

## A Descriptive Investigation of Malaysian Internet Users' Adoption of Online Shopping

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### ABSTRACT

*The rapid adoption of the Internet as a commercial tool has resulted in firms trying to do business in innovative ways of marketing in computer-mediated environments. As more businesses connect to the Internet, consumers will have wider choices in gathering products or services with respect to the latest information in a global online marketplace. This study focuses on providing a deeper insight into the Malaysian Internet users' behaviour and adoption of browsing or purchasing products and services through the Internet. It was found that Internet/Non Internet Shopper and years of usage on the Internet was insignificant at 0.05 significance level. Thus, Malaysian Internet users' who have just experienced browsing the Internet for just one year prior are also attracted to conduct online shopping. They are attracted to the Internet pull factors such as user friendliness and reliability of the products or services offered through the Internet.*

*Keywords: Online shopping; users adoption; Internet usage*

### ABSTRAK

*Penggunaan Internet yang sangat meluas sebagai alat komersial telah menyebabkan firma berusaha untuk menjalankan pemasaran perniagaan secara inovatif dalam persekitaran perantaraan komputer. Semakin banyak perniagaan disambungkan kepada Internet, pengguna boleh memperoleh pilihan yang meluas dalam pencarian barangan dan perkhidmatan secara pencarian dalam talian. Fokus kajian ini adalah untuk menyediakan pandangan yang mendalam mengenai kelakuan pengguna Internet Malaysian dalam pembelian/pencarian barangan dan perkhidmatan melalui Internet. Kajian ini mendapati Internet/Non Internet Shopper dan tahun penggunaan Internet tidak signifikan. Oleh yang demikian, pengguna Internet Malaysia yang mempunyai pengalaman pencarian Internet satu tahun juga mementingkan untuk membeli barang melalui Internet atas faktor keselesaan perkhidmatan yang diperolehi.*

*Kata kunci: Pembelian secara online; penggunaan; penggunaan Internet*



## INTRODUCTION

Electronic Commerce (E-Commerce) has revolutionised the way companies do business, as well as the way consumers and customers purchase and consume products and services, especially online shopping activities. In many countries where Electronic Commerce has been implemented, online shopping has become an important factor in commerce transactions (Starkey 1998). Indeed, Hetherington (1997) perceived that E-Commerce has the potential to reshape the world of shopping in the near future. Malaysia needs to take this opportunity and react fast in order to be an active participant in the emerging electronic world. However, little information is known about Malaysian Internet users' adoption with respect to online shopping. This lack of knowledge creates a need for the current study to examine Internet users' adoption in purchasing products and services via virtual storefront or also known as online shopping, particularly in respect of Malaysia.

## LITERATURE REVIEW

Internet users are predicted to increase in next five years, according to eMarketer (2000). The worldwide total of active adult Internet users aged from 14 above has been forecasted to increase 178.6% from 229.8 million in 2000 to 640.2 million in 2004. Europe will be the highest growth region for the users, from 70.1 million to 254.9 million. Asia/Pacific Rim is predicted to emerge as second largest Internet population, growing from 48.7 million to 173 million users. Other regions that have been forecasted are North America (from 97.6 million to 160.6 million users), Latin America (from 9.9 million to 40.8 million users), Africa and The Middle East (from 3.5 million to 10.9 million users). This indicates that the utilisation of Internet and its related technology will increase globally, including in Malaysia.

Purchasing products and services via virtual storefront also known as online shopping is the new way of doing things and entails a process of trying and evaluating something novel, an innovation. It has been reported that online spending in 2002 has increased tremendously around the globe, especially during holiday season. Some countries recorded positive growth of online users, with more consumer products have been purchased through the Internet. In 2002, the US Consumers spent nearly USD13.7 billion online during the holiday season, according to Goldman Sachs, Harris Interactive and Nielsen-Netratings. Online spending rose more than 24% year-over-year, up from USD11 billion in 2001. Including travel, online spending grew nearly 22% to USD15.7 billion. The research indicates that consumers spent more than 16% of their holiday budgets on online purchases, compared to 14% in 2001(cited in <http://www.matrade.gov.my/ecommerce/news-archive/2003/ecom-012003.htm>).



In the same study, it was found that the best performing category were books, music and video/DVD with consumers spending more than USD3.1 billion, up 40% on the preceding year. Apparel spending rose 20% to USD2.7 billion, while consumers spent nearly USD2 billion on travel. The figures also revealed that women comprised 51% of the total online shopping population during the 2002 holiday season, as compared to 49% of males, while shoppers aged 18-24 years accounted for 17% of the online shopping population (cited in <http://www.matrade.gov.my/ecommerce/news-archive/2003/ecom-012003.htm>).

Within Malaysian context, Sofres (2001) found that the penetration of Malaysians shopping online, i.e. people who bought or ordered goods and services online in 2000, was 1% of the total adult population in Malaysia. This corresponded to 4% of the Internet users in the country. Specifically, 24% of the total adult population in Malaysia are Internet users in 2001. Males were the dominant Internet users, i.e. 28% of the total population, while 21% were females. The proportion of adult population that used Internet in the last 4 weeks was the highest amongst 15 to 20 years old (50%) followed by the 20 to 29 years olds (39%). The study found that 14% of Malaysian Internet users planned to buy or order goods or services online by the end of 2001.

There is high demand among global, including Malaysian Internet users conducting online shopping due to E-Commerce provides enormous potential benefits for consumers worldwide. Access to a greater diversity of information with very fast, almost instantaneous access times (less than ten seconds) over the Internet is an important consumer benefit associated with shopping on the Internet (Bell & Tang 1998; Hoffman et al. 1998). Consumers are able to initiate and control non-linear searches, due to the interactive nature of the Internet and the hypertext environment. Easy access to an abundance of current and detailed information on products and services facilitates comparison shopping, aid in product selection and enables consumers to make more informed decisions (Hoffman et al. 1998). However, they favour sites which are regularly updated, well organised and easy to read, among other characteristics (King 1996; Nielsen 1996). In fact, there are also no driving or parking costs associated with shopping online. Almost all products will be delivered to the consumers, either instantaneously via electronic medium or by the wide distribution network of the Internet vendors.

In addition, for certain intangible products or services (e.g. computer software), the Internet can provide instant gratification and accelerate distribution. The Internet can also reduce transaction costs to consumers by providing direct access to a multitude of product or service providers as well as eliminating time and spatial barriers (Aldridge et al. 1997). With this benefits, it has lead customers to have innovative shopping experience when purchasing products or services through the Internet.



## METHODOLOGY

The current study explores the buying behaviour and adoption of a sample Malaysian Internet users' targeted at Business to Consumer market segment. The respondents involved in this study were selected from the population with the condition of having had experience in browsing or purchasing through the Internet. In other words, this is known to be the measurement of Malaysian consumers Internet experience in shopping online. They were drawn from different occupational categories, education, age, gender or ethnic categories but all of them fulfilled the basic condition mentioned earlier. There were 579 randomly selected respondents, out of which 334 were male and 235 were female. They were selected from the states of Penang, Kuala Lumpur and Selangor.

Majority of the respondents (472) falls in the age group of less than 30 years old, were mostly Malays. It can be noted that in the sample, 40% of the respondents were students from university community such as undergraduates and MBA students. The results showed that more than half of the total respondents (63%) earned a salary of less than RM 3,000 per month. Most of the respondents work/study in Selangor which represents 42% of total respondents, followed by 31% in Kuala Lumpur, the metropolitan city of Malaysia (Table 1).

Following the literature review, questionnaires were developed to determine the extent of Internet users' behaviour and adoption of shopping online. Respondents' demographic profiles such as gender, age, ethnicity, present occupation, highest educational level, monthly income and work/study place are designed in the close-ended structure of questions, and consists of seven questions. Additional questions on how long they have used the Internet, how frequently they use it, their past experience shopping online, are also included in this section. The interval scaled measurement was selected as the level of measurement in this section.

The collection of data was carried out by using self-administered questionnaire. The questions were presented in mostly close-ended style with well-structured questions. The questionnaires were distributed to the respondents chosen at random at various locations such as cyber cafes, higher learning institutions' labs, and shopping malls by referring to Telekom Malaysia yellow pages directory (1999/2000). This study applies a convenience random sampling technique as a sampling method. Data were analysed using the Statistical Package for Social Sciences Version 12.0 (SPSS 12.0) computer software. Frequency and % distributions, and cross-tabulation were the methods applied to initially explore the data. Frequency and % distributions showed the number and % in each category, such as how frequent online shoppers placed order over the Internet a year ago, and which products they liked to purchase most from the Internet.

TABLE 1. Internet users' general demographics

Characteristics of Respondents	Results	
	Frequency	%
<i>Gender</i>		
Male	334	57.7
Female	245	42.3
<i>Age</i>		
< 20	79	13.6
20 - 30	393	67.9
30 - 40	81	14.0
40 - 50	21	3.6
50 - 60	5	0.9
<i>Ethnicity</i>		
Malay	356	61.5
Chinese	150	25.9
Indian	55	9.5
Others	18	3.1
<i>Present Occupation</i>		
Student	242	41.8
Professional	204	35.2
Businessman	42	7.6
Government Servant	41	7.1
Others	50	8.6
<i>Highest Education Level</i>		
SPM Holder (or O-Level)	89	15.4
STPM / Diploma (or A-Level)	134	23.1
Certificate	32	5.5
Degree	251	43.4
Postgraduate	63	10.9
Others	10	1.7
<i>Monthly Income (RM)</i>		
< 1,000	215	37.1
1,000 - 3,000	147	25.4
3,000 - 5,000	115	19.9
> 5,000	102	17.6
<i>Working/Studying Place</i>		
Penang	161	27.8
Selangor	241	41.6
K. Lumpur	177	30.6

A cross-tabulation method was used to uncover the relationship between any two variables, such as online shoppers and their Internet usage patterns. A Chi-Square test, with the significance level less than or equal to 0.05, was used to indicate where there was a relationship between the dependent and independent variables.

#### DATA ANALYSES AND DISCUSSIONS

Total respondents of the current study (i.e. 579 respondents) are categorised into two groups: (i) Internet Shoppers; that is those who have purchased products or services through the Internet (i.e. 229 respondents), and (ii) Non Internet Shoppers; that is those who have yet to purchase products or services through the Internet (i.e. 350 respondents); but are browsers and considered as potential consumers to purchase the goods via the Internet in the near future. These two categories were further cross-tabulated with respondents' online shopping behaviour and adoption.

This section focuses on the aspects of Internet/Non Internet Shopper behaviour with several variables of Internet usage such as years of using Internet, and possession of credit card. Furthermore, it discusses on aspects of what products are purchased through the Internet and method of payment. Other aspects discussed include frequency of placing an order, price of an item purchased per transaction (RM), and delivery service per purchased item (days). The results are given as follows.

TABLE 2. Internet/Non Internet Shopper vs. Years of Usage on the Internet

Years of usage on the Internet	Internet Shopper		Non Internet Shopper	
	Frequency	%	Frequency	%
< 2 years	40	7	64	11.1
2-3 years	33	5.7	54	9.3
3-4 years	54	9.3	85	14.7
> 4 years	102	17.6	147	25.4
	Chi-square = 0.384		Significant value = 0.944	

With regards to respondents' years of using the Internet, results showed that among the Internet Shoppers, most of the respondents (102) had been using Internet for more than four years while 54 respondents had been using Internet for a period of three to four years. There were 40 respondents who had been using Internet for less than two years, and the balance of 33 respondents had been using Internet for two to three years. However, this figure was different among Non Internet Shoppers, where 147 respondents had been using Internet for more than four years, 85 respondents had been

using Internet for three to four years. 64 respondents had been using for less than two years, and the balance of 54 had been using Internet for two to three years (Table 2).

Based on the  $\alpha = 0.05$  at 3 df, the critical value of the  $\chi^2 = 7.815$ , but the calculated  $\chi^2 = 0.384$  which is below the critical value, hence the null hypothesis is accepted. Otherwise, it concludes that no association between Internet/Non Internet Shopper and years of usage on Internet is accepted. Internet users decision to conduct shopping online are not influenced by the number of years users have access or experience browsing the Internet, but rather due to other factors.

TABLE 3. Internet/Non Internet Shopper vs. Holding a Credit Card

Holding a credit card	Internet Shopper		Non Internet Shopper	
	Frequency	%	Frequency	%
Yes	162	28	121	20.9
No	67	11.6	229	39.6
Chi-square = 72.481			Significant value = 0.000	

From the survey conducted, more Internet Shoppers (i.e. 162 respondents) were holding credit cards than Non Internet Shoppers (i.e. 121 respondents). However, there were 67 respondents among Internet Shoppers and 229 respondents among Non Internet Shoppers who do not possess any credit card (Table 3). As can be seen in the same table, the null hypothesis of no association is rejected at the  $\alpha = 0.05$ , as the calculated  $\chi^2 = 72.481$  is higher than the critical value of the  $\chi^2$  at 1 df = 3.841. This implies that there is evidence of a difference in the two proportions; that is between Internet/Non Internet Shopper and credit card ownership. Majority of the Internet Shoppers conveniently shop online, especially when they own credit cards by enjoying the benefits of online shopping such as the capability to access to wider information and to evaluate the offerings of various Internet sellers.

The following page discusses the Malaysian consumers' usage of the Internet, which primarily focuses on Internet Shopper group: that is those who had conducted purchases through Internet.

The results derived from the above table showed that most of the respondents (i.e. 18%) had bought online in the previous year and books or journals or magazines tend to top their shopping lists. Furthermore, eight respondents had purchased home appliances and apparel through the Internet while 35 respondents had placed 'online reservation' for example hotel and flights reservation. Meanwhile, 52 respondents (9%) enjoyed purchasing CD or software online past 12 months (Table 4).

TABLE 4. Internet Shopper vs. Product Purchased through Internet for the past 12 Months

Product purchased through Internet for the past 12 months	Internet Shopper	
	Frequency	%
Books / Journal / Magazines	104	18
Home appliances	8	1.4
Reservation service eg. Hotel	35	6
Apparel	8	1.4
CD / Software	52	9
Others	22	3.8
Chi-square = 442.522 Significant value = 0.000		

Significant association was found at  $\alpha = 0.05$  with 5 df when the critical value of the  $\chi^2 = 11.071$  is lesser than the calculated  $\chi^2 = 442.522$ . Thus, the null hypothesis is rejected, indicating that there is association between Internet Shopper and types of products purchased through the Internet past 12 months. The research suggests that most of the Internet Shoppers are students such as undergraduates and postgraduates, and they tend to purchase research related items such as books, journals, and magazines through the Internet.

The survey showed that most Internet Shoppers, 177 (31%) used credit cards as the mode of payment for online purchases. However, 18 respondents preferred using money orders while 10 respondents used bank drafts for online payment. There was a small number of respondents (6) who used cheques for online payment (Table 5).

TABLE 5. Internet Shopper vs. Method of Payment

Method of payment	Internet Shopper	
	Frequency	%
Credit cards	177	30.6
Money orders	18	3.1
Bank drafts	10	1.7
Cheques	6	1
Others	18	3.1
Chi-square = 429.713 Significant value = 0.000		

The calculated test statistic of the  $\chi^2 = 429.713$  is greater than the critical value of the  $\chi^2 = 9.488$  (with 4 df at the  $\alpha = 0.05$ ). Hence, the null hypothesis is rejected. There is sufficient evidence to reject the null hypothesis and conclude that Internet Shoppers perceived the five different methods of payment differently. The evident is that most of the Internet Shoppers preferred to use credit card as a means of payment for products purchased



online, due to the assurance given by Internet sellers of not misusing customers personal and financial data, which is clearly stated in company's portal terms and conditions.

From the results obtained, 117 users among Internet Shopper had purchased products or services through the Internet just once a year. Moreover, 64 respondents had placed orders twice through the Internet in a year, whereas only 19 respondents had placed orders through the Internet for more than four times within a year. There were also 17 respondents who had placed orders online thrice a year, and a small number of respondents (12) had placed orders four times a year (Table 6).

TABLE 6. Internet Shopper vs. Frequency of Placing Order over the Internet past 12 Months

Frequency of placing order over the Internet past 12 months	Internet Shopper	
	Frequency	%
1 time	117	20.2
2 times	64	11
3 times	17	2.9
4 times	12	2.1
> 4 times	19	3.3

Chi-square = 265.461 Significant value = 0.000

Using the  $\alpha = 0.05$ , significant association was found between Internet Shopper and frequency of placing order over the Internet past 12 months. It was found when the calculated value of the  $\chi^2 = 265.461$  is higher than the critical value of the  $\chi^2 = 9.488$  at 4 df, the result rejects the null hypothesis. The rejection decision indicated that there is an association between Internet Shopper and frequency of placing orders over the Internet. Internet Shoppers who have conducted repeated purchases of products purchased online, that is, placed order more than four times past 12 months, are motivated to do so due to the Internet benefits like timely products delivery, worldwide product availability and accessibility as well as the convenience of online payment system.

According to the survey, the majority of the Internet Shoppers (87 respondents) had spent between RM 50 to RM 100 per item when they purchase online. Furthermore, there were 60 respondents who had purchased products priced RM 50 and below online. In fact, there were 66 respondents who had spent between RM 100 to RM 500 for a single item through the Internet. Another 16 respondents had purchased items through Internet with the price value of more than RM 500 (Table 7).

At the  $\alpha = 0.05$  with 4 df, the critical value of the  $\chi^2 = 9.488$  but the calculated  $\chi^2 = 268.266$  which is more than the critical value. Thus, the null

TABLE 7. Internet Shopper vs. Price of Item Purchased per Transaction (RM)

Price of item purchased per transaction (RM)	Internet Shopper	
	Frequency	%
< RM 50	60	10.4
RM 50-RM 100	87	15
RM 100-RM 300	12	2.1
RM 300-RM 500	54	9.3
> RM 500	16	2.8
Chi-square = 268.266 Significant value = 0.000		

hypothesis is rejected, indicating that there is an association between Internet Shopper and price of item purchased through the Internet. The current study shows that 15% of Internet Shoppers enjoy purchasing product priced between RM 50 to RM 100 because the price is considerably affordable. Internet Shoppers who are highly price sensitive, will actively search for and buy products on the Internet in order to obtain lower prices of products.

In addition, when purchasing products or services through the Internet, a small number of respondents (16) among Internet Shoppers, had received the products purchased within 21 days. In fact, there were 28 respondents who were given service delivery of more than 21 days from the date of ordering. 52 respondents received their products purchased online within seven days, while 63 respondents received them within 14 days period from date of ordering. However, most of the respondents surveyed (70) were given delivery service for the products or services purchased online less than seven days from the date of ordering (Table 8).

At the  $\alpha = 0.05$ , the calculated  $\chi^2 = 242.887$  exceeds the critical value of the  $\chi^2$ , with 4 df of 9.488. The conclusion is that, the null hypothesis is rejected, indicating there is evidence of an association between Internet Shopper and delivery service received. Interestingly, most of Internet Shoppers experienced the timely delivery of products ordered online (for example, received products less than seven days from the ordering date) when purchased

TABLE 8 . Internet Shopper vs. Delivery Service per Purchased Item (days)

Delivery service per purchased item (days)	Internet Shopper	
	Frequency	%
< 7 days	70	12.1
7 days	52	9.0
14 days	63	10.9
21 days	16	2.8
> 21 days	28	4.8
Chi-square = 242.887 Significant value = 0.000		



digital and research related products like CDs, software, and online journals. Thus, when Internet Shoppers' delivery is consistent with their early expectation, they could experience higher level of satisfaction, thus more repeat purchases and referrals will be created in the near future.

#### CONCLUSION

In conclusion, the relationship between Internet/Non Internet Shopper and years of usage on the Internet was found to be insignificant at 0.05 significance level. The remaining variables were significant at level 0.05 [such as holding credit card, product purchased through Internet in the previous year, method of payment, frequency of placing order over Internet yearly, price of item purchased per transaction (RM), and delivery service per purchased item (days)].

A further inquiry revealed that new ideas on Malaysian Internet users' online shopping behavioural pattern were found to be significant when compared with most of the other Internet usage variables. For example, Internet Shoppers who own credit card enjoyed purchasing books/journals/magazines through the Internet, especially books at the price of less than RM 100 per item and at similar time perceived that their level of satisfaction is higher for the item purchased through online. In most of the cases, the delivery is also made within seven days from the date of order. They reported that they mostly settled their online payments using credit card. With the benefits stated above, their frequency of purchasing products through Internet is considerably more. Also, they purchased products just once a year but reported they intended to conduct repeat purchases in the near future.

Interestingly, the current study identified that online shopping decision making by Internet/Non Internet Shopper is not significantly affected by other factor such as the number of years of usage on the Internet. The Internet users' who have just experienced browsing the Internet for just one year prior are also attracted to conduct online shopping. They are attracted to the Internet pull factors such as user friendliness and reliability of the products or services offered through the Internet. The fact that the success of new retail formats will depend heavily on consumers, future research should continue to study the consumer perspective towards new and emerging retail formats.

#### REFERENCES

- Aldridge, A., Forcht, K. & Pierson, J. 1997. Get linked or get lost: marketing strategy for the Internet. *Internet Research* 7(3): 161-169.
- Bell, H. & Tang, N. K. H. 1998. The effectiveness of commercial Internet web sites: users perspective. *Internet Research: Electronic Networking Application and Policy* 8(3): 219-228.



- EMarketer. 2000. Internet users are predicted to increase in next 5 years. (atas talian). <http://www.matrade.gov.my/ecommerce/news-archive/stat-3.htm> (25 March 2001).
- Higher online spending recorded in 2002. 2003. (atas talian). <http://www.matrade.gov.my/ecommerce/news-archive/2003/ecom-012003.htm> (13 April 2003).
- Hetherington, K. M. T. 1997. Electronic Commerce and the Internet. (atas talian). [http://www.mit.edu/afs/athena.mit.edu/user/k/e/kellyh/www/15568\\_group\\_project.html](http://www.mit.edu/afs/athena.mit.edu/user/k/e/kellyh/www/15568_group_project.html) (5 June 2000).
- Hoffman, D. L., Novak, T. P. & Chatterjee, P. 1998. Commercial scenarios for the web: Opportunities and challenges. (atas talian). <http://www.usc.edu/dept/annenber/vol1/issue3/hoffman.html> (3 June 2000).
- King, A. B. 1996. What makes a great Web site? *Webreference.com*. (atas talian) <http://www.webreference.com/greatsite.tml> (19 July 2001).
- Lohse, G. L. & Spiller, P. 1998. Electronic shopping: How do customer interfaces produce sales on the Internet?. *Communication ACM* 41(7): 81-87.
- Nielsen, J. 1996. Interface design for Sun's WWW site. *Sun Microsystems*. (atas talian) <http://wwwsun.com/sun-on-net/uidesign/designstory.tml> (15 April 2001).
- Sofres, T. N. 2001. E-Commerce stumbles in Malaysia. (atas talian). [http://www.nua.ie/surveys/?f=VS&art\\_id=905356973&rel=true](http://www.nua.ie/surveys/?f=VS&art_id=905356973&rel=true) (13 July 2001).
- Starkey, D. 1998. Mavens see astounding E-Commerce prospects. *Business Journal Serving Greater Sacramento* 15(4): 24-26.
- Telekom Malaysia Yellow Pages Directory 1999/2000. 2000. (atas talian). <http://www.yellowpages.com.my/> (3 January 2000).

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