

# **CHAPTER 4**

## **RESEARCH RESULTS**

### **4.1 Demographic Profile of Doctors Surveyed**

Out of 1,350 questionnaires that were circulated throughout Peninsular Malaysia, 873 doctors (65%) responded from both private and public sectors. The distribution of doctors from both private and public sectors were 74% and 26% respectively.

The place of practice of these doctors was 56% from urban areas and 44% from rural areas.

The age group of these doctors were 8% who were below 30 years of age, 35% who were between 30 to 40 years, 39% who were between 41 to 50 years, 15% who were between 51 to 60 years and 3% who were 61 years and above.

The male and female ratio of doctors were 76% and 24% respectively.

In general, the majority of the doctors surveyed were from the private sector in urban areas and are males aged between 41 to 50 years.

**Demographic Profile of Doctors Surveyed are shown in Table 4.1.**

**Table 4.1 Demographic Profile of Doctors Surveyed (Samples)**

Demographic Profile	Variable	Number (N)	Percentage (%)
Sector of Practice	Public	223	26
	Private	650	74
Place of Practice	Urban	489	56
	Rural	384	44
Age	Below 30 years	74	8
	30 – 40 years	298	35
	41 – 50 years	344	39
	51 – 60 years	128	15
	61 years and above	29	3
Gender	Male	660	76
	Female	213	24
Total doctors		873	100

A comparison of demographic variables between the samples profile ( Refer to Table 4.1) and the total population of doctors profile ( Refer to Table 3.1) shows much similarities in terms of place of practice, age and gender except for sector of practice.

In the samples profile, the majority of the doctors were from the private sector as opposed to the population of doctors as a whole. This is due to the organization structure of Servier Malaysia Sdn. Bhd. where a large proportion of the sales force (MSR) are designated to service the private sector doctors.

## 4.2 Computer Ownership in Malaysian doctors

Of the total 873 doctors who were surveyed, 786 of them owned a computer. As such, the computer ownership among the doctors surveyed was 90%.

## 4.3 Internet Accessibility

In the total sample population of doctors surveyed, 84% had Internet access vs. 16% who did not have Internet access.

### 4.3.1 Ratios in Public and Private Sector

In the private sector, 81% of the doctors had Internet access as compared to 93% in the public sector. 19% of the doctors in the private sector and 7 % in public sector did not have access to Internet. (Refer to Table 4.2) .

**Table 4.2 Internet Access in Sector of Practice**

Do you have Access to Internet ?	Sector of Practice				Total	
	Private		Government			
	N	%	N	%	N	%
Yes	529	81	207	93	736	84
No	121	19	16	7	137	16
Total	650	100	223	100	873	100

**$p = 0.000$  ( High Significance )**

### 4.3.2 Ratios in Urban and Rural Areas

Both the doctors in urban and rural areas had 84% Internet accessibility. (Refer to Table 4.3) .

**Table 4.3 Internet Access in Place of Practice**

Do you have Access to Internet ?	Place of Practice				Total	
	Urban		Rural			
	N	%	N	%	N	%
Yes	412	84	324	84	736	84
No	77	16	60	16	137	16
Total	489	100	384	100	873	100

***p = 0.02 ( Significant )*****4.3.3 Ratios in Various Age Brackets**

The younger doctors were more inclined to access the Internet as compared to the older doctors. The study shows that doctors who were less than 50 years old had Internet accessibility of more than 90%. (Refer to Table 4.4 and Table 4.5) .

**Table 4.4 Internet Access in Age Group ( N )**

Do you have Access to Internet ?	Age group ( years of age) – Number (N)					Total
	<30	30-40	41-50	51-60	>61	N
Yes	71	270	308	79	8	736
No	3	28	36	49	21	137
Total	74	298	344	128	29	873

***p = 0.000 ( High Significance )*****Table 4.5 Internet Access in Age Group ( % )**

Do you have Access to Internet ?	Age group ( years of age) – Percentage (%)				
	<30	30-40	41-50	51-60	>61
Yes	96	91	90	62	28
No	4	9	10	38	72
Total	100	100	100	100	100

***p = 0.000 ( High Significance )***

#### 4.3.4 Ratios in Male and Female Doctors

Internet accessibility in the male and female doctors were 86% and 79% respectively.

**Table 4.6 Internet Access in Male and Female Doctors**

Do you have Access to Internet ?	Gender				Total	
	Male		Female			
	N	%	N	%	N	%
Yes	567	86	169	79	736	84
No	93	14	44	21	137	16
Total	660	76	213	24	873	100

*p = 0.02 ( Significant )*

#### 4.3.5 Time frame doctors have had Internet Access

Out of 736 doctors who had Internet access, the majority 54% had been accessing for more than 2 years, 30% had been accessing between 1 to 2 years and only 16% had been accessing for less than a year ( Refer to Table 4.7).

**Table 4.7 The time frame doctors have had Internet Access**

Time frame	N	%
Less than 1 year	118	16
Between 1 – 2 years	220	30
More than 2 years	398	54
Total	736	100

### 4.3.6 Time Span Doctors Use the Internet

The majority of doctors, 34% surfed the Net at least 3 to 4 times in a day, 28% surfed at least once a day, 26.5% surfed at least once a week and 11% accessed the Net at least once in a month( Refer to Table 4.8) .

**Table 4.8 Time Span Doctors use the Internet**

Time Span	N	%
At least once a day	205	28
3 – 4 times a day	251	34
At least once a week	196	26.5
At least once in a month	81	11
Did not respond	3	0.5
Total	736	100

### 4.3.7 Venue of Internet access

The majority of doctors, 60% surfed the Net at home, 34% at work, 4.5 % at cybercafes and very few 1.5% at others i.e. friend's home ( Refer to Table 4.9).

**Table 4.9 Venue of Internet Access**

Venue	N	%
At work	251	34
At home	443	60
Cyber – café	32	4.5
Others	10	1.5
Total	736	100

### 4.3.8 Factors Hindering Internet Accessibility

Out of 137 doctors who had **NO** Internet access, 37% had computers but did not find the need for having Internet access, however, 64% neither had computers nor Internet access for the following reasons: lack of IT knowledge (23%), financial constraints (14%), others i.e. time consuming (26%). ( Refer to Table 4.10).

**Table 4.10 Factors hindering Internet Accessibility**

<b>Factors hindering Internet Accessibility</b>	<b>N</b>	<b>%</b>
Do not find the need for Internet	50	37
Lack of IT knowledge	32	23
Financial Constraints	19	14
Others	36	26
Total	137	100

## 4.4 Internet Usage

For activities most preferred, seeking medical information was the number one activity for 45% of the medical doctors, next was using e-mail for 33% of the doctors and third important was seeking non medical related information for 22%. ( Refer to Table 4.11) .

**Table 4.11 Internet Usage**

Internet Usage	Most Preferred	
	N	%
Seeking medical related Info	329	45
Seeking non medical related Info	162	22
Using e-mail	243	33
Did not respond	2	0
Total	736	100

#### 4.4.1 Medical Related Information

For the type of medical related information that was most preferred, disease information ranked the highest for 38% of the doctors, next was looking at medical journals online for 35% and third important was seeking drug information for 27%. ( Refer to Table 4.12).

**Table 4.12 Medical related information**

Medical related information	Most Preferred	
	N	%
Drug Information	197	27
Medical Journals Online	254	35
Disease Information	282	38
Did not respond	3	0
Total	736	100



#### 4.4.2 Non-Medical Related Information

For non-medical related information most preferred, finance/banking/share market information rated the highest with 39% of the doctors, next was other information i.e. (world news e.g.CNN, travel & holidays, entertainment, sports news, recipes) for 30% of the doctors and third important was politics for 26%. For activities least preferred, the highest ratio was also reflected for finance/banking/share market information for 23% of the doctors, second was politics for 16.8% of the 124 and last, was other information for 15%. ( Refer to Table 4.13).

**Table 4.13 Non-medical related information**

Non-medical related information	Most Preferred	
	N	%
Finance/banking/share market Info	285	39
Politics	191	26
Other Information	222	30
Did not respond	38	5
Total	736	100

#### 4.5 Information looked for at Pharmaceutical Company's Website

The majority of doctors, 56% have not visited a pharmaceutical company website as compared to 44% who had visited. ( Refer to Table 4.14).

**Table 4.14 Visit to pharmaceutical company website**

Have you visited a pharma co. website ?	N	%
Yes	327	44
No	409	56
Total	736	100

Out of those who had visited the pharmaceutical company website, the number one reason for 54% of the doctors to surf this site is to look for product information, second was to look at disease information for 25% of the doctors, third was to look for R&D information for 16% and last was the option Other Information for 4% of the doctors.( Refer to Table 4.15).

**Table 4.15 Reasons for visiting a Pharma. Company Website**

Reasons for visiting a Pharmaceutical Company Website	Most Preferred	
	N	%
Product Information	177	54
R & D Information	52	16
Disease Information	83	25
Other Information	12	4
Did not respond	3	1
Total	327	100

## 4.6 Source of Medical Related Information

For source of medical related information most preferred, medical talks/congress/symposium rated the highest for 35% of the doctors, next most preferred was medical journals for 33%, and third important was Internet for 23%. Surprisingly, the MSR's and pharma company brochures ranked the last as only 8% of the doctors had placed this category as the most preferred. ( Refer to Table 4.16).

**Table 4.16 Source of medical related information**

Source of medical related information	Most Preferred	
	N	%
Medical talks/congress/symposiums	259	35
Medical Journals	240	33
Medical Sales Representatives	61	8
Internet	168	23
Did not respond	8	1
Total	736	100

## **4.7 Analysis of Measures**

### **4.7.1 Computer Ownership**

The DOCTORS INTERNET SURVEY found that the level of computer ownership among Malaysian doctors is 90%. As compared to a survey conducted in September 1998 entitled 'Global Survey Points to Increasing Use of Internet by Physicians(Doctors) by the Canadian PSL Group <sup>(5)</sup>, they found that 80% of doctors across eleven North American and European countries owned a computer. Although this survey was conducted three years ago, the current data obtained clearly shows that the Malaysian doctors are at par with their European and American counterparts as far as technology is concerned. The concerted efforts by the Government, the tertiary education system and private sector must be applauded for setting up an excellent infrastructure in place to enable the current good computer penetration achieved not only for the doctors population but also the general population as well. Being in a developing country did not deter the Malaysian doctors from acquiring the expertise of using computers primarily because of the progressive governmental efforts.

#### 4.7.2 Internet Accessibility

This survey also showed out of the total 873 doctors surveyed, 84% had Internet access. However, if only doctors who owned computers is taken into consideration, the percentage of Internet access can be computed as follows:

Total doctors with Internet access/ Total doctors with computers x 100%

= 736 / 786 x 100%

**= 94% of Malaysian doctors who owned a computer had Internet access**

Compared to the survey 'Global Survey Points to Increasing Use of Internet by Physicians(Doctors) from the Canadian PSL Group <sup>(5)</sup>, in 1998, only 44% of doctors who owned a computer across eleven North American and European countries had accessed the Internet. Thus, this study on Malaysian doctors in 2001 which showed a 94% Internet accessibility rate, shows that Malaysian doctors were mostly Internet savvy. To be more precise in comparison with the PSL survey at the same time period (1998), the group of doctors who had responded that they had been accessing Internet for more than two years can be used as a benchmark for comparison.

Total doctors who had access for > than 2 years / Total number of doctors with computer x 100%

= 398 doctors / 786 doctors x 100%

**= 51% of Malaysian doctors had Internet access in year 1999 or less**

Coupled with the findings from the ISIS Research <sup>(3)</sup> in Spring 1998, their figures showed that only 38% of UK doctors were using the Internet.

This further proves the point that indeed Malaysian doctors are more advanced where Internet accessibility is concerned.

The second wave of PSL's ongoing I.MD 2000 study of 1,750 doctors in USA, Canada, UK, Germany, France, Italy, Spain and Brazil was released in Spring 2000. A short report of this study published in InPharm.com in June 2000, revealed that the percentage of doctors who accessed the Net was between 55% in Germany and 93% in USA. PSL also predicted that by Q2 2001, anywhere between 75% of doctors in Germany and 97% in the USA would have used the Internet.

Based on this past study, we can only conclude that the Internet accessibility rate at 84% amongst Malaysian doctors, is at par with the European and American doctors.

The remarkable growth rate is attributed to the strong government commitment on the development and promotion of the Multimedia Super Corridor ( MSC), in addition to initiatives such as the " Internet Access PC" for all schools and the "PC Ownership Campaign 2000" by the private sector. These initiatives had a positive effect on the growth and use of Internet as a medium of communications and interaction.

There was also no significant difference in Internet accessibility in doctors in private or public sector, urban or rural areas and male or female alike. This clearly indicates that both doctors in private and public sectors were interested in using the Internet.

The Internet is also not limited to urban doctors only as doctors in rural areas also had equal access. There was also no gender discrimination when it comes to using the Internet.

Meanwhile, the younger doctors ( aged 50 and below ) were more Internet savvy than those older doctors ( aged 51 and above ). This is consistent with most new

technology tools as younger doctors are more receptive to new technology and ideology.

For more than half of the doctors surveyed, the time frame that have had access to Internet was more than 2 years. This indicates that Internet was well entrenched some time back.

One third of the doctors use the Internet 3-4 times daily. Most likely doctors have to access 3-4 times because each time they cannot spend long hours on the Internet as patients could be trickling in especially so in private practice.

Two thirds of the doctors surveyed used the Internet at home.

#### **4.7.3 Internet Usage**

For activities on the Internet, the number one activity was seeking medical information for 45% of the doctors. Second was using e-mail for 33% of the doctors and ranked third was seeking non-medical related information for 22% of the doctors. These results showed that Malaysian doctors were interested in clinical pursuits on the Internet than any other activities especially e-mail which is ranked as the most important activity for most Malaysian Internet users. The AC Nielsen Netwatch survey in 1999, found that the most important use of the Internet among the Malaysian Internet users were E-mail that got first ranking,

Coming back to the PSL Group survey <sup>(5)</sup> in 1998, the second phase of the study that was conducted with over 2,500 Internet-connected physicians in 105 countries revealed that: excluding all time spent on e-mail, these doctors reported spending half of their Internet time seeking information pertaining to medicine. Almost all of them (95%) said they used the Internet to access information relating to disease, 88% reported reading medical journals online and 86% said they used the Internet to obtain information on drug.

As such, this study showed that e-mail was the most important activity and then only seeking medical related information, which clearly indicated a difference in preference of activity amongst the Malaysian doctors.

#### **4.7.4 Medical Related Information Surfing by Doctors**

The DOCTORS INTERNET SURVEY also showed that 38% of doctors looked for information pertaining to disease, next was looking at medical journals online for 35% and third important was drug information for 27% when it comes to medical related information. This result was in sync with the earlier results obtained in the PSL study.

In May 1999, CyberAtlas reported the results from Healtheon's survey of US Net usage. "Doctors' Net Use Keeps Increasing" <sup>(6)</sup> revealed more than 63% of the doctors surveyed used e-mail daily. In contrast to this study, the proportions of Malaysian doctors who used e-mail were relatively lower.

Another survey showed very conflicting results, the Harris Interactive Poll in 2001, reported only a very small proportion of time (15%) is spent looking for clinical information by doctors.

#### **4.7.5 Non-Medical Related information Surfing by Doctors**

This survey showed that for non-medical related information, finance/banking/share market information rated the highest with 39% of the doctors, next was other information i.e. (world news e.g.CNN, travel & holidays, entertainment, sports news, recipes) for 30% of the doctors and third important was politics for 26% of the doctors.

Another interesting point to note is that one third of the doctors used the Net to seek information on travel, entertainment, world news, sports, and recipes. This

clearly indicates that the Internet enables the doctor to garner useful information within the confines of his home or office without having to venture out. One known fact is that doctors tend to have long working hours, often on call and always short of time especially during the working hours period. The Internet is now a source of information at disposal for doctors who do not have the time to venture out.

#### **4.7.6 Information looked for at Pharmaceutical Company Website**

The DOCTORS INTERNET SURVEY showed that the majority of doctors, 55% have not visited a pharmaceutical company website as compared to 45%.

This findings are consistent with the NOP <sup>(4)</sup> report in 1998, "Internet will be a significant information source for GPs in the new millennium", in which they found that more than half (52%) of GPs who had accessed the Internet said that they had never visited a pharmaceutical company Web site.

Out of those 45% of Malaysian doctors who had visited the pharmaceutical company website, the number one reason for 54% of the doctors to surf this site is to look at product information, second was to look at disease information (25%), third was to look for R&D information (16%).

In comparison, the second phase of the Canadian PSL Group<sup>(5)</sup> study in 1998, also showed that when visiting these pharmaceutical company websites, the information doctors most wanted to see was "product information" (51% of the doctors), "R&D information" for 27% and "disease information" for 16%.

Thus, both studies indicate that product information was the most important information doctors sought after when visiting a pharmaceutical company website.



#### **4.7.7 Source of Medical Related Information**

One of the interesting results obtained from this survey was medical sales representatives (MSR) ranked the last as only 8% of doctors said that this was their most preferred source of medical related information. Medical seminars/symposium/congress rated the highest with 35% of the doctors, next most preferred were medical journals for 31% of the doctors and third important was Internet for 23% of the doctors.

In a study that was conducted on 1,075 medical practitioners by the Medicines Surveillance Centre (Medsurv), Dept. of Pharmacy, University of Malaya and published in the Malaysian Medical Tribune (December 2000) – “Are doctors and pharmacists computer savvy?” <sup>(10)</sup> revealed that 79.3% of medical practitioners rank attending medical symposiums as the number one way of acquiring product information followed by reading medical journals. Brochures presented by MSR's ranked third. Internet was ranked at number eight. These findings are quite consistent with the DOCTORS INTERNET SURVEY.

Both internationally and locally, pharmaceutical companies invest a great deal of resources in employing and training medical sales representatives (MSR), secondly in clinical studies to provide data for medical journals and thirdly to organise medical seminars/symposiums/ congress to provide medical related information to medical practitioners. Internet is not an important element of the marketing mix although many multinational pharmaceutical companies have begun to look at the Internet as one of the key marketing tools.

Currently, stringent advertising and promotion regulations imposed by the relevant health authorities in Europe, Africa, Asia and South America limits the growth of healthcare sites in these regions. Direct to consumer advertising of prescription medicine which is allowed in Northern America by the Food and Drug Authorities (FDA) have spurred the growth of healthcare sites and

pharmaceutical companies have capitalised on the benefits of Internet within the scope of medical professionals and the general public.

As such, the results obtained from this local survey may give a case for multinational pharmaceutical companies who are present locally in Malaysia to relook at their current marketing strategies in deploying MSR's and use them in other ways which are more effective and also start paying more attention to the Internet as a key component of the marketing mix.

#### **4.7.8 In a nutshell**

Based on the DOCTORS INTERNET SURVEY and the future growth trends in Internet usage, one can conclude that the Internet will continue to grow as an important provider of health related information to the medical practitioners' worldwide. This further brings the notion that the conventional role of MSR's as a provider of medical information is under threat and efforts must be taken by pharmaceutical companies to relook at their current role and cater for the emerging needs of the Internet savvy doctors.