



*National Computer Board*

# **IT HOUSEHOLD SURVEY 2000**

**Note:**

*The findings in the survey report are those for the National Computer Board. Readers are, however, kindly invited to note that differences of opinion may arise as regard to interpretations and conclusion expressed herein. We welcome constructive critical comments.*

## TABLE OF CONTENTS

<b>1</b>	<b>EXECUTIVE SUMMARY.....</b>	<b>6</b>
<b>2</b>	<b>INTRODUCTION.....</b>	<b>8</b>
2.1	OBJECTIVES.....	8
2.2	METHODOLOGY.....	8
2.2.1	<i>Sample.....</i>	<i>8</i>
2.2.2	<i>Data collection.....</i>	<i>9</i>
2.2.3	<i>Survey team.....</i>	<i>9</i>
<b>3</b>	<b>COMPUTER OWNERSHIP IN MAURITIAN HOUSEHOLDS .....</b>	<b>10</b>
3.1	COMPUTER OWNERSHIP.....	10
3.1.1	<i>Overall.....</i>	<i>10</i>
3.1.2	<i>Computer ownership by total household monthly income .....</i>	<i>11</i>
3.1.3	<i>Computer ownership by region .....</i>	<i>11</i>
3.2	FEATURES OF COMPUTERS OWNED.....	13
3.2.1	<i>Hardware.....</i>	<i>13</i>
3.2.2	<i>Intention to upgrade.....</i>	<i>14</i>
3.2.3	<i>Peripherals.....</i>	<i>15</i>
3.2.4	<i>Software.....</i>	<i>16</i>
3.3	USAGE OF COMPUTERS AT HOME.....	17
3.3.1	<i>Types of computer usage.....</i>	<i>18</i>
3.4	HOUSEHOLDS WITHOUT COMPUTER.....	19
3.4.1	<i>Reasons for not owning a computer .....</i>	<i>19</i>
3.4.2	<i>Intention to purchase a computer .....</i>	<i>20</i>
3.4.3	<i>Areas of planned usage.....</i>	<i>20</i>

<b>4</b>	<b>INTERNET ACCESS IN MAURITIAN HOUSEHOLDS .....</b>	<b>21</b>
4.1	HOUSEHOLDS CONNECTED TO THE INTERNET .....	21
4.1.1	<i>Overall .....</i>	<i>21</i>
4.1.2	<i>Internet connection among households owning computer.....</i>	<i>22</i>
4.2	HOUSEHOLDS MEMBERS ACCESSING THE INTERNET .....	23
4.2.1	<i>Profile of users accessing the Internet from home .....</i>	<i>23</i>
4.2.2	<i>Location of Internet access of households members.....</i>	<i>24</i>
4.2.3	<i>Internet access by income per month .....</i>	<i>24</i>
4.2.4	<i>Location of Internet access by Income range.....</i>	<i>25</i>
4.2.5	<i>Internet access of users by region.....</i>	<i>25</i>
4.2.6	<i>Internet access by region at different locations.....</i>	<i>26</i>
4.3	TYPES OF INTERNET USAGE .....	27
4.3.1	<i>Type of Internet use by age group.....</i>	<i>28</i>
4.3.2	<i>Number of Email Accounts.....</i>	<i>28</i>
4.4	ON-LINE SHOPPING.....	29
4.4.1	<i>Main reasons for shopping through the Internet.....</i>	<i>29</i>
4.4.2	<i>Volume of purchase since January 1999.....</i>	<i>29</i>
4.4.3	<i>Amount spent on-line.....</i>	<i>30</i>
4.4.4	<i>Products and services bought online.....</i>	<i>31</i>
4.4.5	<i>Reasons for not shopping on-line.....</i>	<i>31</i>
4.5	HOUSEHOLDS WITHOUT INTERNET CONNECTION .....	32
4.5.1	<i>Reasons for not having home Internet access.....</i>	<i>32</i>
4.5.2	<i>Intention to subscribe to Internet.....</i>	<i>32</i>
<b>5</b>	<b>CONCLUSION .....</b>	<b>33</b>

## **TABLE OF FIGURES**

FIGURE 1: GROWTH IN COMPUTER OWNERSHIP .....	10
FIGURE 2: COMPUTER OWNERSHIP BY INCOME.....	11
FIGURE 3: COMPUTER OWNERSHIP BY REGION .....	11
FIGURE 4: GROWTH IN COMPUTER OWNERSHIP BY REGION.....	12
FIGURE 5: PROCESSING POWER OF COMPUTER.....	13
FIGURE 6: REASONS FOR UPGRADE.....	14
FIGURE 7: PERCENTAGE OF HOUSEHOLDS OWNING PERIPHERALS .....	15
FIGURE 8: PRINTER OWNERSHIP IN 2000 IN CONTRAST WITH THAT IN 1998.....	15
FIGURE 9: SOFTWARE INSTALLED .....	16
FIGURE 10: TYPES OF COMPUTER USAGE.....	18
FIGURE 11: HOUSEHOLDS NOT OWNING COMPUTER.....	19
FIGURE 12: REASONS FOR NOT OWNING A COMPUTER .....	19
FIGURE 13: PERCENTAGE OF HOUSEHOLDS INTENDING TO PURCHASE A COMPUTER.....	20
FIGURE 14: AREAS OF PLANNED USAGE.....	20
FIGURE 15: HOUSEHOLDS CONNECTED TO INTERNET BY REGION.....	21
FIGURE 16: INTERNET CONNECTION AMONG HOUSEHOLDS OWNING COMPUTER .....	22
FIGURE 17: HOUSEHOLDS CONNECTED IN 2000 & 1998.....	22
FIGURE 18: LOCATION OF INTERNET ACCESS .....	24
FIGURE 19: INTERNET ACCESS BY INCOME GROUP .....	24
FIGURE 20: DISTRIBUTION OF INTERNET ACCESS BY LOCATION & INCOME GROUP .....	25
FIGURE 21: INTERNET ACCESS BY REGION.....	25
FIGURE 22: LOCATION OF INTERNET ACCESS BY REGION .....	26
FIGURE 24: MAIN REASONS FOR SHOPPING ON-LINE.....	29
FIGURE 25: AMOUNT SPENT ON-LINE.....	30
FIGURE 26: TYPES OF PRODUCTS BOUGHT ONLINE.....	31
FIGURE 27: REASONS FOR NOT HAVING HOME INTERNET ACCESS .....	32

# 1 Executive Summary

This study on the household usage of Information Technology (IT) consisted of a survey of a sample of 2,000 households in the Island of Mauritius. The aim of the survey was to assess the scope and usage of Information Technology in Mauritian households. A structured questionnaire was used to conduct interviews of Mauritian households in October 2000.

The main findings of the study are as follows:

- This IT Household Survey revealed that home computer ownership was 21 % in October 2000. This figure has increased by 84 % since 1998. Furthermore, the proportion between rural and urban household to own a computer was as follows:
  - Urban: 24 %
  - Rural : 18 %

- The most common use of computer made by household members are:
  - Word-Processing & Spreadsheet
  - Playing Computer Games
  - Internet Surfing

The printer was found to be the most common peripheral to their computer in the Mauritian households.

- The main reasons given by households for not owning a computer are that they do not find its necessity presently and find it expensive. However, 68 % of them show interest to buy one in the near future.
- 12 % of households have Internet connection. Connectivity was higher in urban than in rural areas. Household members access Internet also from places of work, Internet Cafés, places of study and social centres.

- The five main uses of Internet are:
  - Email/chat
  - News
  - Download/listen to music
  - Play online games
  - Distance learning
  
- 11 % of the households have only 1 member who has an e-mail account. 4 % of the households have 2 members with e-mail accounts.
  
- Out of those households owning a computer but not having Internet connection 92 % has shown intention to subscribe in the future.
  
- The younger generation (age group 12-20 years) was making the most use of computer and Internet and secondary education students were among the main users.
  
- Finally it was found that e-commerce related activities have just started.  
There is a very small percentage (1 %) of households who transacted via the Internet mainly for books and stationery.

## **2 Introduction**

In October 2000 the National Computer Board conducted the IT Household Survey 2000 with the support of the Call Services Limited (CSL) and the Central Statistical Office (CSO). The aim of the survey was to assess the scope and usage of Information Technology in Mauritian households (excluding Rodrigues).

### **2.1 Objectives**

The main objectives of the IT Household Survey 2000 were to:

- measure computer ownership of Mauritian households
- assess the usage of computers by Mauritian households and individuals;
- measure Internet access by Mauritian households and individuals ;
- assess the scope of Internet access by Mauritian households and individuals; and
- measure the scope and extent of e-commerce related activities by Mauritian households and individuals having Internet access.

### **2.2 Methodology**

#### **2.2.1 Sample**

Presently, Mauritius consists of 297,800 households where around 55 % reside in rural areas and 45 % reside in urban areas (*Source: 2000 Housing Census- Main results, CSO*).

A list of residential telephone subscribers that was made available by the Call Services Ltd. was used for the sampling. The list covered around 80 % of Mauritian households, i.e. around 238,240 households. It was assumed that the non-telephone subscribers are spread all over the population; i.e. the sample was not restricted to a particular group, region, person or income group that could influence the overall result. Based on this assumption, a sample frame for this survey was defined.

The list of subscribers was split in two groups; urban and rural. 2000 households were selected from the list based on the 9:11 ratio of urban and rural distribution.

The initial 2000 households were randomly selected and in 'no response' case, each missed household was substituted randomly. The random selection was done to minimise the margins of error arising due to replacement.

### ***2.2.2 Data collection***

For each household, Call Services Ltd. interviewed the head of the household. The respondent provided information on the entire household including the demographics such as education level, age etc of each household member and the income level of the household. The survey, therefore, provided information on households as well as individuals in the sampling frame. For those households where the heads of the households were not available, the main computer user or the next decision-maker was interviewed by specially trained interviewers. A structured questionnaire was used for this purpose.

### ***2.2.3 Survey team***

The survey team consisted of the CSO and CSL headed by the National Computer Board (NCB).

The role of each is as follows:

- Data collection through telephone interviews and data entry were carried out by CSL
- The CSO assisted the NCB mainly for the design of the questionnaire and provided useful advice on the analysis of the result and writing of the report.

### 3 Computer ownership in Mauritian households

#### 3.1 Computer ownership

##### 3.1.1 Overall

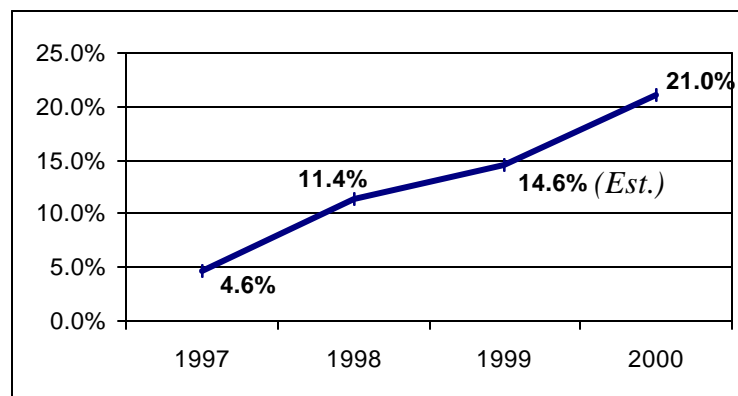
It was found that computer ownership in Mauritian households was 21 % in October 2000.

Households computer ownership in the USA was 51 % in October 2000 (*Source: Economic and statistics administration - 'Falling through the Net: Toward digital inclusion'*).

It is worth to be noted that there has been a rapid increase (84 %) in computer ownership of households since 1998 (see figure 1). This can be attributed to the following main reasons:

- The loans provided by the Development Bank of Mauritius (DBM) and Sugar Industry Labour Welfare Fund (SILWF) both giving a maximum of Rs 25,000 at 3 % interest p.a.
- The continuous efforts of NCB in promoting computer and Internet usage among the general public.
- The introduction of computer science in school curriculum (Form I to Form III).

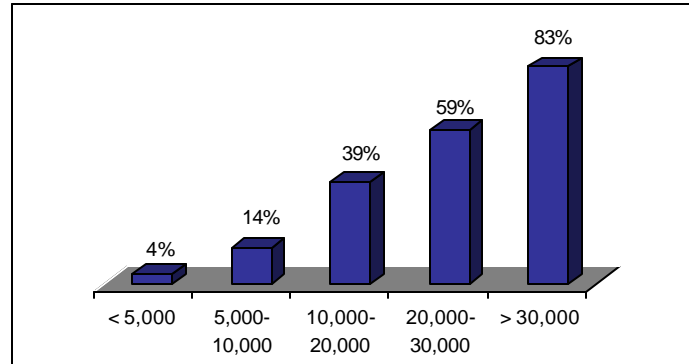
*Figure 1: Growth in computer ownership*



### 3.1.2 Computer ownership by total household monthly income

The figure below shows the proportion of households owning computer in different income groups.

Figure 2: Computer ownership by income

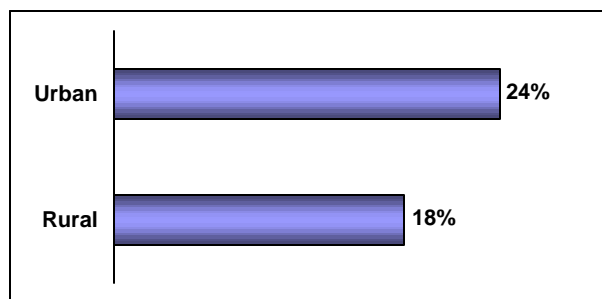


There is a direct correlation between income and computer ownership. Particularly notable is the high percentage of computer ownership among households earning more than Rs 30,000 per month, which is 83 %. The figure drops dramatically to 4 % among those households earning less than Rs 5,000 per month.

### 3.1.3 Computer ownership by region

The figure below shows the proportion of households owning computer in urban and rural areas.

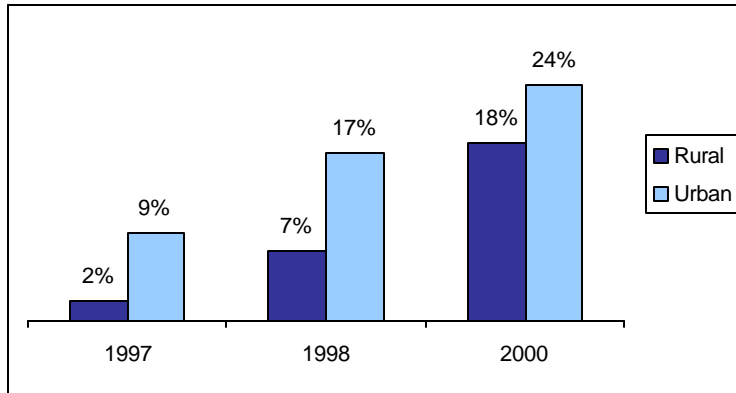
Figure 3: Computer ownership by region



24 % of households in urban region own a computer compared to 18 % of households in rural region.

Households in both rural & urban regions showed tremendous improvement in computer ownership over time. In rural region computer ownership had risen from 7 % in 1998 to 18 % in 2000 as compared to the rise in urban region from 17 % in 1998 to 24 % in 2000 (see figure below).

*Figure 4: Growth in computer ownership by region*



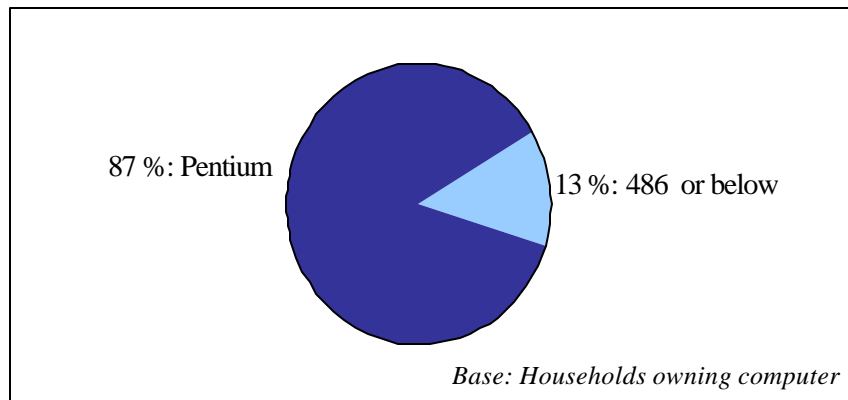
## 3.2 Features of computers owned

### 3.2.1 Hardware

It was found that desktops are still the dominant type of computers owned and most (82%) of the computers owned were purchased in 1997 or later.

Among households owning a computer there is a very high proportion having Pentiums. (see figure below).

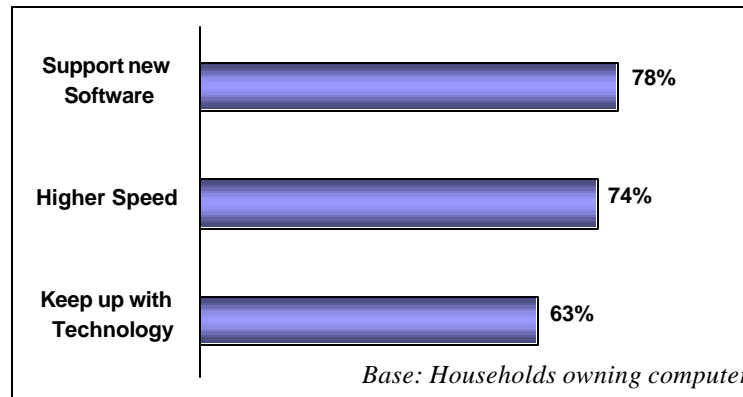
*Figure 5: Processing power of computer*



### 3.2.2 Intention to upgrade

Among households owning a computer, 57 % intend to upgrade. The reasons to upgrade are shown in the figure below.

Figure 6: Reasons for upgrade

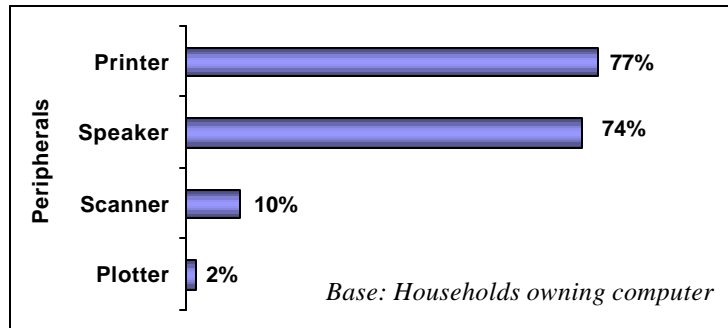


The need to support new software was the main reason given by 78 % of households who intended to upgrade their computers. 74 % indicated that they are upgrading their computers for higher speed, while 63 % of them expressed the need to keep up with technology that prompted them to upgrade their computers.

### 3.2.3 Peripherals

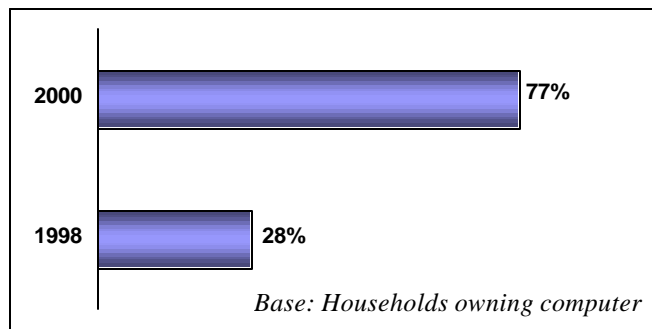
Among households who own a computer, the most common peripherals owned are printers (77 %) and speakers (74 %). Only 10 % of households own scanners, 2 % own plotters.

Figure 7: Percentage of households owning peripherals



The figure below shows the proportion of households owning a printer in 1998 and 2000.

Figure 8: Printer ownership in 2000 in contrast with that in 1998



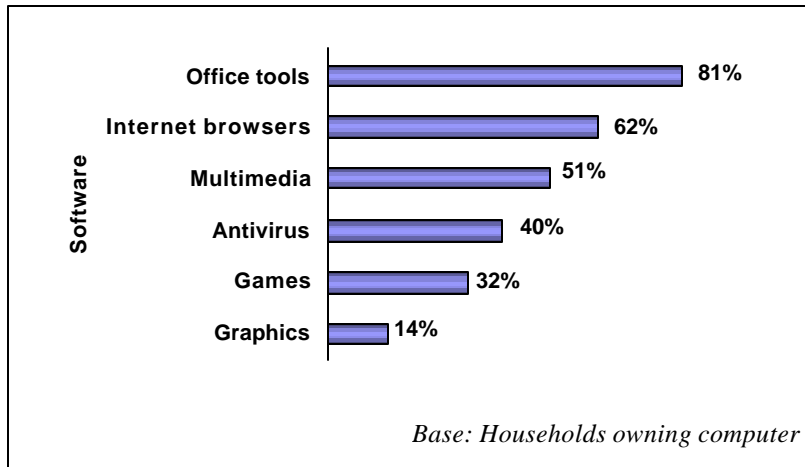
Households' owning a printer has increased to 77 % in 2000 from 28 % in 1998 (figures are among households owning a computer).

### 3.2.4 Software

It was found that most of the computers had Windows as operating system.

The figure below illustrates the proportion of some of the softwares mainly installed.

*Figure 9: Software installed*



The three main categories of softwares used in households are:

- Office tools 81 %
- Internet browsers 62 %
- Multimedia 51 %

### 3.3 Usage of computers at home

The following is a detailed profile of home computer users.

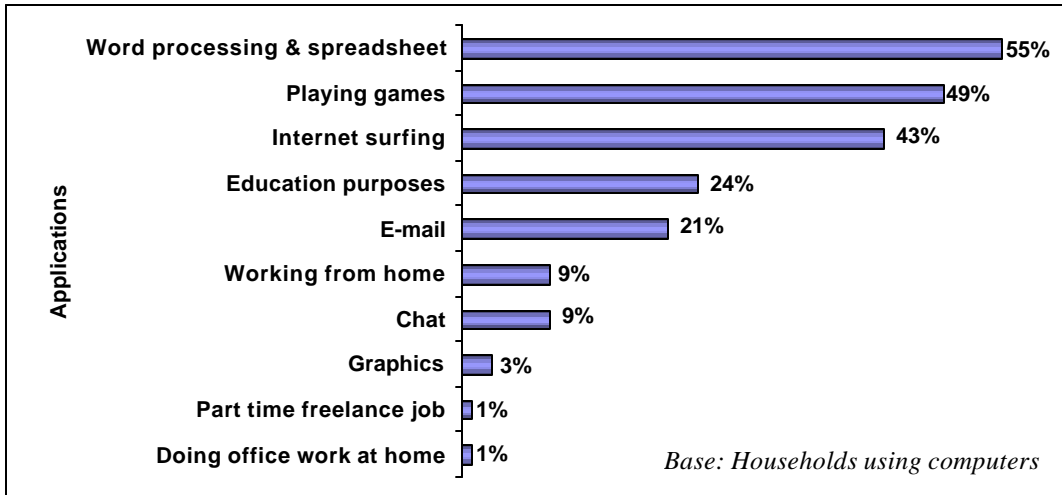
Characteristics	Attributes	%
<b>Gender</b>	Male	69 %
	Female	31 %
<b>Age group</b>	Below 12 years	9 %
	12 - 20 years	34 %
	21 - 29 years	17 %
	30 - 39 years	17 %
	40 - 49 years	16 %
	50 - 59 years	6 %
	60 years and above	1 %
<b>Highest educational level attained</b>	Primary or below	10 %
	Secondary	68 %
	Certificate	2 %
	Diploma	3 %
	Degree and above	17 %
<b>Occupation</b>	Working	51 %
	Students	42 %
	Home-maker	4 %
	Retired	2 %
	Unemployed	1 %
<b>Highest qualification in IT</b>	Certificate	18 %
	Diploma	2 %
	Degree & Higher	5 %
	Self-learning	75 %

It was also found that in 55 % of households owning a computer there are 2 or more users.

### 3.3.1 Types of computer usage

The figure below depicts the different uses of computer made by household members.

Figure 10: Types of computer usage



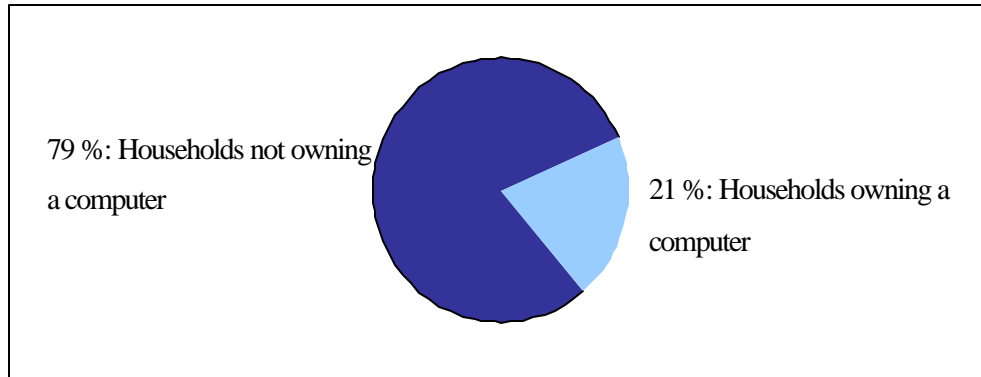
The three main uses of computers are:

- word-processing & spreadsheet 55 %
- playing computer games 49 %
- Internet surfing 43 %

### 3.4 Households without computer

79 % of households do not own a computer as shown in the figure below.

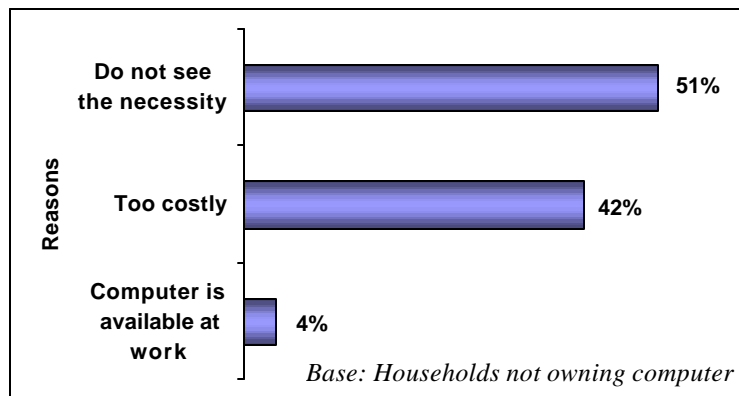
*Figure 11: Households not owning computer*



#### 3.4.1 Reasons for not owning a computer

The main reasons given by households for not owning a computer are that they do not see the necessity to own one (51 %); find it too costly (42%). However, 4 % reported that computer is available at work (see figure below).

*Figure 12: Reasons for not owning a computer*

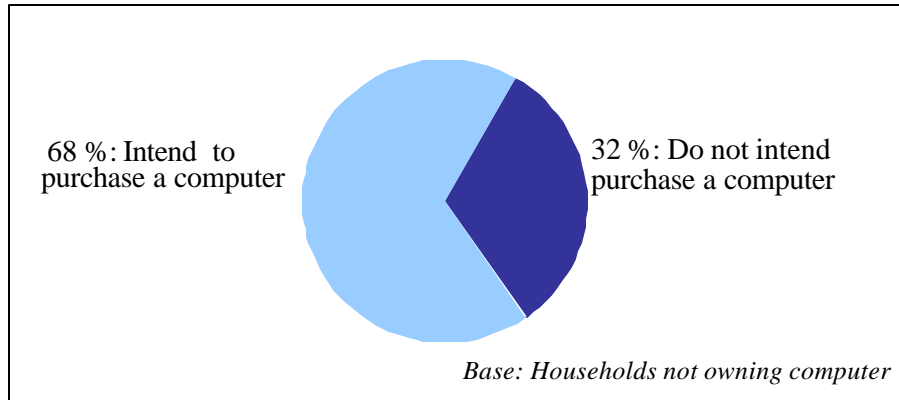


Moreover, the majority of the households indicating price as a deterrent factor are from the households earning less than Rs 10,000 per month.

### 3.4.2 Intention to purchase a computer

Among households who do not have a computer, 68 % intend to purchase one.

Figure 13: Percentage of households intending to purchase a computer

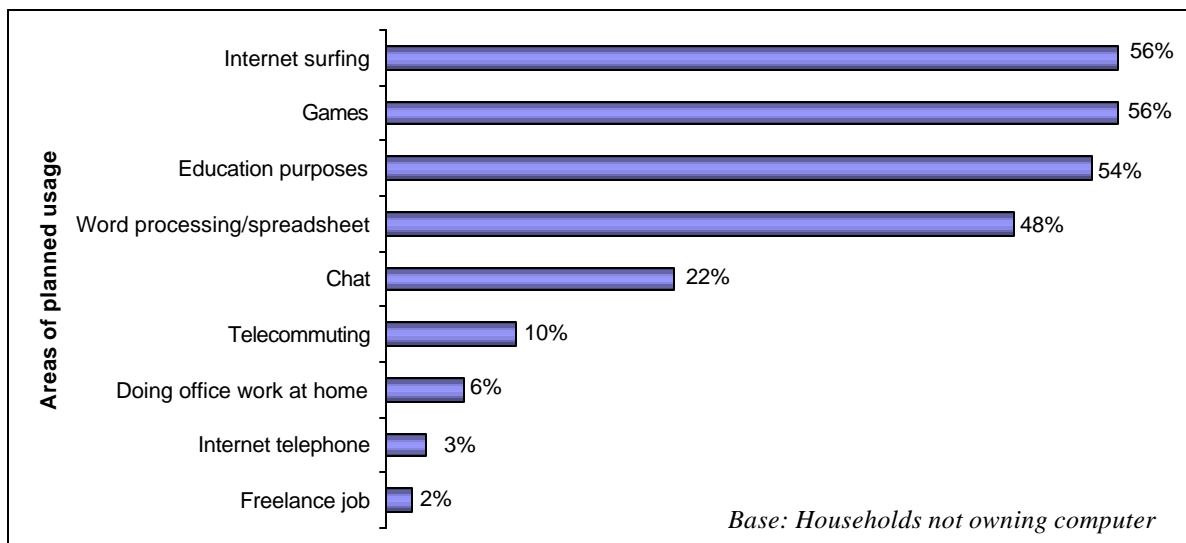


Among these, 34 % intend to purchase in year 2001, 12 % in 2002 and 54 % later than 2002.

### 3.4.3 Areas of planned usage

Among the potential home computer buyers, the most common areas of planned usage are for Internet surfing (56 %), playing computer games (55 %), education-related purposes (54 %) and word processing/spreadsheet (48%) as shown in the figure below.

Figure 14: Areas of planned usage



## 4 Internet access in Mauritian households

### 4.1 Households connected to the Internet

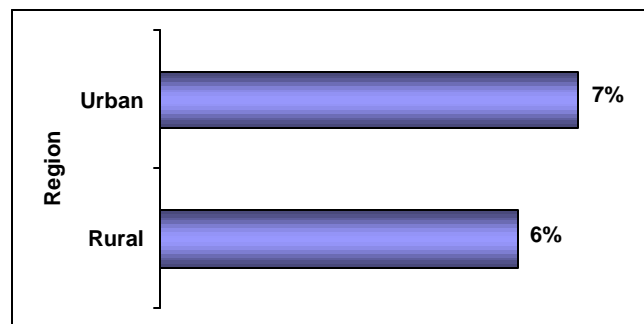
#### 4.1.1 Overall

It was found that 12 % of households have Internet connections today.

In September 2000, according to Telecom Plus figures, there were around 11 % of Internet subscribers.

The figure below shows the proportion of households connected to Internet in urban and rural areas.

*Figure 15: Households connected to Internet by region*

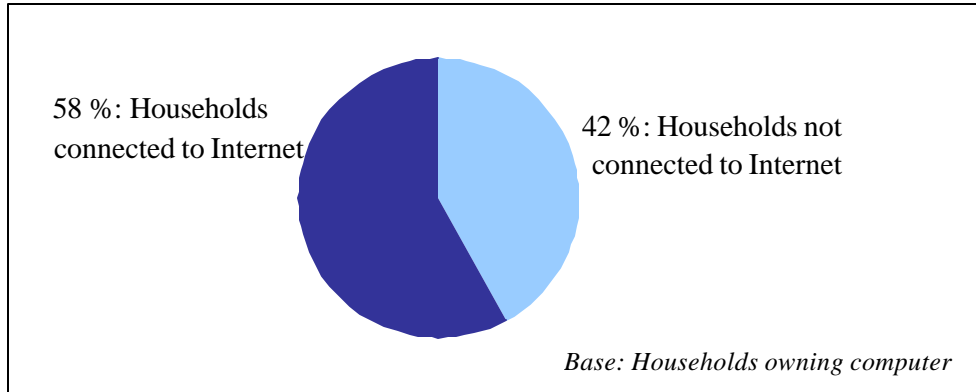


The proportion of households connected to the Internet in urban areas is 7 % and 6 % in rural areas.

#### 4.1.2 Internet connection among households owning computer

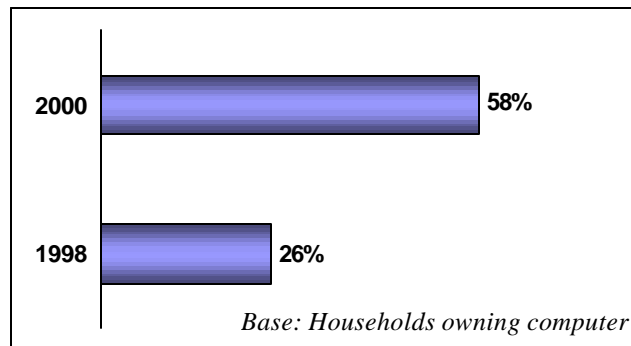
Among households owning a computer, 58 % have Internet connection as depicted in the figure below.

*Figure 16: Internet connection among households owning computer*



58 % of households owning a computer are connected to the Internet today compared to 26 % in 1998 (figure below).

*Figure 17: Households connected in 2000 & 1998*



## 4.2 Households members accessing the Internet

### 4.2.1 Profile of users accessing the Internet from home

The following is a detailed profile of home Internet users.

Characteristics	Attributes	%
<b>Gender</b>	Male	72 %
	Female	28 %
<b>Age group</b>	Below 12 years	4 %
	12 - 20 years	31 %
	21 - 29 years	17 %
	30 - 39 years	17 %
	40 - 49 years	20 %
	50 - 59 years	8 %
	60 years and above	3 %
<b>Highest Educational level attained</b>	Primary or below	7 %
	Secondary	66 %
	Certificate	2 %
	Diploma	2 %
	Degree or above	23 %
<b>Occupation</b>	Working	56 %
	Students	34 %
	Home-maker	6 %
	Retired	3 %
	Unemployed	1 %

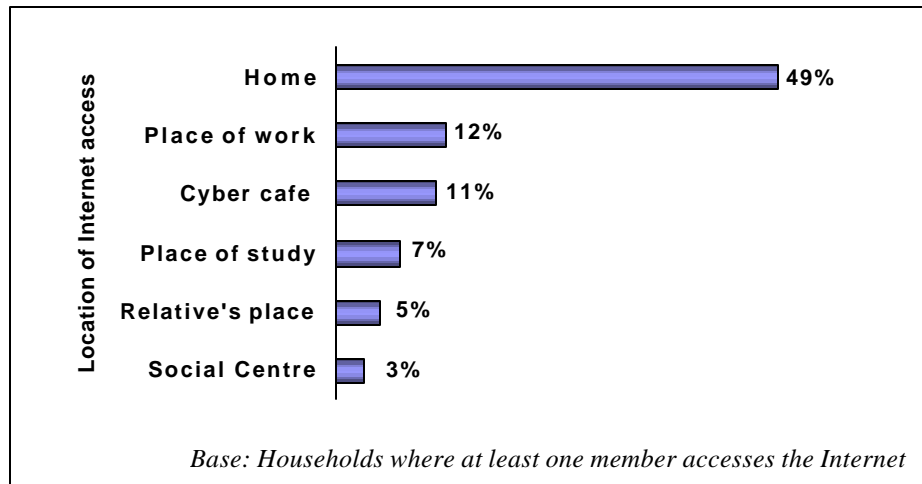
A person's gender as well as factors such as household income, age, educational attainment and labour force participation matter in the Internet use equation.

- It was observed that there is still a gender gap in Internet use. Among Internet users a majority were males.
- People at all ages are using the Internet. People in the age group 50 and older are among the least to be Internet users.

#### 4.2.2 Location of Internet access of households members

Internet users access the Internet from more than one location. It was found that out of the 24 % households where at least one member accesses the Internet, 49 % do so from home. The most common non-home Internet use location is the individual's place of work.

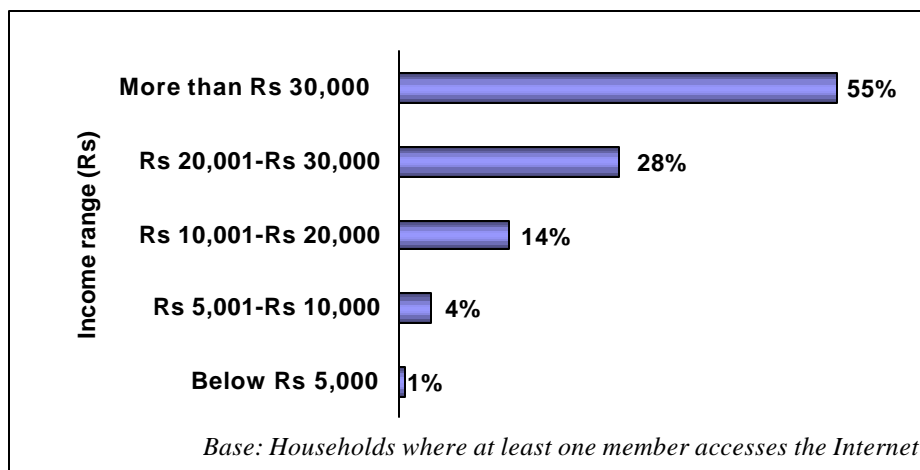
Figure 18: Location of Internet access



#### 4.2.3 Internet access by income per month

The figure below shows the proportion of Internet users in different income groups. Households with different income range use Internet to differing degrees.

Figure 19: Internet access by income group

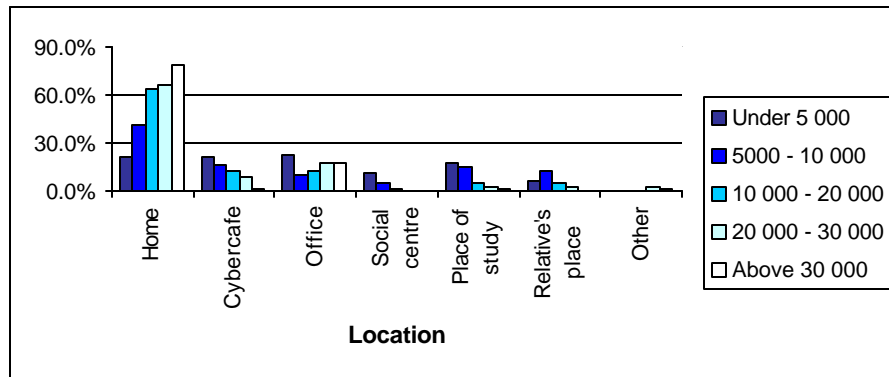


Internet access of the household is seen to be highly affected by the income of the household.

#### 4.2.4 Location of Internet access by Income range

There is a correlation between income group and location of Internet access as indicated in the figure below.

Figure 20: Distribution of Internet access by location & income group

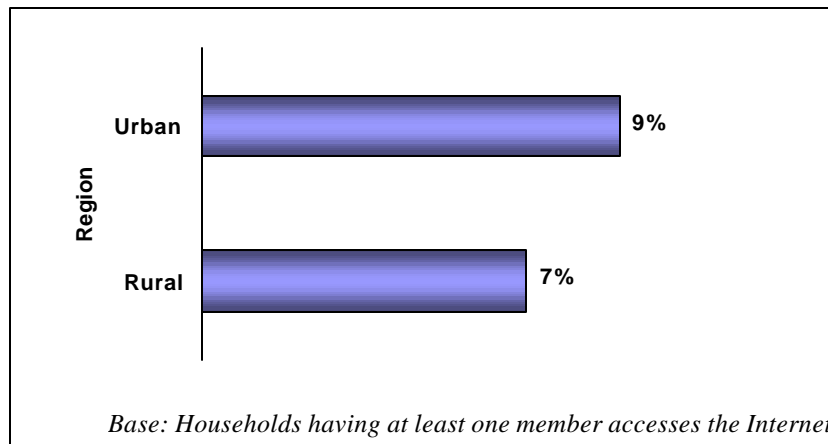


Most households earning more than Rs 30,000 have at least one member accessing the Internet from home.

#### 4.2.5 Internet access of users by region

The figure below shows the proportion of Internet users in urban and rural areas. Urban areas continue to have the highest household Internet penetration rates (9 %) shown in the figure below.

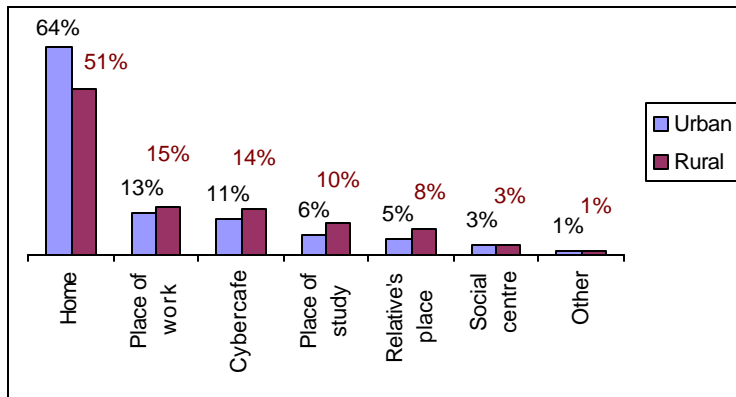
Figure 21: Internet access by region



#### 4.2.6 Internet access by region at different locations

The figure below indicates that there is a correlation between region of residence and location of Internet access.

Figure 22: Location of Internet access by region



Majority of Internet users irrespective of the region (urban or rural) access the Internet from home.

### 4.3 Types of Internet usage

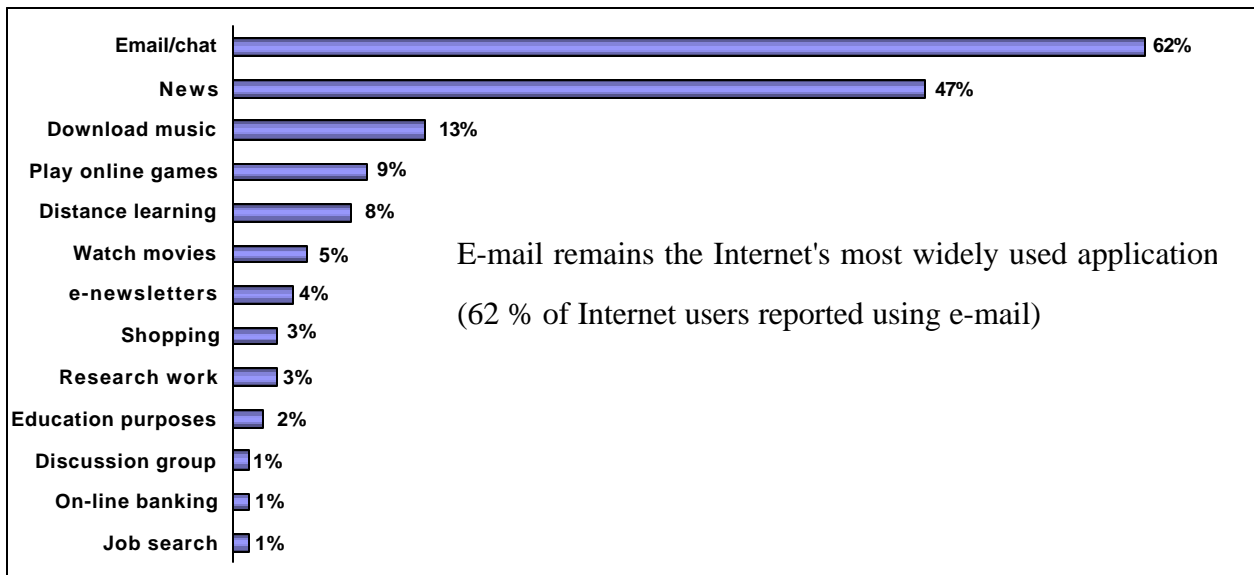
Internet is mostly used for:

- Email/Chat
- News
- Download/Listen To Music
- Play Online Games
- Distance Learning

Internet is least used for:

- Job Search
- On-Line Banking
- Discussion Group
- Education Purposes
- Research Work

Figure 23: Types of Internet usage



#### **4.3.1 Type of Internet use by age group**

- Email/chat is more common among the age group 12-20 years
- News is more popular among the age group 12- 20 and 21-29 years
- Download/listen to music is again more popular among the age group 12-20 years
- Play online games is also more popular among the age group 12-20 years

#### **4.3.2 Number of Email Accounts**

Single e-mail account is the norm for majority of households (see table below). 11% of the households have only 1 household member who has an e-mail account. 4 % of the households have 2 household members with e-mail accounts.

<b>Number household members having e-mail accounts</b>	<b>%</b>
1	11 %
2	4 %
3 or more	3 %

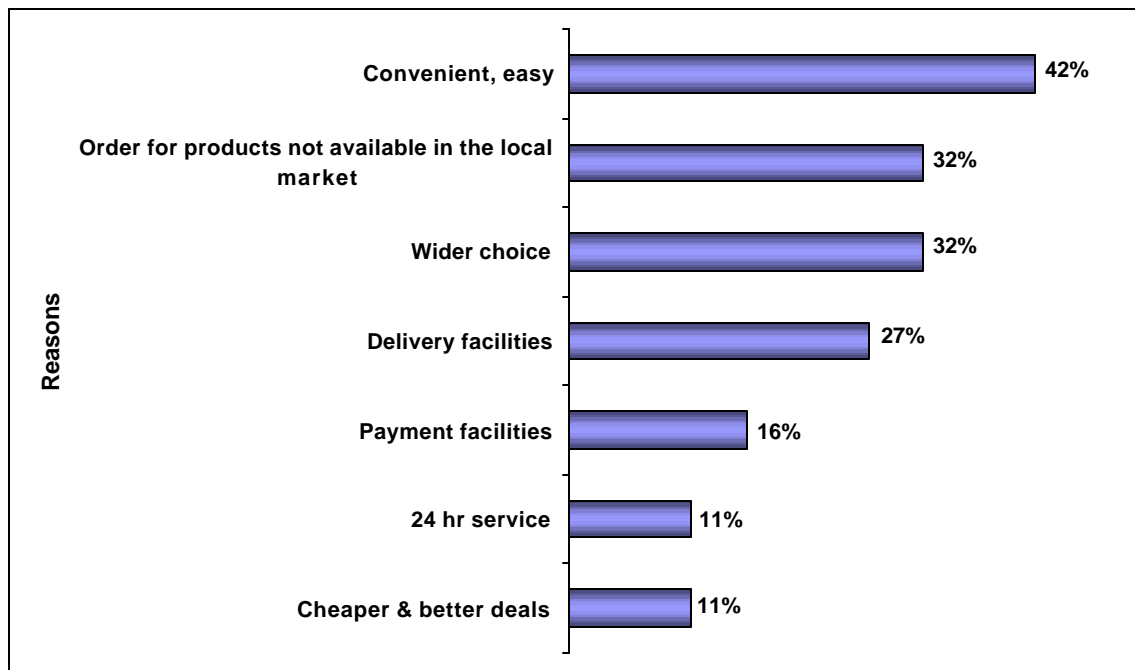
#### 4.4 On-line shopping

From this survey it was found that e-commerce related activities have now started. There is around 1 % of household who transacts via the Internet. Moreover as depicted earlier (figure above) around 3 % of Internet users indicated that they have shopped online.

##### 4.4.1 Main reasons for shopping through the Internet

Among the households surveyed, there are 42 % of households where at least one member find shopping on-line convenient, easy and less time consuming and 32 % find a wider choice on the global market place and 32 % said they can order for products not available in the local market.

Figure 24: Main reasons for shopping on-line



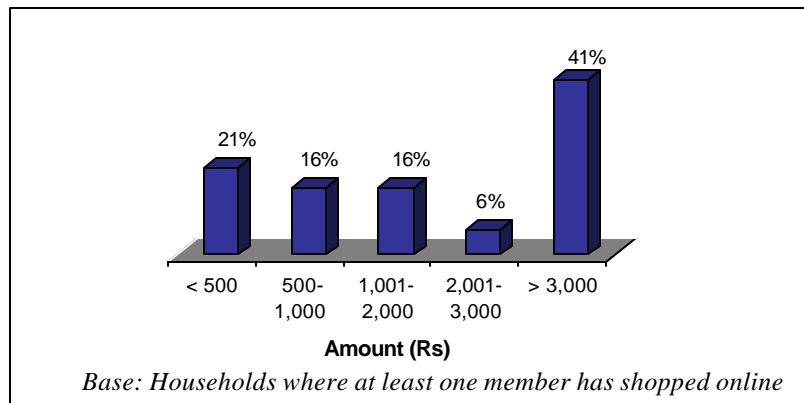
##### 4.4.2 Volume of purchase since January 1999

Among those households who have purchased online, 48 % have purchased once. 32 % had 2 to 3 purchases and 22 % had more than 3 purchases.

#### 4.4.3 Amount spent on-line

Among those households who have purchased through the Internet, 21 % have purchased for an amount less than Rs 500, 16 % have purchased for an amount between Rs 500 to Rs 1,000, 16 % have purchased for an amount between Rs 1001 to Rs 2,000. Only 6 % have purchased for an amount between Rs 2,001 to Rs 3,000 and 42 % have purchased for more than Rs 3,000.

Figure 25: Amount spent on-line

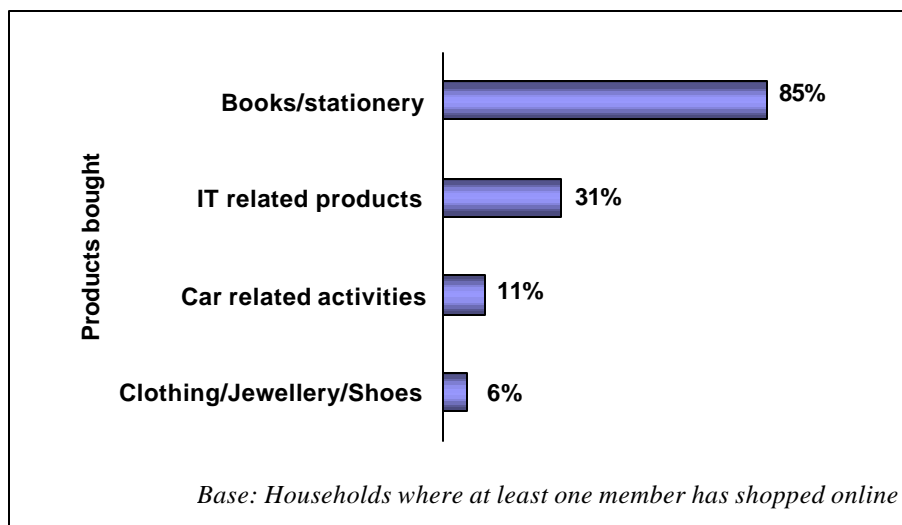


#### 4.4.4 Products and services bought online

Books and stationery are the most common items bought over the Internet as indicated by 85 % of Mauritian households who have bought on-line. Other popular products are:

- IT related products 31 %
- Car related activities 11 %
- Clothing/Jewellery/shoes 6 %

Figure 26: Types of products bought online



#### 4.4.5 Reasons for not shopping on-line

A large majority of households have never shopped on-line.

The most common reasons are:

- lack interest
- lack of awareness on on-line shopping procedure.

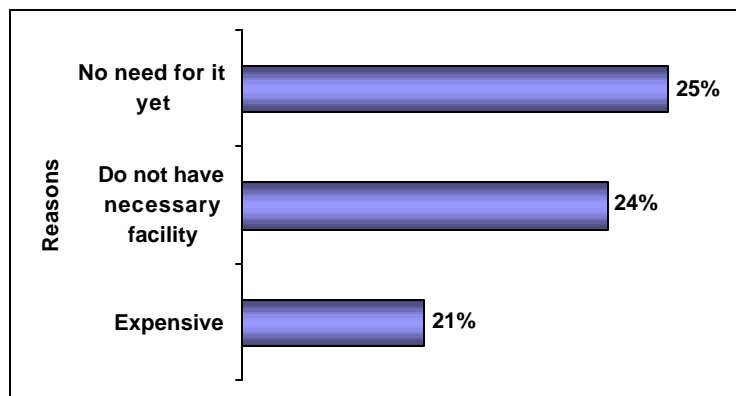
#### 4.5 Households without Internet connection

42 % of households having a computer at home are not connected to the Internet. Majority (above 80 %) of households earning less than Rs 20,000 own computer but do not have Internet access.

##### 4.5.1 Reasons for not having home Internet access

During the 2000 survey, households not connected to the Internet provided a number of reasons for not having access to the Internet at home. 25 % indicated that there is no need for it yet, 24 % reported that they do not have necessary facility and 21 % said that it's expensive.

Figure 27: Reasons for not having home Internet access



##### 4.5.2 Intention to subscribe to Internet

It was found that 92 % of households owning computers without Internet connection intend to subscribe in the future.

Among those who intend to subscribe, 58 % intend to subscribe in 2001, 12 % in 2002 or later and 30 % had not yet decided when they will subscribe.

## 5 Conclusion

- Overall there has been a significant increase in computer ownership in Mauritian households. The IT Household Survey 2000 findings showed that home computer ownership and home Internet connection have increased substantially since 1998 to the current level of 21 % and 12 % respectively.
- The survey also revealed that the computers owned are mainly used for word processing & spreadsheet, playing computer games and Internet surfing. Moreover, e-mail & chat was found to be the most commonly used application by those households having Internet connection.
- E-commerce adoption is still at an early stage in Mauritius unlike other countries namely United States, Canada, United Kingdom, Australia and others. On-line shopping has yet to make an impact in Mauritius since it attracted a minority of Mauritian households.
- In general, it is found that there is a more sophisticated use of IT in households to access online services such as education, government services and e-commerce in countries like Singapore compared to Mauritius. The challenge for Mauritius, therefore, is to encourage organisations provide online services, educate users, develop and implement potential measures to make full use of IT facilities. The recent projects announced by government such as the School IT Programme which will promote the use of IT as a supporting tool in education and the Government On-line Services Project which aims at creating a "Connected Government" and other projects initiated by the private sector will no doubt help to move towards the common goal of an information-based society.