Chapter 3 - Consumers @ Shopping

3.1   Executive Summary

With more and more retailers setting up shop on the world wide web, and more and more consumers online, Internet shopping is accessible to ever-increasing numbers of people. In theory, it offers convenience, speed and choice to the consumer, but how well is it being accepted by consumers?

The E-Commerce survey was carried out during December 1999/January 2000. The aim of the research was to find out what kind of information, consumers feel, is important to be displayed on commercial web pages. Based on the outcome, a set of recommendations for web page design shall be proposed (Chapter 5). The recommendations that arise from it, and from the literature research carried out in parallel with it, are aimed at international and national policy-makers, and at Internet retailers and their industry bodies.

As work continues around the world, at national and international level, on developing guidelines for electronic commerce, this study provides concrete evidence of the consumer experience, thus helping to identify where consumer confidence measures are required.

The selection criterion of a web page as a preferred web page for business has been analyzed and appropriate recommendation has been made as well. Similarly, consumers' preferred choice of on-line payment has also been analyzed and recommended.

This chapter analyses the outcome of the survey. Recommendations based on the outcome of the survey shall be discussed in chapter 5.

3.2   The Respondents

The survey was conducted for a period of four weeks starting from 6th December 1999 until 5th January 2000. 250 copies of the seven page questionnaires were distributed to consumers as explained in the survey methodology (Chapter 1). Out of this, about 164 consumers responded. Out of this, 6 entries were rejected because the responses were either incomplete or do not fulfill the sampling design criterion. The distribution of the

questionnaire was done by two means. 173 copies were distributed as 'hard-copies', where else, the remaining 77 copies were distributed via e-mail. Table 3.1 describes the distribution methods.

	Hard Copy	E-Mail	Total
Total Distributed	173	77	250
Total Respondents	131	33	164
Total Rejected	2	4	6
Total Valid Response	**129**	**29**	**158**

Table 3.1: Survey Responses

3.3   Demographic Description

The Internet is rapidly becoming a medium through which consumers can browse and buy. Majority of the respondents were males, well educated, work at a level of executive or above and are middle aged.

3.3.1 Gender

The Internet does not have any specific profound on men or women. Among the respondents, 77% were men while the other 23% were women. Among the male respondents, 65% were willing to do on-line business as compared to 70% of the female respondents. The dependency between the respondents' sex and willingness to buy on-line was tested using the chi-square test. The probability of the chi-square Statistics is 0.574 which means that there is no particular relationship between the two variables. This is however in contradiction with the result of consumer surveys conducted in other countries. In the Western countries (US in particular), the Internet is having its most profound impact on men, who have found a shopping channel uniquely suited to their needs. Men also outnumber women as primary users of PC and Internet. A similar situation is found in the Chinese countries (China, Taiwan and Hong Kong). In Singapore, there are more female Internet users than male users, but however, male users make more purchases than female users (source: The Business Times, September 1999). Table 3.2 and Exhibit 3.1 provides the gender cross-tabulation in detail.

	Male		Female	
	Count	(%)	Count	(%)
Certain	79	65%	26	70%
Uncertain	42	35%	11	30%
Total	121	100%	37	100%

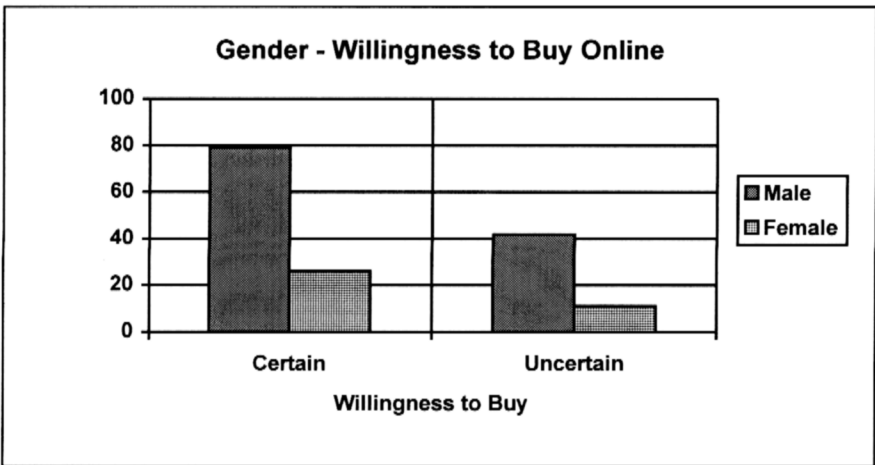Table 3.2: Cross-tabulation of Gender - Willingness to buy Online

Exhibit 3.1: Gender - Willingness to Buy Online

3.3.2 Age

In general most of the respondents were aged between 18 to 34 years. 59% were aged between 25 - 34 years old, followed by 29% aged 18 to 24 years and 9% aged between 35 to 44 years. Only 3% were aged above 45 years old. Thus the last two categories were combined together. The cross-tabulation of age against willingness to buy is shown in table 3.3. The Chi-Square test conducted produced a probability value of 0.383 revealing that there is no dependency between the two variables. About 61% of the possible on-line purchasers are aged between 25 to 34 years. This is very much in contradiction with the Ernest and Young's 2nd Consumer Online Shopping Survey (in

USA) where only 9% of on-line purchasers were aged below 30 years. In another report by Interface Media and Research International, based on a survey conducted in South Africa, 42% were aged between 18 to 44 years. Consumers above 50 years are also the major online buyers is Singapore. The main relationship that can be obtained here is that consumers in developed countries have accessed the PC and Internet much earlier than consumers in developing countries and thus the older people are more prepared for on-line purchasing.
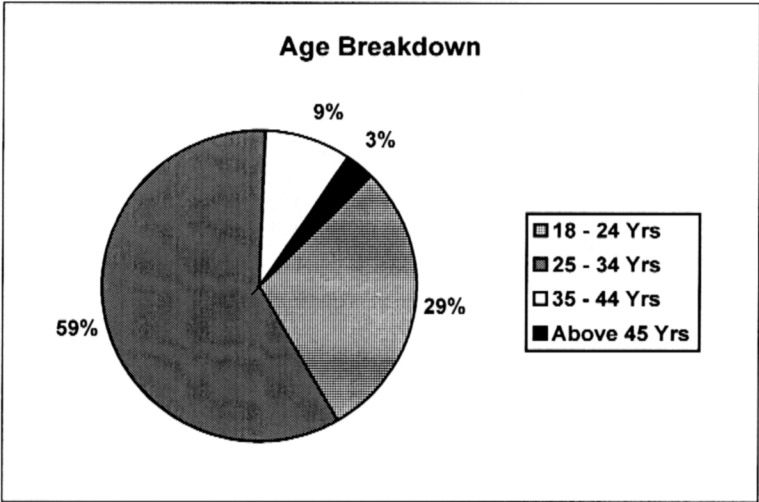

Exhibit 3.2: Age Breakdown

	18 - 24 Yrs		25 - 34 Yrs		Above 34 Yrs	
	Count	(%)	Count	(%)	Count	(%)
Certain	27	59%	64	69%	14	74%
Uncertain	19	41%	29	31%	5	26%
Total	46	100%	93	100%	19	100%

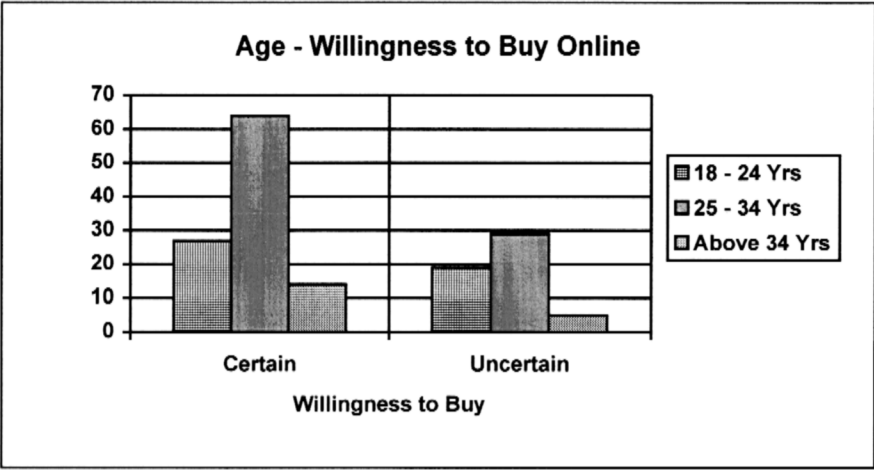Table 3.3: Cross-tabulation of Age - Willingness to buy Online

Exhibit 3.3: Age - Willingness to Buy Online

3.3.3 Education

From the educational point of view, 98% of the respondents have completed (or pursuing) their college education. 54% have completed their post graduate studies. Only 2% have stopped at secondary level. On average, about 70% of respondents from each category are potential on-line purchasers. Based on the result of the chi-square test on the dependency of education and purchasing on-line, it is clear that there is no dependency between these two variables. The general perception is that computer and Internet knowledge increases as a person acquires more knowledge. This however is not the actual case as identified by the consumer shopping survey by Ernest and Young (E&Y). However, it has been identified that those with at least a college degree are the biggest part of possible online purchasers.

	Secondary or Less		College		Post Graduate or Higher	
	Count	(%)	Count	(%)	Count	(%)
Certain	3	75%	48	70%	54	64%
Uncertain	1	25%	21	30%	31	36%
Total	4	100%	69	100%	85	100%

Table 3.4: Cross-tabulation of Education - Willingness to buy Online
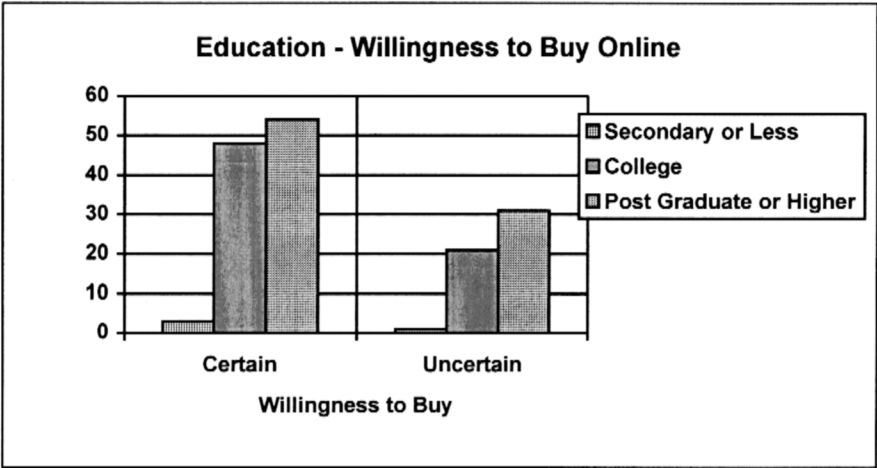
Exhibit 3.4: Education - Willingness to Buy Online

3.3.4 Occupation

41% of the respondents were holding an executive level post where as 16% were from the management side. 26% of the respondents were students (graduate and post graduate). About 6% are from the clerical sector. The other 10% hold various positions, mainly in the lecturing and teaching sectors. 72% of the management staff and 68% of the executive level staff are certain about conducting on-line business. When the result was tested using the chi-square test, the result revealed that there is no interdependence between these two variables at the 0.10 confidence level. Past surveys were conducted differently, where the occupation variable was substituted with the income level. In general, consumers in the middle income and higher group have been identified as promising online purchasers.
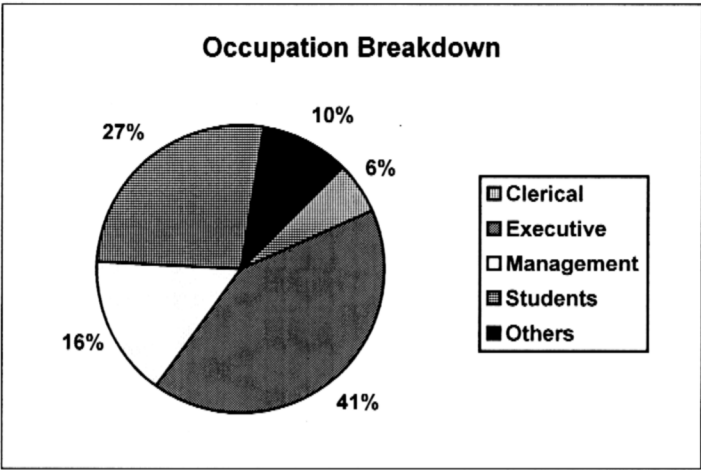
Occupation Breakdown

27%   10%   6%

16%   41%

- Clerical
- Executive
- Management
- Students
- Others

Exhibit 3.5: Occupation Breakdown

	Clerical		Executive		Management		Student		Others	
	Count	(%)	Count	(%)	Count	(%)	Count	(%)	Count	(%)
Certain	5	56%	45	68%	18	72%	27	64%	10	63%
Uncertain	4	44%	21	32%	7	28%	15	36%	6	38%
Total	9	100%	66	100%	25	100%	42	100%	16	100%

Table 3.5: Cross-tabulation of Occupation - Willingness to buy Online

Occupation - Willingness to Buy Online

- Clerical
- Executive
- Management
- Student
- Others

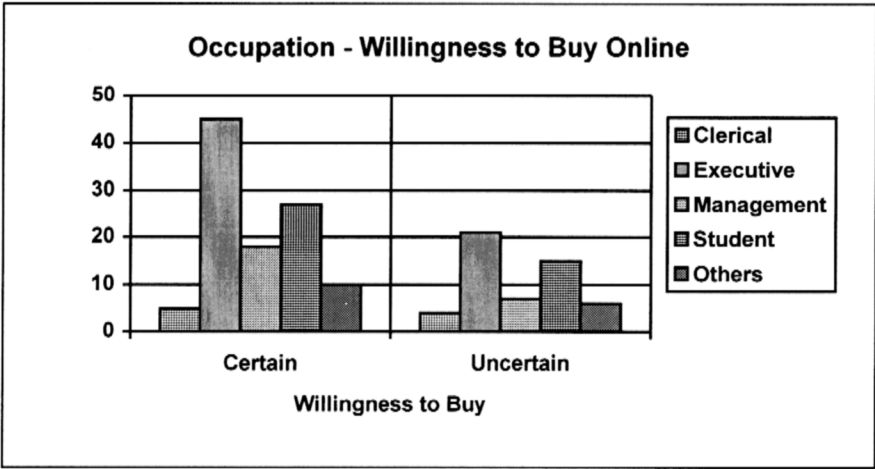Certain   Uncertain

Willingness to Buy

Exhibit 3.6: Occupation - Willingness to Buy Online

3.3.5 Organization

The majority of the respondents were from private local firms (55%) and private foreign firms (17%). The number of civil servants was very small. Most of the respondents from the 'others' category were either students or running their own business. Again there is no proper dependency among the variables based on the chi-square test. However, the acceptance of Internet business appears to be higher among civil servants and private foreign company staffs.
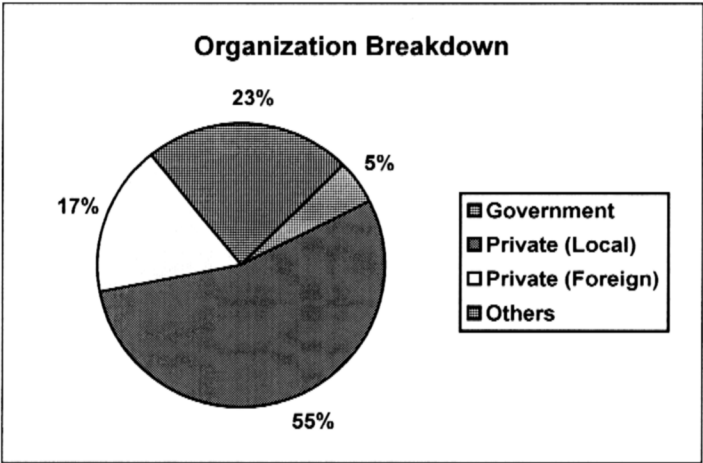
Organization Breakdown

Exhibit 3.7: Organization Breakdown

	Government		Private (Local)		Private (Foreign)		Others	
	Count	(%)	Count	(%)	Count	(%)	Count	(%)
Certain	6	75%	60	70%	14	52%	25	68%
Uncertain	2	25%	26	30%	13	48%	12	32%
Total	8	100%	86	100%	27	100%	37	100%

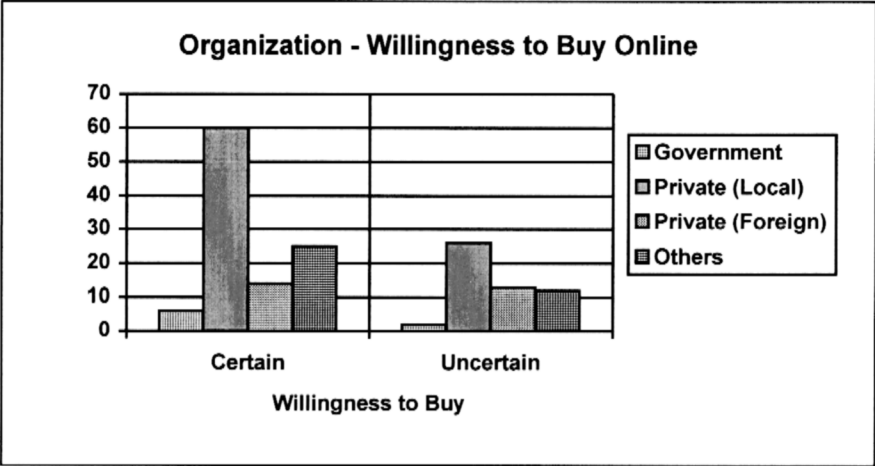Table 3.6: Cross-tabulation of Organization - Willingness to buy Online

Exhibit 3.8: Organization - Willingness to Buy Online

3.3.6 Internet Access

Internet usage and online purchasing has to be linked very tightly. Those who have been using the Internet would probably be the early adapters of online purchasing. Close to 94% of the respondents have been using the Internet. To be more specific, 50% of the respondents have been browsing for 3 to 6 years, followed by those who have using the Internet for less than 3 years (44%). Only 2 respondents have not used the Internet. More than 60% of respondents from each category are willing to purchase online. One point that has to be noticed is that the relationship between the length of Internet usage and willingness to buy is not strong. This basically means, the Internet usage could be made a dichotomous variable with the choice of 'used' and 'never used' the Internet. A similar conclusion was achieved in a research conducted by Louis Harris and Associates, Inc., to determine the link between the use of personal computers, the Internet and the prospect of online purchasing in 1998.

	Less than 3 Years		3 - 6 Years		More than 6 years	
	Count	(%)	Count	(%)	Count	(%)
Certain	45	64%	54	69%	6	60%
Uncertain	25	36%	24	31%	4	40%
Total	70	100%	78	100%	10	100%

Table 3.7: Cross-tabulation of Internet Usage - Willingness to buy Online
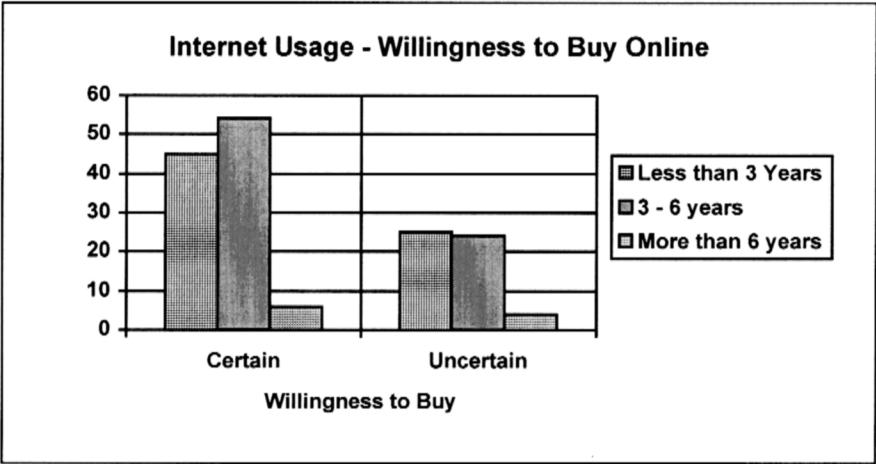

Exhibit 3.9: Internet Usage - Willingness to Buy Online

3.3.7 E-mail Account

A report by the US Cencus Bureau, based on a survey taken in October 1997, mentioned that 80% of Internet users use the Internet for sending and receiving e-mails. The report claims that, e-mailing is the most common online activity and most users have more than one e-mail account. Based on the results of the survey, about 26% of the respondents are having an Internet based e-mail account where else 23% are holding an Internet based account, a personal company/organization account and a personal Internet Service Provider (ISP) account, followed by 21% who are holding two accounts (an Internet based account and a personal company/organization account).
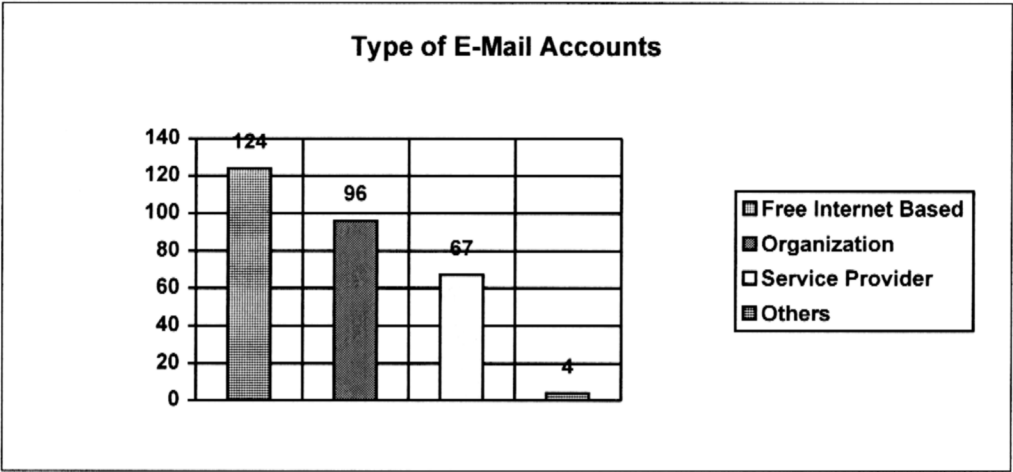
Type of E-Mail Accounts

Exhibit 3.10: Type of E-mail Account

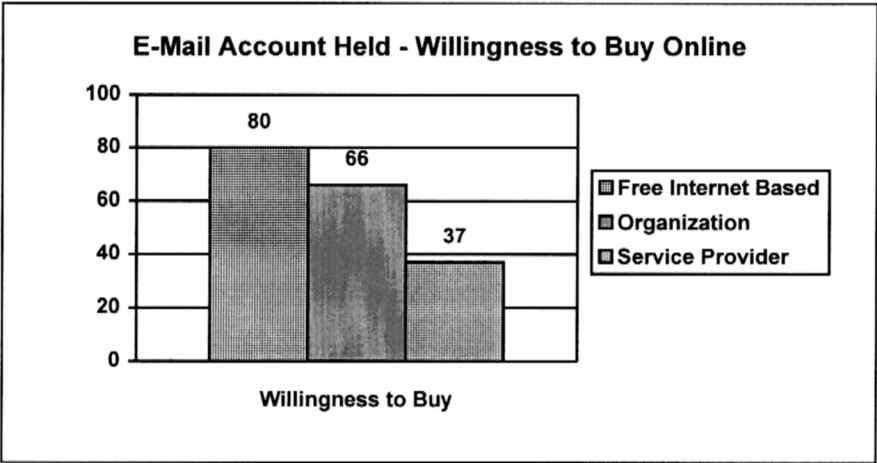**E-Mail Account Held - Willingness to Buy Online**

Exhibit 3.11 E-mail Account Held - Willingness to Buy Online

3.4   Correlation Among Variables

The correlation among the six variables (gender, organization, Internet Usage, Education, Occupation and Age) is shown in Table 3.8.

Table 3.8: Correlation Matrix

	Gender	Organization	Internet Usage	Education	Occupation	Age
Gender	1.000					
Organization	-0.081	1.000				
Internet Usage	-0.125	-0.326	1.000			
Education	-0.025	-0.210	0.202	1.000		
Occupation	-0.178	0.227	0.174	0.183	1.000	
Age	-0.100	-0.659	0.110	0.402	-0.083	1.000

Table 3.9: One-Tail significance level of correlation

	Gender	Organization	Internet Usage	Education	Occupation	Age
Gender						
Organization	0.206					
Internet Usage	0.102	0.000				
Education	0.400	0.016	0.019			
Occupation	0.035	0.010	0.038	0.031		
Age	0.155	0.000	0.130	0.000	0.199	

Table 3.9 shows the significance of the correlation among these variables. Based on Table 3.8, it could be seen that gender, age and occupation correlates with almost every other variable. The highest correlation is between age and organization. The organization seems to be the variable that has highest degree of correlation with all other variables. The lowest degree of correlation is between gender and education. On the whole, the lowest degree of correlation is shown by gender.

Table 3.10 summarizes the major correlation that exists among variables.

Variable	Highly correlates with (significance < 0.03)
Gender	-
Organization	Internet Usage, Education, Occupation, Age
Internet Usage	Organization, Education
Education	Organization, Internet Usage, Age
Occupation	Organization
Age	Organization, Education

Table 3.10: Major Correlation Among Variables

3.5 Web Page Selection

The next important analysis done was on how respondents may select the web page to do on-line business. The options given were

- No restriction - those who are willing to do business with any web page as long as the product/service is adequate.

- Based on Approval - those who are willing to do business with web pages that has been approved by an international organization or a government body.

- Familiarity - those who are willing to do business with web pages that has product brands that they are familiar with.

- Introduction - these people require someone to introduce them to a specific web page in order to gain confidence about that web page.

- Ancient Method - those who are willing to place an order via the Internet, but are only willing to pay after receiving the product safely.
- Other Ways - Optional suggestions requested from respondents.
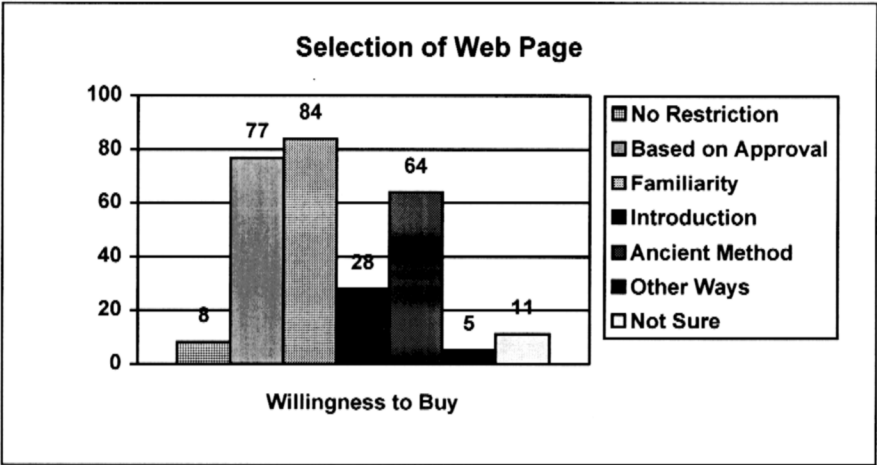- Not sure - those who are not sure if they may want to do on-line business.

Exhibit 3.12: Selection of Web Page

Based on the result, familiarity of brand name and approved web page seems to be the most preferred choice of selecting a web page for business. Selecting a web page based on brand familiarity is not a new issue. The Internet Shopping survey by Ernest and Young revealed that brand name or retailer familiarity is very critical even for trailblazing Internet purchasers. Familiarity of brand name or retailer name exerts the most impact on Web buying decisions. However, this is against the concept of equal competition for large and small firms.

On the other hand, one thing that has to be observed here is that the difference between selection of a web page based on familiarity and selection of a web page based on approval is ignorable. This means, there is a possibility that Internet purchasers may still buy online at unfamiliar brand name or retailers' sites, as long as the site has been approved to do online business. This opens the path for smaller firms to compete against larger firms in a more effective way. The main point that has toagreed here is that, web page approval might increase consumer confidence to make online purchases even if they are not familiar with the brand name or retailer.

The choice to pay upon receiving the products is also preferred, but then it may not be fully e-commerce. Infect, 'research in web, purchase in store' was as the main usage of Internet as identified by Ernest and Young in their research.

The 'other way' of selection of a web page was mainly based on reference of a Web page from a reliable web page. A very small number of respondents seem to be very positive about e-commerce that they are willing to do business with any firm.

3.6 Payment Mechanism

Another important analysis is on how respondents may want to make payments for their orders. Basically, in order to make a payment, consumers shall have to key in an authentication number. The number could be the credit card number, some bank account pin number or even some digital cash registration number. Whatever it is, how willing are consumers in entering these numbers in the merchant's web page. Four options were given to consumers:

- No Restriction - those who are simply willing to key in their authentication number in any web page.
- Third Party - those who are willing to key in their account number at specific web pages which belong to a third party (a bank's web page for example).
- Approval - those who are willing to key in the details at web pages that has been approved by an international organization or a government body
- Never - those who will never key in their account information on the Internet.

The results show that close to 50% of the respondents are looking for some kind of an approval or guarantee on the web page before keying in their account details. This is followed by those who expect a third party's web page to pop up to key in their details (24%). An almost equal number of respondents were very worried about entering their authentication details.

Most surveys or researches conducted seem to have one common finding about security. Most consumers would not make online payments and the reason is security.

Consumers are uncomfortable about the level of confidence they have in keying in their authentication details on the Internet.
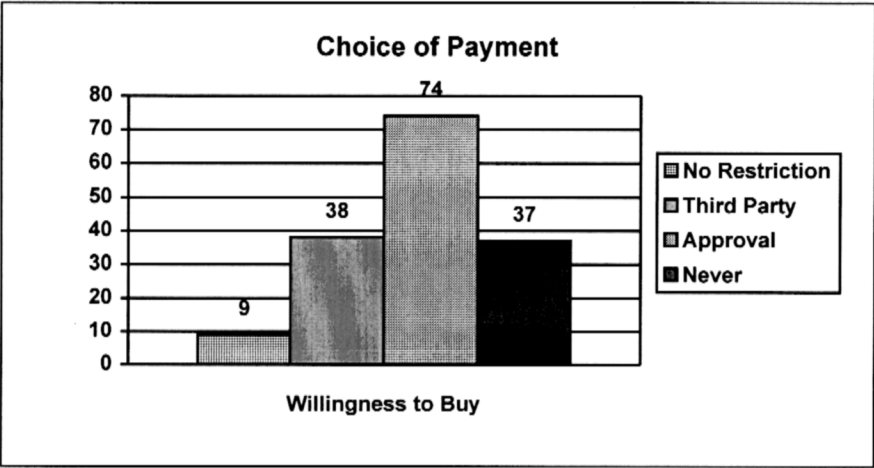
Choice of Payment

Exhibit 3.13: Choice of Payment Mechanism

In contrast to that, the finding of this survey among those who are quite certain about performing on-line business, reveals a surprising result. 58% of the possible Internet purchasers have selected the 'approval' method as the preferred way of payment. This opens a new path on how to change 'browsing' consumers into 'purchasing' customers.