

## **DRIVERS AND IMPEDIMENTS TO E-COMMERCE IN MALAYSIA**

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### **ABSTRACT**

*Online shopping was introduced to the market in the last decade as many individuals and organizations purchase through the World Wide Web. This project investigates the influence of the World Wide Web online trading on Malaysian daily life, and future trends of online shopping in Malaysia. A number of dot.com companies have been established in Malaysia and about ten thousand web sites exist in Malaysia, but only an estimated 30% are capable of providing online shopping facilities for Malaysian consumers. The focus of this paper is on the demographics of the use of online shopping in Malaysia. This study explores the development, current status and future trends of online shopping in Malaysia as well as factors that influence the decision on whether or not to use this form of commerce. Research findings include which and how often online shopping applications are used by consumers in their daily life, the benefits online shopping brings to the Malaysian communities, and factors contributing to the popularity of Internet sites. Initiatives to raise online shopping by various parties are also studied.*

**Keywords:** Electronic Commerce; E-business; IT Infrastructure; IT Education; Internet literacy; Drivers; Online shopping; IT literacy.

### **INTRODUCTION**

#### **Malaysia online history**

The year 1995 was considered the beginning of the Internet age in Malaysia. The growth in the number of Internet hosts in Malaysia began around 1996. According to the first Malaysian Internet survey conducted from October to November 1995 by MIMOS and Beta Interactive Services, one out of every thousand Malaysians had access to the Internet (20,000 Internet users out of a population of 20 million) (Beta Interactive Services, 1996). In 1998, this number grew to 2.6% of the population. The total number of computer units sold, which was 467,000 in 1998 and 701,000 in 2000 indicated an increasing growth (Lee, 2000c).

In a survey conducted by the Energy, Communications and Multimedia Ministry (Lee, 2000d), it was reported that 7 % of the population was registered as Internet subscribers compared to only 2.6% in the previous year. The Internet penetration is still low at less than 10 percent of the population. According to International Data Corporation (IDC) Malaysia, the number is estimated to grow to 3.91 million in 2004. Some marketing research companies give a higher figure (Anon, 2000). It is hard to determine an actual figure of online users in Malaysia, as some of the online users are not registered as Internet subscribers. They assess the Internet at their workplace or through Internet cafés.

Tables 1 and 2 indicate the total number of registered third level domain names (Jan 1995 – Dec 2000) in Malaysia.

Table 1: Yearly Summary of Third Level .MY Domain Name Registration

Year	*.com.my	*.net.my	*.org.my	*.gov.my	*.edu.my	*.mil.my	Yearly Total
1995	100	3	4	31	13	0	151
1996	537	32	30	73	42	0	714
1997	1306	61	37	57	30	0	1491
1998	2061	86	42	62	61	0	2312
1999	4738	222	144	64	63	0	5231
2000	10048	378	192	51	74	0	10743
<b>Total</b>	<b>18790</b>	<b>782</b>	<b>449</b>	<b>338</b>	<b>283</b>	<b>0</b>	<b>20642</b>

Table 2: Number of New .MY Domain Names (1/1/2001-31/8/2001)

Month	*.com.my	*.net.my	*.org.my	*.gov.my	*.edu.my	*.mil.my	Monthly Total
Jan	516	24	14	2	6	0	562
Feb	547	18	12	5	7	0	589
Mar	748	61	26	3	12	0	850
Apr	664	33	17	1	9	0	724
May	593	21	14	11	12	0	651
Jun	565	16	11	6	9	0	607
Jul	703	37	19	9	10	0	778
Aug	660	25	24	13	13	0	735
<b>Total</b>	<b>4996</b>	<b>235</b>	<b>137</b>	<b>50</b>	<b>78</b>	<b>0</b>	<b>5496</b>

Source: MYNIC (Malaysian Network Information Centre)

- \*.com.my : Private/Commercial organisation
- \*.edu.my : Educational organisation
- \*.gov.my : Government organisation
- \*.mil.my : Military organisation
- \*.net.my : Network service related organisation
- \*.org.my : Private non profit organisation

## **ONLINE SHOPPING**

The Internet is becoming popular in Malaysia, as it is a virtual place where people share their ideas, build communities, shape the future democratically, and promote a new way of doing business. The Internet is the world's biggest shopping mall that allows enterprises to do their business with low cost involved, yet covering global market. According to a research by the Thailand Development Research Institute, e-commerce in the United States captures 70 % of the world market value, followed by Europe with 14 %, and Canada 8 %. The Asia Pacific region captures only 5 % of the market value (E-revolution, 2000).

E-Commerce is a potentially growing business for today's market. The traditional boundaries will soon be replaced with a whole new technology as well as a mechanism and media for purchasing goods and services. The electronic payment system provides opportunities for new global and national trading relationships. Doing transaction online will bring many benefits for both companies and consumers. E-commerce eliminates the traditional purchase approach, which is time-consuming and labor-intensive. Issuing purchase orders, obtaining multilevel approvals and tracing invoices can lead to high transaction costs. Internet procurement automates this process and helps companies increase the speed and reduce the cost of purchasing transactions. Orders will be placed electronically and the product will be produced and shipped out without the cost of middlemen. Perhaps most importantly, order status and inventory levels could be made available to both the seller and its customers. This should relieve the sales and customer-service departments of phone calls and e-mails to track orders and verify inventory levels. Cyber space can be an outstanding way to nurture the business revenue base. Customers can reach a company on the Internet globally for 24 hours. It creates new markets and segments, allow customers to make wise purchasing decisions and increases business competitiveness. Selling online would eliminate the costs involved in rental or buying a business space or building. Virtual server space would substitute for the costs of ideally located shop lots.

E-commerce would provide consumers with benefits such as interactive communications, fast delivery, and more customization that would only be available for consumers through online shopping. Product information in the Internet is more compact and it ranges from various sites. Users have more opportunity to choose and compare products they want to purchase or easily find and select specialized products. This kind of open market place would increase competition, provide benefit for industrial buyers as it will promote better quality and more variety of goods.

### Online shopping in Malaysia

Online shopping in Malaysia is in its infancy. Malaysia can be considered a late starter given the recent spate of Internet interest. Although it has been a few years since the commercialisation of the Internet, Malaysians still mainly regard it as a novel means of communication and entertainment, but not yet as a medium for commerce. Committing a transaction online in Malaysia is not as popular as in western countries. Although almost every Internet user surveyed said in general they like the idea of shopping on the Internet, in fact, only a small number of Malaysians actually buy online (Taylor Nelson Sofres Malaysia Sdn Bhd, 2000). About 96% of urban adults in Peninsular Malaysia never bought anything via the Internet and a mere 4% had done so. Malaysians do not appear to be comfortable using the Internet for applications such as shopping and banking. It has yet to become a way of life in Malaysia. Malaysia's online shopping activity, compared with the other Asean countries is indicated in Table 3. Before a growth in the number of online transactions could be seen, an understanding of the possible hindrances to such growth is necessary.

Table 3: Value of Online Shopping in ASEAN (Million Baht)

Country	1998	1999	2003f
Singapore	1,337	38,880	106,780
Malaysia	684	2,237	78,510
Indonesia	249	1,323	51,680
Thailand	370	1,229	50,920
Phillipines	259	881	38,420

Source: E-revolution. Thailand Development Research Institute, 2000.

### HINDRANCES TO ADOPTION

The 4<sup>th</sup> Malaysia Internet User Report stated, "Malaysians are very curious about this new market but are delaying transactions due to a lack of product awareness, value awareness and concerns regarding credit card security" (www.Consult, 1999). The following sub-sections discuss the findings of the report.

#### Security Issues

The main obstacle that prevents Internet users from transacting over the Internet is security. This issue is not only the major concern among Malaysian consumers but of users worldwide. Regardless of the reason, security issues have been creating unnecessary anxieties for many businesses and consumers.

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Both online purchasers and non-purchasers claimed that they would shop more online if they could be assured that a company on the Web was reputable and if they were confident with the security of the payment system. Those who have never purchased anything online are especially worried about the safety of submitting personal billing information via the Internet.

Even in the most advanced countries, the Internet is still a patchwork of private security solutions for parties who already know each other. There is no single platform that would raise the Net to an entirely different level of usefulness and stability. Data collected recently from random selected online users show that the business community could further increase consumer comfort in shopping online by addressing key security concerns. Most of the virtual shops have not acquired the trust of customers (including Malaysians). This is not only for the user or potential consumer, but also for local enterprises. With this kind of uncertainty, many businesses are naturally reluctant to join the e-business bonanza.

It is believed that credit card fraud was first reported in Malaysia in 1998. The case was discovered in one of the shopping malls in Malaysia. Subsequently, further credit card fraud cases have been reported. In April 2000, an estimated sum of RM 500, 000 was siphoned off from Ban Hin Lee Bank in Penang by technology-aware fraudsters using automated teller machines (ATMs) (M'sian online mall find..., 1998; Pillai, 2000b). As a result, the confidence in online retailing dropped. After this incident, retailers were advised to take the initiative in calling the online shoppers particularly when large amounts of money were involved. The transaction will be cancelled immediately if the online store fails to get the confirmation (Cnet.com, 1998).

It is estimated by Extol (a technology and solution provider in IT Security, E-Commerce and Telecommunication) that no more than 10% of corporations in Malaysia have developed a comprehensive security policy or any effective action to protect their information. For Web sites with insufficient protection, a customer's credit card information might be easily exposed and intruders need little effort to steal confidential information stored in the Web servers. On average, hackers on a monthly basis deface about 30 Web sites in Malaysia. More serious breaches of cyber security on the local front are rarely publicized.

The Malaysian government has put considerable effort into building the trust and confidence in electronic networks and network transaction among consumers. The Office of the Controller of Certification Authority (CA) was established in 1998 to serve as a regulatory body to issue licenses to CA and certification of recognition to repositories, date/time stamp services and foreign CAs. The Controller's job is to

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ensure the legitimacy and trustworthiness of operations of these third parties in Malaysia (Controller of CA, 2000).

Several projects have been initiated or are proposed. A project introduced in September 2000 called The MEPS Secure Electronic Transaction (SET) Payment Gateway was the first Malaysian experiment in a series of worldwide pilot projects planned to test out the SET protocol (Lee, 2000b). The SET system, jointly developed by Visa International, MasterCard and other industry professionals provides an open, multi-party payment mechanism for conducting secure bank/credit card payments over open networks. More than 20 merchants are currently involved in the SET payment gateway and 20,000 digital certificates are ready for immediate issuance (Cnet, 2000).

Digicert Sdn Bhd is the first certification authority in Malaysia licensed to issue digital signature and digital certificate. It provides a safe environment for business-to-business transactions, a sure route to reduce costs and gain efficiency. It allows consumers that trade through the Internet to sign electronically - in the form of a digital signature that is in line with the requirements of the Malaysian Digital Signature Act 1997 and the Digital Signature Regulations 1998. Msctrustage.com is the second certification authority company in Malaysia to provide security services such as issuing digital certificates, establishing public key infrastructure and providing cryptographic technology to various Internet markets (Pillai, 2000a).

MIMOS Bhd introduced iVEST in November 1999. It is a locally developed Internet security system that provides a secure virtual environment for e-business. It could tackle security risks and privacy issues by integrating encryption, digital signature and smart card technology into one single product. It will be a boon for any businesses wanting to venture into e-commerce.

### **Vendor Reputation**

Besides the security of payments issue, the reliability of businesses on the Web is one of the key concerns for online consumers. The number of users' concerns about dealing with dishonest or disreputable vendors as a primary reason for not shopping online is growing. E-business Web sites must also carry part of the responsibility. Some have not achieved the trust from customers because they are very new, and many are not good at making the shopping experience easy and reliable for the online users. Lack of privacy statements, difficult navigation, poor product declarations, slow delivery of goods, limited price discounts, uncertainty about security, and unclear redemption policies are examples of issues faced by the users.

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Half of the respondents from the survey results from several marketing research companies perceived that, many disreputable companies are offering products for sale on the Web (Taylor Nelson Sofres Interactive Sdn Bhd., 2000). More than 50% of respondents would choose to make their purchase at well-known and major sites. Both purchasers and non-purchasers seek cues that would indicate the reputation of a company on the Web. Solving this problem would definitely encourage them to buy online. A suggested solution was to get the online companies recognized by a well-known reputable third party and this would boost online shopper's confidence about the purchases they make on the Web (Council of Better Business Bureaus, 1998).

#### **Attitude Problems**

The e-commerce and e-business scene in Malaysia and around the Asian region is beginning to blossom. E-commerce technology coming to the market and the growing number of Internet users buying through the net stimulate the opportunity to expand the marketplace by deploying a cost effective and efficient solution. However, there is still less than 2% of the gross domestic product (GDP) currently transacted on the Internet (Lee, 2000c). The hindrances might be attitudinal in nature.

Few Web sites offer delivery to Malaysia. Currently, hardly one percent of retailers in the country are involved in e-commerce. A major hindrance to Malaysia's involvement in electronic businesses is the enterprise attitude (Ng, 2000). Malaysians tend to be "followers" rather than "pioneers" or "first-movers" in creating intellectual property (Lee, 2000a). This is a critical challenge for society to move into the new Knowledge-Economy. The culture here is to 'play it safe', letting the others to test the waters first and would only follow or move to kick start a new type of business, if the latter were to succeed. Many of the retailers see it as an experiment rather than an investment. At this point in time, there is no apparent incentive for any merchant to move into e-commerce in Malaysia as the cost is too high; leased lines, merchant software, digital SET ids, commissions payable, merchant discount rate by banks (about 2-3%) and payment gateway surcharge (within 5-7%). The local consumer attitude is also a problem. The findings from the Report reveal that there are two false orders out of every ten (www.Consult, 1999).

Malaysia enterprises also lack innovation. Many fear failure and some dare not take the step into the Internet economy because it is an unknown space (Ng, 2000). Nothing is guaranteed success. Malaysia enterprises have to re-act fast to the rapidly changing environment. They need to grab the opportunities and take the risk to change the Internet space for business on the Net.

### **The Malaysian Culture**

The business environment is culturally different in Malaysia. In the United States, stores are not generally a block away from houses as they are in Malaysia. Not only are retail shops nearby, but also shops' and restaurants' business hours extend through a distinctively longer period compared to those found in western countries. As such, the convenience of time and spatial are not reasons for Malaysian consumers to buy from retail shops instead of shopping online. Buying a burger from a shop located two doors away is easier than ordering through the Internet, so why should consumers choose to buy online?

Consumer attitudes and behavior have a big influence on making the decision to buy from the Internet. In Malaysia, the majority of buyers like to do brick-and-mortar shopping. One of the shopping malls located in Kuala Lumpur, Suria Mall has 450,000 visitors per week. To visit a shopping mall has become a kind of Malaysian "weekend activity"; it is a method for some Malaysians to release pressure or spend time with family and friends. They may not necessarily go there to buy anything; it could be for various services that are available in shopping complexes like salons, movies, and bowling alleys. A growing number of shopping complexes are opening in Malaysia. The largest mall in Malaysia - Mid Valley Megamall has more than 430 shops on five and half floors. This might be the major competitor to the Internet portal sites.

### **The Preference to Examine Products**

With brick-and-mortar shopping, the buyer could physically examine the product prior to purchase by looking, touching and testing. This is not possible when purchasing online. Also, the possibility of returning items bought via the Web is much lower. The [www.Consult](#) report indicated that the majority of participants and groups surveyed at the cyber communities' forum said that this is one of the reasons they do not like online shopping. However, if the shopper has seen the product beforehand, buying via the Internet was actually very convenient and saves time. The Mid Valley Megamall is fully wired for e-commerce shopping that provides an alternative to buyers. If they could not make their decision while they are at the mall, they could actually defer their decisions and place the order over the Net.

### **Price**

Sometimes it would cost more to get something off the Net in Malaysia than purchasing it off the rack. More than half respondents mentioned price of the product or service as the primary factor when they consider buying on the Internet.



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If the site does not provide enough discounts or offers a special promotion or unique product to make it worthwhile for online shoppers to visit, it is hard to attract the online user to purchase via the Internet.

### **IT Knowledge**

To achieve an informed and computer-literate society, IT and Internet access has to be widespread. The online populations in Malaysia are “infants” and it must be admitted that the level of Internet knowledge is shallow compared to developed countries. The young generation will form the new market place. As the growth of the Internet in Malaysia continues, peoples' perception will begin to change and fears will begin to reside as they gain understanding of the technology and how to use it.

The ownership and usage of computers in this country is still very much focused in the cities. Only a few communities living in better-developed towns are exposed to the Internet. Out of a total 2.5 million PCs owned in this country, 65% are located in three of the thirteen states, Selangor, Wilayah Persekutuan and Pulau Pinang (Yap, 2000a). A possible profile of those making purchases on the Internet would be young, highly educated, high income, likely to be single and living in the city.

### **Payment Options**

The payment option offered by most of the virtual shops is by credit card. In Malaysia, to apply for a credit card, a minimum annual income of RM18,000 is needed. The number of credit card holders in the country at the end of March 2000 was 2.415 million compared with 2.066 million at the end of March 1998 (Bank Negara Malaysia, 2000). This implies an increase of 16.9% over a two-year period, which means that less than 10% of Malaysians are actually credit card holders (as some might be holding more than one card). It would help get more online users to purchase if a variety of payment options were available. A survey result shows that 60 % of Malaysians are interested in an ATM debit card that could be used to make purchases on the Internet (Skali.com, 1999). Help might be needed from the banks to promote more applications to the Malaysian communities and this will benefit both the banks and the communities.

### **Personal Computer Cost**

The price of computers is relatively high in Malaysia. To get a computer installed at home in Malaysia would cost at least RM2,500. This might be a two months salary for those from a medium to low income family. Average salaries and wages per employee in the manufacturing sector as at July 2001 was RM1,423 per month

(Malaysia. Dept. of Statistics, 2000). The registration fee, subscription fee, monthly access fee and telephony charge would be additional expenses to get online. According to Telekom Malaysia Bhd, the dominant fixed line Telco in Malaysia, each local call costs RM0.09 (S\$0.041) for the first 3 minutes or part thereof, and RM0.03 (S\$0.014) for every subsequent minute (TMNet product dial, 2000). Though some like Maxis, will give a rebate of 0.5 sen for every minute of access to the Internet, the total cost to get online would be high for a low or medium income family. Table 4 indicates the cost. The price does not include telephony charges, which is 0.13 per minute for a local call.

Table 4: Standard Dial-up Packages Offered by Maxis

Plan Name	Price per month	Hours per month	Payment
M Premium – Maxis Mobile/ Hotlink	RM 10	Unlimited	6 months advance billed online 12 months advance billed online - exclude all call charges - .05 cents rebate for Maxis Mobile/Hotlink customers. The rebate will only be given when calling from nominated access telephone number specified on user's register form.
M Surfers	RM30	Unlimited	Quarterly Upfront 5 months advance + 1 free 10 months advance + 2 free excludes all call charges

## **EFFORTS FROM PRIVATE AND GOVERNMENT SECTORS**

Government and various parties' encouragement is a major driver promoting on online shopping in Malaysia and this will be discussed subsequently. It is expected that these drivers would help promote the usage of local web sites being developed.

### **Involvement of Private Sectors**

Of the 811 small- and medium-scale enterprise (SMEs), only 7% were selling via the Internet according to a survey conducted by the Multimedia Development Corporation (MDC) in 1999. Out of this, 49% responded that the Internet sales were less than 10% of their total revenue (Malaysian government..., 2000). Another survey carried out in 1999 by Techknowledge Asia on 300 Malaysian

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companies showed that 34% are planning to set up e-commerce programmes within the year. According to the study, a further 8 % have already implemented or is in the process of implementing e-commerce in their businesses (Hakim, 1999). Another service provider, StarHub, offers free Internet access to the public in Kuala Lumpur and Petaling Jaya (Marican, 2000). This service was extended to Johor Baru and to states located on the West Coast of (peninsula) Malaysia by the first quarter of 2001. This indicates the private sector's effort in promoting Internet access.

As Malaysia is a large market for Internet growth and potentially millions of dollars, or ringgit, could be earned, the problem then is getting the consumer to buy online. The growing number of Internet sites and Internet cafés are good signs promoting the theme of "going online" to the Malaysian populace. Once more, communities are exposed to computers and the Internet as well as the possibilities of being exposed to online shopping are higher.

Several applications have been developed to speed up progress in Malaysia. E-services infrastructure company, NetReliance, offers total Internet security solutions to local financial institutions and manufacturers via the application service provider (ASP) model (Pillai, 2000e). NetReliance essentially automates the registration processes for digital certificate authorities. The company is upbeat about the ASP model as it offers a convenient and effective tool to clients all over the world. Its aim is to provide a safe environment for consumers to do their transactions.

The Internet use is also encouraged in the hotels and traveling sectors, making possible direct transactions with hotels and airlines and reducing dependencies on "middle men". As such, the Malaysian Association of Tour and Travel Agent (MATTA) encourages more of its members to conduct business through the Internet.

Malaysian small and medium sized businesses (SMBs) learned firsthand about the benefits of e-commerce and its impact on their businesses through a series of public seminars themed, *Emerging a Winner in E-commerce*, organized by MyBiz Malaysia Sdn Bhd, Hitechniaga Sdn Bhd, BSN Commercial Bank and Mimos Bhd. The seminars which were held in the last quarter of 2000, help educate Malaysian businesses on the benefits of e-commerce and its impact on their businesses (Nationwide e-commerce..., 2000).

Setting up a portal site with online shopping in Malaysia is quite costly. It is one of the barriers hindering many investors in this field. They will be suspicious on

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how long their site will survive when they invest. As a result, a number of companies have emerged to provide solutions to retailers. For example, Gold Information System Sdn Bhd has announced a service that would allow merchants to set up virtual storefronts at the “Virtual Floor” of the Mid Valley Megamall shopping complex in Kuala Lumpur. This will help to get more retailers involved in e-business as no IT knowledge is required from the tenants for setting up the store and completing sales. They could use the Internet to augment a service that already exists (Virtual shops., 2000).

Recently, Pasarborong.com opened the first web site in Malaysia offering online grocery shopping over the Internet. This company specializes in delivering fresh seafood, meat produce and staple grocery goods straight to the homes of customers within 24-hours of ordering. Another service provider is asiaONair.com that would be the largest web site in Malaysia, and perhaps in Asia, with over 300 active merchants and thousands of products (E-commerce platform., 2000). It also has some e-commerce sites, such as Office Connect, developed to help small to medium sized business build an e-commerce site. United Overseas Bank (Malaysia) Bhd (UOBM) has introduced Payonline, a one-stop bill payment service via the Internet, to provide a quick and convenient way to pay bills (Bernama, 2000). The new service, accessible via [www.payonline.com.my](http://www.payonline.com.my), is open to all Malaysians and is not confined to the bank's credit card members.

### **Promoting Online Shopping by the Government Sectors**

The Malaysian government is playing a role in promoting the IT industry by providing the environment for educating the consumers on the benefits of online shopping. To accelerate the uptake of e-commerce and enhance Malaysia's competitiveness, the government is taking steps to provide the basic infrastructure as well as a favourable environment by laying down regulatory, physical, technical and institutional preconditions to facilitate smoother electronic communications and transactions. The Government would also look into plans to reduce the cost of adopting e-commerce for all parties including consumers, merchants and banks. Local online stores may need some modification to align with cultural and social-economic standards. If the government could provide funding solely to encourage idea generation, this will help in the development of local online shops.

Vision 2020 is a national agenda that sets out specific goals and objectives for long-term development. It hinges on growing a technology-savvy workforce to become a fully developed, mature and knowledge-rich society. The Multimedia Super Corridor (MSC) project was initiated in 1995 to help companies of the

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world test the limits of technology and prepare themselves for the future (Pilai, 2000a). The MSC would accelerate Malaysia's entry into the information age, help make Vision 2020 a reality, deliver a number of investments, business, research, development and lifestyle options offering a productive, intelligent environment within which a multimedia value chain of goods and services will be produced and delivered across the globe. The project is attracting world-class technology-led companies to Malaysia, and developing local industries. RM2 billion had so far been invested in the infrastructure projects in the corridor.

In its effort towards a truly knowledge-based economy, the government is stepping up efforts to ensure that the rural population is also exposed to computer and Internet facilities. In the year 2000 budget, RM318 million (US\$79 million) had been tabled for the implementation of the Wireless Local Loop telecommunications system to benefit some 12,000 people in the rural areas (Layyam, 2001). The new focus of the National IT agenda is to close the technology gap as part of the national conscience to ensure that no citizen are denied access to information, knowledge and opportunity in the digital economy (Yap, 2000a). In the effort to assist the lower income families to get "connected" to the Internet, the government had abolished the import duty on all IT hardware and software. Another incentive is the government's decision to launch a PC-ownership campaign aimed at making it easier for people to own computers via withdrawals from the Employment Provident Fund (EPF). A RM400 (US\$105) personal tax relief for the purchase of a PC and a lower interest rate to civil servants for PC purchases are also recommended. The government is also looking into the possibility of using existing post offices located in the rural areas for these communities to access the Internet (Layyam, 2001).

Apart from these, nine pioneer projects have been proposed to set up rural Internet centers in each state. These pioneer projects include DESA-AIM (Amanah Ikhtiar Malaysia) and E-Bario. DESA-AIM would enable the people in Pendang, Kedah and Kota Samarahan, Sarawak to obtain relevant general information from the Internet and expose them on economic opportunities within and outside the country from AIMnet's website. The E-Bario project, is aimed at bringing IT facilities to Bario, an inland district in Sarawak. Twelve communities living within a four-mile radius are expected to benefit from these facilities.

Nationwide, cyberlaws have been introduced to ensure the existence of a secure Net environment. The Computer Crimes Act 1997, Digital Signature Act 1997, Copyright (Amendment) Act 1997, Communications and Multimedia Act 1998, Digital Signature Act 1997, and Digital Signature Regulations 1998 protect the consumer and allow complaints to be lodged. Consumers who have purchased low

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quality or defective products from local retailers via the Internet can now lodge their complaints to the Consumer Claims Tribunal (Lee, 2000e). The provision is made in anticipation of electronic retailing that is expected to be the major solution for the local distributive sector within ten years.

In July 2000, the Ministry of International Trade and Industry launched a RM20 million *E-commerce Grant* to specifically help small and medium enterprises (SMEs) kick-start their e-commerce initiatives (Nation wide e-commerce..., 2000). The aim is to encourage more participation from such companies in e-commerce activities as the way of doing business in the new economy. The grant is also aimed to help them deal with financial and skilled worker constraints in carrying out e-commerce activities. About 2,000 companies are expected to benefit from this programme. It will be implemented on a reimbursable basis.

## **Education**

The efforts of the Malaysian government in building a knowledge-based economy in this decade focus on balancing geographical and communal disparities. Education is considered to be the key. Several programs have been proposed to ensure that the rural folk and the poor, especially the younger generation, have facilities to access the Internet. Studies have indicated that the majority of the current Internet users nationwide are in 20-24 age group while those in their 30s are under-represented (Bernama, 199a). Due to this, a web site <http://e-trainingsite.com> has been set up locally to help those interested to start their business or wish to find out more about the Internet. The iBroadNet.com Sdn Bhd in collaboration with SMI Association Malaysia had organized a campaign in August 2000 to raise the level of Internet literacy and promote a lifelong learning culture among Malaysians. The National Internet Literacy Campaign was aimed at increasing the level of Internet literacy among Malaysians and to aid them in utilizing the Internet productively and effectively. The campaign would also promote a life-long learning culture among Malaysians in line with the nation's goal of achieving a knowledgeable society.

The Smartschool is the project to get the country's secondary schools equipped with computers (Yap, 2000b). Currently, 46% of the country's secondary schools are equipped with computers. However, according to a survey conducted by the National Teachers Association, only 30% of the 250,000 teachers in Malaysia use computers. Private companies like Sun Microsystems has helped by donating RM2 million worth of its office productivity software to 700 schools in the state of Selangor to boost the IT literacy rate among students (Pillai, 2000c). These are good initiatives for Malaysia as educating the younger generation helps the country to built IT based communities.

## **ESTIMATES FOR THE FUTURE**

The Taylor Nelson Sofres (TNS) (2000) survey reveals the extent to which online shopping is becoming a significant component in the purchasing of products and services in Malaysia. The Internet provides huge opportunity for E-commerce growth in Malaysia. Based on the survey findings, more and more Malaysians have started to become involved in some of the financial transactions sites compared to a few years ago. Throughout the country, nearly 14% of all the Internet users plan to shop online within the next six months. However, 51% Internet users never shop online and have no plan to do so in the future.

Newsbytes Asia predicted that there would be a 422% increase in the number of online users in Asia over the next six years. The number of users is expected to reach 228 million by 2005. There are currently 43.6 million online users in Asia and a 62% increase is expected by 2006, by which time it will reach 370 million. The number of Internet users in Malaysia is projected to grow to 2.2 million in 2001 and based on this projection, the total value of transactions is set to grow to RM2.5 billion in the next three years (Bernama, 1999b). International Data Corporation (IDC) Malaysia expects e-commerce revenue generated in Malaysia to amount to US\$426 million (RM1.62 billion) for 2000 and this would grow to US\$3 billion (RM11.4 billion) in 2004 (Lee, 2000e). Local e-commerce market growth figures seem to indicate a healthy outlook for Malaysia. Internet commerce in Malaysia for the year 1999 was worth US\$59 million. A recent announcement of the Multimedia Development Corporation (MDC) estimated that e-commerce transactions carried out by local companies and individuals should be about RM623 million by the end 2000 (Pillai, 2000a). E-commerce has been growing by more than 100 percent in this region. It projected that the market would exceed between US\$1-3.5 billion in the next five years (Bernama, 1999b).

Many companies believe that there is money to be made as soon as the Internet becomes secure. In the investors' opinion, the future of Internet shopping will always be bright when the public gains confidence in the security issues and when they adapt to an online shopping philosophy.

## **CONCLUSION**

No one can predict how successful e-commerce will be in Malaysia in this competitive market. Malaysia is still lagging far behind developed countries. Online shopping is supplementary or complementary to existing business as an additional marketing, promotion and fulfillment channel.

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Malaysia has a huge potential for Internet procurement. It will be hard for Malaysians to rapidly adopt online shopping due to cultural inertia. Malaysians like going to the shops rather than browsing the Internet without an initial inspection of the goods. This culture will change for Malaysian consumers as they become aware of the advantages of online shopping. If the consumer can be convinced that it is safe and reliable to purchase online, the potential will be unleashed. A new economic culture that is in contrast to the traditional one of owning and keeping the intellectual property one creates, may flourish.

Malaysia had made great strides in education and training of IT knowledge. Various approaches have been utilized to address the gap between the information rich and poor. The government is creating a telecommunications infrastructure to give equal access throughout the country. Improving government service and promoting a strong information industry should pay dividends. Malaysia will have more Internet users with the reduction in PC prices, access to cyber cafes and more ISPs coming on stream. E-Commerce in Malaysia will be facilitated by the preparation of the necessary infrastructure, legal and regulatory framework.

New security systems for transactions are under development and electronic commerce will not provide opportunities, but also risks that companies and consumers will have to consider. E-commerce seems to be still in a gestation period. There are not many success stories in Malaysia. Confidence needs to be instilled in businesses to invest in and the public to purchase via the Internet.

Recognition of online companies by a reputable third party would have a positive effect on online purchasing. It would have the strongest impact among those who are already online purchasers. The barrier of security of payments has to be overcome before other considerations in order to convert non-users. Many people are still cautious about giving out credit card numbers or even buying anything off the Net, whether it is Cash on Delivery or other means. Subsequently, e-commerce solutions are increasingly secure with many measures in place to ensure as secure an environment as possible. The industry is growing slowly but still lacks the maturity and creativity needed to gain a strong foothold on the global Internet or e-commerce market. In order to be the driving force in the Net world, Malaysians need to be ready to face the challenges of the Internet global market.

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