Chapter 3
Methodology

Firstly, this section outlined the theoretical framework and the hypotheses to be tested. Then, it provided a description of the sampling procedure, research instruments, data collection techniques and data analyze techniques. Since the subject of this research is new in Malaysia, the availability of past data and information is very limited. Therefore, this research used the survey technique whereby the primary data collected will be analysed.

3.0 Theoretical Framework

The variable of primary interest to this research is the dependent variable of awareness towards Internet banking. The awareness concept consists of two main dimensions i.e. knowledge and perception (Figure 3.0). The two most important independent variables that influence the dependent variable are communication and sociodemographic (Figure 3.2).

Figure 3.0: Dimensions (D) of the concept (C) awareness

The impersonal mass media sources e.g. newspaper, magazine and television advertisement are the most valuable for creating initial product awareness (Schifana and Kanuk, 1991). Figure 3.1 depicted the importance of personal and impersonal mass media sources in the adoption process.
Figure 3.1: The Importance of Personal and Impersonal Mass Media Sources in the Adoption Process


Many studies in developed countries had shown that the young, educated, and had high social economic status consumers and had many contacts both within and outside social group or community are more aware of new technological product (Britt, 1997; Tracy, 1997; Rosenberger, 1998). Like wise, Lee (1998) confirmed that the young, single and just married consumers are more aware the existence of PC banking in Malaysia. They also had higher education and higher income while working in the private sector.

The relationship between the dependent variables and the independent variables is shown in Figure 3.2.
3.1 Hypotheses and Research Questions

Based on the theoretical framework, the following hypotheses developed:

1. H₀: There is no relationship between education level and knowledge on Internet banking.
   H₁: The higher education level, the knowledge on Internet banking will be better.

2. H₀: There is no relationship between occupational level and knowledge on Internet banking.
   H₁: The higher occupational level, the knowledge on Internet banking will be better.

3. H₀: There is no relationship between knowledge and perception on Internet banking.
   H₁: There will be a positive correlation between knowledge and perception on Internet banking.
4. $H_0$: There is no relationship between knowledge and adoption of Internet banking.
$H_1$: There will be a positive correlation between knowledge and adoption of Internet banking.

5. $H_0$: The perception of individuals on Internet banking will be the same irrespective of their job level.
$H_1$: The perception of individuals will vary depending on their job level.

6. $H_0$: The perception of individuals on Internet banking will be the same irrespective of their education level.
$H_1$: The perception of individuals will vary depending on their education level.

7. $H_0$: There will be no difference between individuals in Kuala Lumpur and Ipoh with respect to the items—useful, secure, convenient, flexible, cost effective and personalized in the perception on Internet banking.
$H_1$: There will be significant difference between individuals in Kuala Lumpur and Ipoh with respect to the items—useful, secure, convenient, flexible, cost effective and personalized in the perception on Internet banking.

Besides that, there are some descriptive analysis:

1. To analyze the percentage of consumers aware of Internet banking.
2. To analyze the percentage of consumers in Kuala Lumpur and Ipoh aware of Internet banking through mass media and impersonal sources.
3. To analyze the percentage of consumers are going to adopt the Internet banking.
4. To analyze the reasons the consumers did not adopt the Internet banking.
3.2 Survey Instrument
To obtain the primary data, a self-administrated questionnaire was prepared for distribution. Questionnaire was selected because it could covered large number of people in different geographic regions. The questionnaire would reflect the understanding, perception and usage of Internet banking. There are 5 sections in the questionnaire which comprises of 47 simple questions as shown in Appendix A.

Section 1 consists of 5 general questions using nominal scales. The questions are straight forward and of close-ended type to ensure the respondents are comfortable with the survey. By asking these questions, the general information e.g. whether the respondent owns a personal computer would be able to collect. At the same time, it also act as a guide to identify the Internet user and non Internet user. For example, respondent is requested to indicate whether he/ she has used Internet banking before.

Section 2 consists of 6 questions which are used to obtain information about consumer awareness towards Internet banking. For example, the respondent need to indicate whether he/she has heard about Internet banking and whether he/ she realised that the banking institutions in Malaysia offer Internet banking. The questions are in interval scale. In order to obtain sources of information on how the respondents knew the existence of Internet banking, the last question of Section 2 classified into four main categories: mass media, informal, commercial and self and using nominal scale (Beal & Rogers, 1971).

Section 3 consists of 26 questions which are used to obtain information about consumers' knowledge on Internet banking and are in nominal scale. Friedenberg, Lisa (1995) that true/ false items are useful for assessing knowledge of categorical, factual information. The knowledge awareness stage is an important stage because it would influence the consumer's attitude towards the product. The more units of knowledge a person obtains about an object, the more attitudes (feelings and evaluations) he will form. Marketers are very interest
in consumers' knowledge and attitudes because they believe if they can have an influence on purchase-related attitudes and knowledge, they can influence purchase behaviour. Proof of marketers’ interest in consumers’ knowledge and attitudes is the billions of dollars they spend to inform and persuade consumers (to influence attitudes and knowledge) (McNeal, 1982).

Section 4 consists of 2 questions on perception towards Internet banking. The first question in this section consists of 11 sub-questions and uses the Numerical Scale Technique. It caters information regarding the perception of respondents towards Internet banking. The scale used ranges from 1 to 5 with bipolar adjectives. Besides that, the second question was created specifically for non Internet banking users. The importance of this section is to determine the possibility rate of non Internet banking using this new channel and their reasons for not adopt it.

Section 5 consists of 8 questions which are used to obtain the respondents’ personal and demographic information. The questions are in nominal scales. These data will be used to determine the relationship of respondents’ background with knowledge and perception on Internet banking.

3.3 Data Collection Techniques
The questionnaires were distributed using mall intercept. Zimdund (1997) that sample from mall intercept does not represent the population. Each mall will have its own customers characteristics, and there is likely to be a larger bias than with careful household probability sampling. However, mall intercept is appropriate when demographic factors are not likely to influence the survey's findings or when the targets is a special population segments. In addition, the cost is low and the responses can be collected within a short period of time. In this research, mall intercept adopted because the main target sample is the working people and the cost is low.
The questionnaires distributed to the working people in the Suria KLCC at Kuala Lumpur and Parkson Grand at Ipoh shopping centres using non-probability sampling (convenient sampling). The shopping centres were selected as they are located at the city centre and one of the biggest shopping centre in the city respectively. The questionnaires were distributed with assistance of several friends from 3rd December 2000 to 10th December 2000.

The questionnaire is self-administered in nature where the respondents can fill in themselves. It is also designed in this way to speed-up data collection process to ensure higher probability of co-operation and the easiness in analyzing the collected data. A brief introduction and explanation on the purpose of the survey will be given to the respondents. In addition, assistance will be provided upon request and also on ad hoc basis.

3.4 Data Analyze
The raw data collected from the respondents were checked and edited to eliminate mistakes and misappropriation. The data were coded before submitting into the computer system for data processing.

The processing software or application for the data analysis was the Statistics Package for Social Science (SPSS). The coding phenomenon were as follows:
i. Simple closed-ended answer such as Yes & No or True & False would be coded as 1 & 2, respectively.
ii. Multiple choice closed-ended answer would be coded with range starting with 1, depending on the number of choices.
iii. Numerical scale technique’s answer would be coded as according to the scale set. In this study, it used a scale of 5 intervals.
iv. For those questions where there was no response, they would be coded as 0 which meant missing data. Whereas, for questions that were not answered
as they were not applicable to the respondents, they were given another code to differential from no response or missing data.

Using SPSS, first processed the data to identify any missing variable and to check for wrong or inappropriate input. Then the data were processed to obtain the various, statistical outputs such as frequency, mean value, factor, cross-tabulation and so on. Tabulation was used to present the analysis and to show the results in the following Chapter.

3.5 Pilot Study- Reliability & Validity Tests
A pilot study was conducted to test the validity and reliability of the questionnaire. Validity tests how well an instrument that is developed measures the particular concept it is supposed to measure (Sekaran, 1992). Reliability tests how consistently a measuring instrument measures whatever concept it is measuring (Sekaran, 1992). In general, reliability is viewed as ‘necessary but not sufficient’ for validity. All valid tests are reliable, but a reliable test may or may not be valid. Because it is a prerequisite for validity, reliability studies typically precede validity studies in the process of test analysis’ (Friedenberg, 1995).

Twenty pieces of questionnaires were distributed to the staffs working in Diethelm Malaysia Berhad, Petaling Jaya on 1st December, 2000 and collected back at the same day. The data were coded and submitted into the computer system for data processing.

The split-half reliability was used to test the reliability for knowledge on Internet banking. Split-half analysis usually used for dichotomous (two-category) scoring (Friedenberg, 1995). The results for 26 items knowledge on Internet banking showed that 90% of the differences among people in performance reflects differences in knowledge and 10% reflects errors in measurements (Alpha for part I= 0.9085, Alpha for part II= 0.9073) (Appendix II). The alpha for
part 1 and 2 is quite similar, 0.91 implies that people’s scores on the odd items are similar to their scores on the even items.

The Cronbach’s coefficient alpha is used to test the reliability for perception towards Internet banking. The most popular test of interitem consistency reliability is the Cronbach’s coefficient alpha, which is used for multipoint-scaled items (Sekaran, 1992). The results for 12 items perception on Internet banking showed that 92% of the differences among people in perception and 8% reflects errors in measurements (Alpha = 0.9218) (Appendix III).

Factor analysis is used to study the internal structure of a construct test (validity test) for the perception on Internet banking. The data yielded three factors with eigenvalues greater than 1.0. These explained 84.1% of the total variance (Appendix IV).

In short, the questionnaire is reliable and valid. Chapter 4 will discuss the results of findings.