventional WOM	BC01-BC03
	I	Dependent	Actual Behavior of Online WOM	BO01-BO03
Four	J	Descriptive	Internet Usage Pattern	IU01-IU03
	K	Descriptive	WOM Behavior History	NF01-NF04
Five	L	Descriptive	Respondent Profile	RP01-RP10

Table 4.2 Sources of measurement scale items

4.4   Sampling Design

Target population of this study consists of individuals above 18 years old who use internet and customer of travel services. Since the influence of country of residence is not considered as a variable in this study, therefore respondents can reside in any country. However, citizenship and country of residence is requested from all participants in order to compare the results.

Non-Probability sampling is selected for the purpose of this study. A combination of 'convenience sampling' and 'snowball' is used for data collection. Regarding to the geographic dispersion and relatively outsized number of the target population, individuals were approached by convenience sampling. Moreover, regarding to the time limit, using snowball sampling approach, participants were asked to introduce more respondents in order to reach the targeted sample size.

For the convenience of respondents and ease of distribution, questionnaires are designed in an online website. Electronic questionnaires are known to be easy administered, can reach globally, inexpensive, fast delivery and respondents can answer at their convenience. With this approach it is possible to reach online databases and contact their users for their participation.

4.5   Sample Size

Following Roscoe's (1975) rule of thumb, sample sizes between 30 and 500 are appropriate for most researches (at 500, sample error will not exceed 10 percent of the standard deviation about 98 percent of the time). Therefore, a minimum sample of 30 from each sub sample will be representative of the whole target population. Thus the sample size of this study is chosen as reasonably large with 300 usable questionnaires.

4.6   Sample Selection

The survey was conducted among respondents who are internet users and have been a client of travel services (i.e. hotels, package holidays, airlines, car rentals, cruise lines, railways and sightseeing tours). With regards to the time and resource constraints, only residents of three

countries including United States, Malaysia and Iran are approached via online survey. This is to observe the possible differences in behavior among residents of these countries. Moreover, these countries represent each of the three broad economic categories including Developed, Emerging and Developing.

The respondents include both male and female who are eighteen years and above old. They could be students or working professionals from various institutions, self-employed or even retirees.

4.7 Data Collection

Electronic questionnaires were distributed among respondents through internet using personal emails, social networking websites and internal portals such as university student portals.

4.8 Data Analysis Technique

To fulfill the objectives of the study, and test the reliability, validity of the variables and relationships among independent and dependent variables, a number of analyses are used on the data. These analyses are covering various aspects of the research. Table 4.3 presents a summary of the analyses that are utilized in the following chapter to test the hypotheses.

Analysis	Objective	Method
Descriptive Analysis	To explore the pattern of respondents' demographics	Frequencies
Normality Test	To ensure of normal distribution of the data	Histogram Boxplot Skewness Kurtosis Normal Q-Q plot Detrended Q-Q plot
Reliability test	To confirm the internal consistency of all measured items in the questionnaire	Cronbach's Alpha
Validity Test	To assess whether the item measures what it is supposed to measure	Corrected Item-Total Correlation
Bivariate Analysis	To analyze the strength and direction of the relationship between variables	Bivariate Analysis of Pearson Correlation
Multivariate Analysis	To explore the predictive ability of a set of independent variables on one continuous dependent variable	Standard Multiple Regression
Non-Parametric Analysis	To explore the possible effect of demographic factors on the variables	Chi-Square test

Table 4.3 Data analysis techniques

4.9   Summary

This chapter covered research design and answered the question of 'how' the study will be carried out. Steps in developing questionnaire and conducting a pilot study are discussed. Sampling and data collection methods are presented and data analysis techniques that are to be used in next chapter for analyzing the data are explained.