CHAPTER 3
RESEARCH METHODOLOGY

The research methodology consisted of a simple questionnaire format. This questionnaire with mostly structured questions enabled the survey to be completed in a few minutes. Hence, due to the simplicity in execution of the survey, the response rate was relatively high from the number of forms that were distributed. The significantly high sample size was also reflective of the total population of doctors as the demographic variables were similar in the quantum of percentages. This allowed us to make conclusions with regards to the total population of Malaysian doctors.

Data collection procedures were also strictly monitored by the MSR and statistical software was used in data analysis.

3.1 Selection of Measures

The research was conducted using a **survey - questionnaire** to collect data from the sample population.

This research is a hybrid between descriptive research and causal research.

Descriptive research describes the characteristics of a population or phenomenon. In this study, we determine the answers to the question "What is the Internet usage among Malaysian doctors?"

On the other hand, causal research identifies the cause and effect relationship among variables where the research problems have been narrowly defined. In this study, among doctors who use the Internet, we would want to know whether

the impact of Internet as a source of information would replace the role of Medical Sales Representative (MSR).

The questionnaire filled by the doctors contains all structured – undisguised questions. The structured questions limits the number of response available and will meet the study objectives (to determine Internet usage amongst doctors and their choice of medical information source) as compared to unstructured questions which are more practical in exploratory studies.

In this survey, the success very much depends on the response from the doctors as well as the diligence of the MSR who is conducting the survey. Taking into consideration of doctors busy schedules and also the limited time available for each MSR when they meet the doctor (they not only have to promote products to the doctor but also conduct this survey) the survey should not take more than 5 minutes. Most doctors do not mind to spare 5 minutes to participate in the survey and respond immediately to the MSR. Twelve questions in a questionnaire format presented to the doctors by the MSR could be conducted smoothly in 5 minutes.

All twelve questions were close ended questions (fixed alternative questions) which have the following advantages:

- Makes the process of analysing, categorising and summarising answers easier

- Interviewer bias that may influence response can be avoided

- Takes less time and is easier for doctors to answer because closed questions require classification of the answer into standardised groupings prior to data collection. Standardising alternative responses to a question provides

comparability of answers, which facilitates coding, tabulating and ultimately interpreting the data.

These fixed alternative questions were further subdivided by the following categories:

- Question 1,2, 11 – Simple Dichotomy Questions – that requires the doctors to choose one of the two dichotomous alternatives i.e. yes or no

- Question 4,5,6 – Determinant Choice Question – that requires the doctors to choose one (and only one) response among several alternatives

- Questions 7,8,9,10,12 – Ranking Scale Method – People often rank order their preferences. An ordinal scale was developed by asking the doctors to rank order (from the most preferred to the least preferred), numbered as 1- 4 a set of objects or attributes. It is not difficult for doctors to understand the task of rank order by the importance of arranging a set of attribute i.e.type of information accessed on the Net according to preference. The advantage is that it is easy to construct and norms exist for comparison. The disadvantage is that this data may be ordinal and not interval.

A sample of a completed questionnaire is attached as Appendix 1.

3.2 Sampling Design

The total population of medical doctors in M'sia is 15,503 (Source: Malaysian Medical Council Registry 2001). The demographic profile is illustrated in Table 3.1.

Table 3.1 Demographic Profile of Malaysian Doctors Population

Demographic Profile	Variable	Percentage (%)
Age	Below 30 years	10
	30 – 40 years	37
	41 – 50 years	38
	51 – 60 years	13
	61 years and above	2
Sex	Male	71
	Female	29
Place of Practice	Urban	52
	Rural	48
Sector of Practice	Public	56
	Private	44

(Source: Statistical and Documentation Dept., Ministry of Health, 2001)

3.2.1 Sample Size

1,050 doctors responded from a total of 1,350 questionnaires that were circulated. 17% of these questionnaires were disqualified because of incomplete answers to all questions. Only 873 questionnaires (sample size) were taken into consideration for data analysis and this represented 6% of the total population of doctors in M'sia.

The questionnaire was distributed to both urban and rural areas. Urban areas are major towns and market centres (Alor Setar, Sungai Petani, Penang, Taiping, Ipoh, Kuala Lumpur, Petaling Jaya, Johor Bharu, Seremban, Melaka , Kota Bharu, Kuala Terengganu and Kuantan). Rural areas are the outskirts (Daerah Yan, Kuala Selangor, Kluang, Batu Pahat, Muar, Baling, Gua Musang, Grik , Besut, Kemaman, Kuala Lipis, Temerloh and Raub).

Refer to locations of doctors surveyed in Malaysia map - Appendix 2.

3.2.2 Data Collection Procedures

MSR's from Servier M'sia Sdn. Bhd helped to distribute the forms and conduct the survey during their course of work when visiting the doctors from October 2001 to January 2002 for a period of four months.

Four regions in M'sia namely Central, Northern, Southern and East Coast were surveyed. The number of MSR's whom were involved and the distribution of forms circulated and forms responded are shown in the table below:

Table 3.2 Distribution of Questionnaires and Response Rates

Region	State of Coverage	No. of MSR's	No. of forms distributed	No. of forms responded
North	Perlis , Kedah, Penang, Perak	5	250	150
East Coast	Kelantan, Terengganu, Pahang	5	250	138
Central	Selangor, Wilayah Persekutuan	10	500	325
South	N.Sembilan,Melaka,Johor	7	350	260
	Total	27	1,350	873

A total of 1,350 questionnaires were distributed as each MSR was allocated with 50 forms because it was a workable target for them to achieve without disruption to their daily work schedules. This convenient sampling yielded 873 respondents with completed questionnaires.

The survey was conducted by the MSR through two methods:

- They interviewed the doctors and filled up the questionnaires
- The doctor himself fills up the questionnaire in front of the MSR

3.2.3 Problems Encountered in Data Collection

During the course of data collection, there were no major objections by the doctors, this is mainly due to a simple, fuss free and no frills survey form.
One main hindrance to the survey were the doctors that had very busy practices and had requested the MSR to pass the questionnaire to them to be filled up later. However, these forms were never returned.

3.2.4 Limitations of the Sampling

The sampling of the doctors was only done in Peninsular Malaysia. East Malaysia doctors were left out due to limitations in manpower to conduct the survey. Hence, the conclusions of this research are only applicable to West Malaysia and may or may not reflect the actual scenario for the population of Malaysian doctors as a whole.

3.3 Data Analysis Techniques

Data input, data processing, data analysis was carried out using the software SPSS for Windows Version 10.0.