

Preface

This paper which outlines how Hong Kong might be able to move forward on the e-commerce front came out of a unique collaboration between researchers, Mr. Sin Chung-kai, Legco representative for the IT sector and the Hong Kong Information Technology Federation (HKITF).

Certainly, Hong Kong is now amongst the territories in the world that has the highest readiness to engage in e-commerce activities. But, strangely, there is very little e-commerce activities. There are many hurdles but there were also many measures initiated by the HKSAR Government to promote e-commerce already.

If Hong Kong is ready, why is there so little action?

Will setting up an e-Commerce Commission (i.e. more government), more research and more training help? At the end of the day, e-commerce is not about technical wizardry. It is a business of and the fundamental reason for starting a business - a chance to make money must be there before e-commerce will grow in Hong Kong.

Founded in 1980 the HKITF is probably one of the earliest non-profit and non-political business associations that provide a forum in which the IT-related business can work together for the benefit of the IT industry in Hong Kong. We are businessmen. We would prefer the HKSAR Government to continue to do what governments are best at — focus on building a favourable environment and focus on negotiation with mainland China on breaking down trade barriers that affect e-commerce. No government in the world is good at micro-managing business activities. And frankly, business activities such as training, research and business networking could be done more effectively by the private sector.

We are pleased to see to the work done by the HKSAR Government on CEPA (closer economic partnership arrangement with China). If a buck can be made through e-commerce in Hong Kong, then there is every reason for local and international business to set up e-commerce shops here.



President
Hong Kong Information Technology Federation
October 2003

Preface

The e-commerce hype vanished following the dot.com crash in early 2000. The crash, however, has made us re-evaluate and therefore better understand the real benefits and impacts of e-commerce to our society. E-commerce is now considered more than a way of re-engineering business and providing new supply chains. Nor does it merely mean a hook-up on the Internet or setting up of websites. E-commerce injects greater efficiency to a company by improving and enhancing the performance of various business functions. E-commerce is also a driver to the growth of our economy.

In this paper, we found that Hong Kong boasts high e-readiness as compared with other Asian economies. We have world-class information infrastructure, an open regulatory framework and a competitive marketplace for companies to run their business. We also have high Internet penetration in household and business sector. But the reality is despite all these favourable factors, e-commerce is still unpopular in Hong Kong. While some large enterprises have already integrated e-commerce into their business operations, only a small fraction of local SMEs have prepared themselves for the age of e-commerce.

To ensure that Hong Kong is able to capitalize on the enormous business opportunities brought by e-commerce, we believe it is now the critical moment to review the past experience and re-define the approach to boost the e-commerce uptake in the local business community.

This paper recommends a sector-specific strategy to be undertaken by the government, which helps leapfrog the e-commerce development in Hong Kong. We hope this paper not only provides some new ideas and new ways to address the challenges in e-commerce adoption, but also rings a wake-up call to many businesses in Hong Kong.



Sin Chung-kai
Legislative Councillor (Information Technology)
October 2003

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Executive Summary

This paper is published by Mr. Sin Chung-kai, the Hong Kong Special Administrative Region (HKSAR) Legislative Council Member representing the Information Technology Functional Constituency and the Hong Kong Information Technology Federation.

In light of the slow uptake of e-commerce in Hong Kong, the objective of this paper is to promote and foster e-commerce development in Hong Kong. **We propose the Government to adopt a sector-specific strategy** in order to build a critical mass for e-commerce to take off across different industries.

To achieve this, we recommend that

- The Government should establish an **e-Commerce Committee (eCC)** to coordinate all issues related to e-commerce and to formulate policies and develop programmes that assist companies in capitalizing on the benefits of e-commerce.
- eCC should carry out a number of **sectoral studies** in collaboration with academic institutions, trade and industry organizations to identify critical issues and possible sectoral-based projects that can build up a critical mass of e-commerce users in different industries.
- eCC should partner with trade and industry associations to develop E-commerce Collaborative Industry-based (eCIB) Projects that can benefit the entire industry. Examples of eCIB projects include portal, supply chain management, data warehouse, industry network, applied solutions, standard setting and skills training programmes, all of which cater to the specific needs and requirements of different industries.
- eCC should introduce an **IT Incubator Program** to help start-ups capitalize on the advantages of e-commerce. The objective of this programme is to help IT enterprises commercialize its R&D and deploy their products and services for Small and Medium Enterprises (SMEs) who seek to transform their conventional business to an e-business. The long-term objective of the IT Incubator Program is to increase the adoption of e-commerce and foster innovation in IT industry.
- eCC should establish an **EC Training Network**, a non-profit-making programme aimed at demonstrating to SMEs the benefits of e-commerce by providing them with e-commerce courseware and showcasing current e-commerce technologies. Products and services to be offered by the Network include industry-based business improvement workshops and web-based information. The programmes should be rolled out by the Network Partners - licensed third-party training service providers who are ideally made up of industry associations, professional bodies, chambers of commerce, training and electronic commerce consultancies, to which SMEs usually go for business advice.
- eCC should introduce an **eCNews** campaign, a collaborative awareness building program to be carried out in partnership with trade and industry associations. It will deliver customized, sector-based e-commerce information to SMEs through industry associations.
- eCC should initiate a **Supply Chain Demonstration Programme** to promote the concept and benefits of supply chain management to SMEs. eCC should take charge of this programme by facilitating seminars and conferences to increase the awareness of SMEs on supply chain management; showcasing successful



cases; creating partnership opportunities between successful companies that have employed supply chain management and the other SMEs; and assisting individual sectors in capturing emerging business opportunities and overcoming barriers to business growth through the identification of model sector-based projects.

Where we stand

1 INTRODUCTION

To establish Hong Kong as a leading e-business city is the primary objective of the revised Digital 21 strategy announced in May 2001. Since then, the Hong Kong SAR government has been making consistent and substantial investment to create a suitable environment for e-commerce to prosper in Hong Kong. While the use of information and communication technology (ICT) is relatively intensive in Hong Kong, our growth of e-commerce is far below that of the United States, the leading European economies and even some of the new e-commerce rivals in the Asia-Pacific region. This chapter provides a snapshot of e-commerce development in Hong Kong. A detailed benchmarking exercise on different aspects of e-commerce is set out at the end of this paper. (Appendix)

1.1 READINESS

Hong Kong has the highest e-readiness in Asia — In April 2003, the Economist Intelligence Unit published its fourth e-business readiness rankings for the top 60 economies in the world. Up from the fourteenth in 2002, Hong Kong ranks the highest among all Asian e-commerce markets as the tenth on the list. The state-of-the-art infrastructure and the ambitious plans of the government to transform the city into an information-based economy have contributed to the high ranking. The government has even taken the initiative to adopt e-business within its organization. It is no wonder why Hong Kong is considered “the first place in Asia to embrace electronic business”.

Usage of PC and Internet is growing steadily in Hong Kong but the penetration is still lagging behind the other leading economies in Asia — In South Korea and Singapore, more than 50% of their population owned a PC and connected to the Internet in 2002.¹ In Hong Kong, PC and Internet penetration only stood at about 38% and 43%

respectively in 2002. Although the diffusion of PC and Internet recorded a slightly positive growth both in household and business sector from 2001 to 2002², the penetration figures mean that there is still substantial room for Internet device and service market to grow in Hong Kong.

Hong Kong has ubiquitous infrastructure which could be utilized for e-commerce — Hong Kong has advanced, ubiquitous electronic infrastructure that may take local e-commerce development to a new height. In particular, Octopus cards (active chip cards covering almost the entire population in Hong Kong) present unique opportunities for trusted online identification (prior to widespread issuance of full eCerts), micropayment and information storage. In addition, the banking system offers an expanding range of online services including account management, securities trading payments for credit card and other bills as well as direct debit settlement. Combined with increasing Internet accessibility, this infrastructure is poised to provide a robust platform for boosting e-commerce development in Hong Kong across nearly all sectors and also the community.

1.2 INTENSITY

Hong Kong's B2C e-commerce is still in its infancy — As shopping in malls or streets is extremely easy and convenient in Hong Kong, online shopping is unlikely to replace the traditional way of shopping in the near future. It is therefore not surprising that Hong Kong only recorded 31% of its Internet usage on online purchases in 2001. The figure is rather low when compared with other Asia countries such as South Korea (55%), Singapore (38%) and Taiwan (37%).³

¹ International Telecommunication Union www.itu.org. In 2002, PC and Internet penetration in Singapore was 50.8% and 53.9%. In South Korea, both PC and Internet penetration was around 55%.

² Report on 2002 Annual Survey on Information Technology Usage and Penetration in the Business Sector.

³ Nielsen//NetRatings on online purchasing in the six months up to Sept 2001.



Most local businesses use IT as a new marketing and communication channel rather than a tool to generate revenue — Although many companies increasingly rely on IT to strengthen their internal and external communications, they still have not integrated IT in their operation to generate more revenue. Among various Internet services, the most widely used are software download, communications and information search rather than online transaction. At present, conducting business electronically is yet to be a common practice in the local business community.

Some local large enterprises are already enjoying the benefits of e-commerce but SMEs do not seem to be fully aware of such benefits — Large companies see a higher adoption rate of all kinds of e-business activities when compared with SMEs. About 47% SMEs in Hong Kong have no plan to adopt e-commerce.⁴ Due to the gloomy economic situation, some SMEs have even terminated their e-mail accounts or, shut down their company websites in order to reduce operating cost.

1.3 IMPACTS

E-commerce contributes very little to our economy now — High PC and Internet penetration do not necessarily guarantee a boom in e-commerce. In 2001, the sales of goods, services and information via electronic means valued HK\$22.1 billion, representing only 0.43% of the total business receipts from all industry sectors. A report, published by the Infocomm Development Authority of Singapore, shows that the estimated B2B e-commerce transaction value in Hong Kong is 0.8% of GDP, following the UK (0.9%), Norway (1%), Singapore and Australia (1.1%), Taiwan (1.3%), Sweden (1.6%) and the US (3%). The figures indicate that Hong Kong is significantly behind other leading economies in the adoption of e-commerce.

1.4 CONCLUSION

Hong Kong has a world-class information infrastructure. Our e-readiness is higher than any other countries in Asia. Many leading corporations in different sectors are already aware of the challenges in an information-driven economy and have turned to e-commerce in their operation.

Our e-commerce market has yet to attain a critical mass. Many SMEs far lag behind their overseas counterparts in terms of IT adoption. Some SMEs may have invested heavily on ICT equipment, but they fail to integrate IT with their internal and external business processes to create a true e-business environment. A lot more SMEs perceive IT as just expenditure rather than investment. Too few are aware of the real value of IT to themselves and also the entire economy.

To compete effectively in a knowledge-driven economy, SMEs need to change. But it is not easy for SMEs with limited resources to stand against the challenges. Hence, the government plays an important role in helping SMEs adopt e-commerce. It requires a new approach in our e-commerce policy.

The objective of this paper is to propose a sector-specific strategy to facilitate the e-commerce development in Hong Kong.

⁴ The survey was conducted by the Hong Kong Productivity Council during July to December 2002. A total of 2000 local companies were interviewed by telephone in this survey.

Hurdles

2 INTRODUCTION

Getting into e-commerce is no doubt a difficult decision for many SMEs. It requires substantial investment, technical know-how and managerial skills. Most importantly, there may be risks. A clear understanding of the existing problems is fundamentally important for identifying necessary policy initiatives. This chapter examines the pressing issues facing SMEs in embracing e-commerce.

2.1 REASONS FOR NOT ADOPTING E-COMMERCE

There are a number of reasons for businesses not adopting e-commerce. But we identify that the lack of understanding on e-commerce appears to be the fundamental hurdle. For example, among those

companies not having a corporate website, around 68.8% of them do not find any benefits in so doing.¹

Little knowledge about the impact of e-commerce on our economy is again the major reason for companies not doing business online.

As shown in Figure 2.1, many companies do not have a full appreciation of the immediate and tangible benefits brought by e-commerce, hence discouraging their participation in online business. But equally important is the lack of critical mass in the industry, which is caused by the limited understanding on e-business models and online consumer behaviors. It is particularly true to online selling business. Companies perceive this information as the basic element that help them grow their business.

Figure 2.1 Reasons for NOT adopting electronic business (2002)

(Census and Statistics Dept of HKSAR)

Reasons	Ordering or purchases of goods, services or information	Receipt of goods, services or information	Sales of goods, services or information	Delivery of goods, services or information
No perceived business benefit	45.3%	48%	38.7%	41.1%
Not popular in the industry	41.5%	38.3%	43.1%	43.2%
Lack of personnel familiar with e-commerce activities	22.8%	25.9%	23.7%	24.3%
Costly in procuring and maintaining the computer equipment	7.2%	10.6%	8.7%	8.8%
Costly in procuring and developing software	-	4.3%	6.7%	6.4%
Costly in employing IT personnel	-	4.0%	4.9%	4.5%
Goods, services or information required could not be sold/delivered/purchased through electronic means	10.9%	5.6%	15%	13.3%
Consider e-commerce activities not reliable	8.8%	2.1%	4.1%	2.8%
Concern about security issues	5.9%	0.5%	2.6%	2.1%
Others	1.8%	0.6%	1.6%	1.2%

¹ 2002 Annual Survey on Information Technology Usage and Penetration in the Business Sector, Census & Statistic Department of HKSAR.

Another noteworthy issue is that SMEs are a lot more skeptical than larger enterprises in e-commerce adoption. Figure 2.2 shows that SMEs are lagging far behind the large enterprises in using both ICT and e-commerce.

Figure 2.2 Use of ICT and E-commerce, by size of enterprise (2002) (Census and Statistics Dept of HKSAR)			
Use of ICT and e-commerce	Percentage of enterprises		
	Small	Medium	Large
Personal computer	50.7	76.6	94.6
Access to Internet	40.5	66.1	82.6
e-Cert	1.3	4.6	12.2
Web site	8.1	31.6	61
Ordered or purchased goods / services via electronic means	6	12	28.6
Received goods / services via electronic means	41.4	67.6	80.7
Sold goods / services via electronic means	1.3	1.9	6.5
Delivered goods / services via electronic means	8.4	31.8	61.3

Similar findings are also obtained from another survey conducted by Hong Kong Productivity Council (HKPC) in 2001. It indicates that very few SMEs with not more than 50 employees have ever conducted online transactions. Less than 1% of them have integrated e-business in their operation (Figure 2.3).

Figure 2.3 E-Business adoption by employment size (Hong Kong Productivity Council)					
Level	Level of e-business adoption	Employment size			
		<10	10-49	50-99	>= 100
1	No adoption	49.2%	20.8%	1.4%	2.1%
2	Have plan to adopt some business application	50.8%	79.2%	98.6%	97.6%
3	Use e-mail communication	49.5%	78.6%	98.6%	97.6%
4	Have webpage, use e-mail communication	10.4%	35.9%	50.5%	82.2%
5	Level 4 + online transaction and basic ebusiness integration	1.6%	14.7%	26.1%	52.3%
6	Level 4 + external and internal ebusiness integration + online transaction and payment	0%	0%	0.7%	21.2%

Such a low level of e-business adoption means that SMEs have to overcome a number of barriers before they can fully embrace new technologies and e-commerce. In fact, these barriers may exist in companies of all sizes. However, they present greater hindrances to SMEs than to larger enterprises because SMEs often

- do not have strong foundation as compared with larger firms. If any uncertainties about business opportunities and benefits of ICT and e-business adoption may exist, they are reluctant to fully embrace new technologies and business models;
- have very limited resources for experimentation. They cannot afford to take the risks of adopting new ways of doing business;
- have small yet clearly defined niche markets in certain regions and/or certain parts of the value chain, making them see little business potential to deliver their products or services via the Internet.

2.2 KEY BARRIERS

We have identified the following issues that the SMEs may face:

Inappropriateness of goods and services for sale via electronic means

Many SMEs are inhibited from adopting e-commerce because they think their goods and services are not suitable for sale via electronic means. Some even hold firmly the traditional belief of interpersonal interaction being essential for doing business, which is non-existent in e-commerce. Lack of direct, face-to-face contact with suppliers and customers is highlighted as one of the main barriers to e-commerce adoption.

No perceived benefits from the adoption of e-commerce

SMEs have limited access to successful cases of e-commerce adoption, making them think that doing business online has no benefit to them. Many are even not convinced that e-business will bring them benefits. The perceived risks and skepticism towards e-commerce, especially following the collapse of dot-com economy, are likely to be strong barriers to the wide adoption of e-commerce among SMEs.

Lack of critical mass to make e-commerce cost-efficient

Another deterrent is the low usage of e-commerce as a new business channel. Many SMEs do not consider adopting e-commerce, as many of their suppliers and customers do not conduct business transactions via the Internet. Before a critical mass is built up, there is little incentive for individual SMEs to engage in e-commerce.

Conflict of interest in different sales channel

The advent of a digital economy is changing the market, enabling enterprises to increase revenues by extending their sales network to different markets via new sales channels, for example to sell directly to customers without using intermediaries. While this can be of benefits to a business, some SMEs concern that there may still be conflicts of interests among different sales channels. For example, a distributor of an enterprise, being bypassed in the value chain, may become a competitor of the enterprise or may form an alliance with the enterprise's rivals.

Cost and time issues

To SMEs, e-commerce may open up new sources of supplies, hence lowering their cost. However, this potential benefits may be outweighed by the considerable investment in e-commerce infrastructure as well as the time and effort required to re-engineer their business processes in order to

adopt e-commerce. It is especially true when dedicated resources cannot be allocated. SMEs may perceive e-commerce as an expensive endeavor, in particular when they are not clear about the return of investment.

Lack of skills or knowledge about e-commerce technologies

Many SMEs think that they do not have technical skills or knowledge to develop an effective e-commerce platform. Fear of technologies and the management's resistance to change also hinder e-commerce adoption and usage among SMEs. With the introduction of new e-commerce technologies, there may be fundamental changes in current work processes and practices. Some of the early adopters still remain confused about what to do and how to go about with e-commerce technologies.

Lack of trust and confidence

Lack of a legal framework associated with domestic and in particular cross-border e-commerce transactions, such as the acceptability of electronic signatures, is an issue for SMEs. Customers' concerns about the security and confidentiality of payments may also be a big hindrance to SMEs, reducing the desire for businesses to invest in e-commerce. Finally, confusion stemmed from numerous legal issues surrounding e-commerce also needs to be cleared. Some legal issues usually identified by SMEs are intellectual property rights, consumer protection, legal jurisdiction of international e-commerce transactions, and privacy.

2.3 CONCLUSION

In this chapter, we have identified that SMEs are facing many barriers to e-commerce adoption. Apart from the financial constraints, limited knowledge about the real potentials and challenges of e-commerce and low acceptance level of this new



business model are the major reasons why they hold a lukewarm attitude to e-commerce. While changing their attitude takes time, the Government may start to actively promote the benefits of e-commerce and identify model e-commerce projects in different business sectors. A sector-specific e-commerce strategy is recommended to encourage SMEs to adopt e-commerce. Before looking into the sectoral approach, we will review the existing measures undertaken by the government to promote e-commerce in the coming chapter.

Current measures to promote e-commerce

3. INTRODUCTION

Whilst almost every government recognizes the importance of both SMEs and e-commerce to the future development of its economy, there are various approaches to bring them together. Governments should undertake whatever measures they deem

appropriate to help develop e-commerce market. The HKSAR Government, in its revised Digital 21 Strategy, aims at creating a world-class e-business environment in Hong Kong. (Box 3.1) This chapter reviews the existing e-commerce policy in Hong Kong.

Box 3.1 The 2001 Digital 21 Strategy on e-commerce policy www.info.gov.hk/digital21

Target 1 - To create a world-class e-business environment in Hong Kong	
Initiatives -	
<ul style="list-style-type: none"> To enhance the legal infrastructure for e-business To develop institutional arrangements for administering Internet domain name registration To implement the Cyberport project To introduce further competition in the local wireline-based fixed telecommunications network services (FTNS) market 	<ul style="list-style-type: none"> To develop third generation (3G) mobile communications services To bring more competition into the domestic pay television service market
Target 2 - To ensure that the Hong Kong SAR Government leads by setting examples	
Initiatives -	
<ul style="list-style-type: none"> To establish the institutional framework for driving e-government To provide an e-option for public services amenable to the electronic mode of service delivery To continue developing the Electronic Service Delivery Scheme 	<ul style="list-style-type: none"> To drive e-procurement service development To actively pursue outsourcing To implement a phased approach in implementing intra-departmental and inter-departmental electronic transactions
Target 3 - To help Hong Kong's workforce adapt to the information economy	
Initiatives -	
<ul style="list-style-type: none"> To provide IT training by private institutions To admit IT professionals from outside Hong Kong To develop IT education in schools To provide IT training to secondary students in co-operation with multinational IT companies 	<ul style="list-style-type: none"> To provide training courses to IT assistants to increase the supply of trained IT manpower at junior level To establish an institutional framework to accredit IT skills
Target 4 - To enhance the information literacy of Hong Kong community	
Initiatives -	
<ul style="list-style-type: none"> To conduct surveys to monitor digital divide To provide free computer facilities to the community To promote the use of IT in the community 	<ul style="list-style-type: none"> To actively encourage the use of IT by those may have less opportunities to access IT To enforce accessibility standards for all Government websites
Target 5 - To leverage Hong Kong's strengths and fully utilize new technologies	
Initiatives -	
<ul style="list-style-type: none"> To develop cutting-edge mobile applications To facilitate the development of mobile commerce To exploit smart card technology 	<ul style="list-style-type: none"> To encourage and support the establishment of a link between Hong Kong and the Internet2 network to promote research and development in the next generation of Internet technologies

3.1 AWARENESS BUILDING

To increase the awareness among businesses on the benefits of adopting information technologies, the Government has worked with trade associations to distribute promotional materials in both printed (e.g. pamphlets, publications) and electronic format (e.g. CD-ROMS.)¹ as well as posting information on e-commerce in the official "Digital 21" website.²

The Government has also organized, in partnership with HKPC and the Hong Kong Trade Development Council (HKTDC), free seminars and workshops to increase SMEs' awareness on e-commerce and provide them with information and practical advice on implementing e-business.³

Since 2000, the Government has also carried out, in collaboration with industry associations, e-commerce awareness enhancement programmes to encourage businesses in particular SMEs to adopt IT in their business operation.⁴

3.2 SUPPORT CENTRES AND SERVICES

The Government and various trade associations have set up one-stop, physical or virtual support centres to provide information, advice, training and online resources to assist SMEs in their IT adoption. These

Box 3.2 Hong Kong Productivity Council www.hkpc.org

The Hong Kong Productivity Council (HKPC) is a statutory body established to promote productivity excellence and more effective use of available resources through the provision of professional services. To serve the IT needs in the whole value chain of business operations, HKPC has established a DigiHall 21 to provide a range of supporting services to local SMEs. Major services include

- ASP service for Import/Export Business Management <http://www.tradeanywhere.com.hk>
- IT assessment <http://www.itaudit.hkpc.org>
- Hong Kong Product Online <http://www.hkpol.org>
- Textiles and Apparel Sourcing Portal <http://www.hktaiga.com>
- Information Security & Hong Kong Computer Emergency Response Team Coordination Centre <http://www.hkcert.org>
- The Enterprise Resource Planning Centre <http://www.e-factory.org>
- Software Industry Information Centre <http://www.siic.org.hk>
- Wireless Applications Centre
- Advance Technology Training & e-Learning <http://www.hkseminar.com>
- "WebEC" Web-Building Program & Service for SMEs <http://www.webec.com.hk>
- Institute of Information and Media Industries (E-commerce centre)
- Hongkong Post e-Cert⁸ Promotion and Support Centre

centres include the Support and Consultation Centre and Virtual Information Centre for SMEs⁵ by the Trade and Industry Department, the DigiHall 21⁶ by HKPC and the SME Centre by HKTDC⁷.

The Government and various trade and support organizations also provide SMEs with training, advisory and hotline services, demonstration of e-commerce solutions⁹, IT assessment service and online IT self-assessment software¹⁰.

1 In 2001, the Information Technology and Broadcasting Bureau (ITBB) and the Information Technology Services Department (ITSD) jointly produced a free multimedia CD-ROM for promoting e-commerce among SMEs. The CD-ROM contains ten case studies, all of which have experiences in adopting e-commerce, and also some useful information related to E-Commerce.

2 www.info.gov.hk/digital21

3 The Information Technology Services Department (ITSD) and HKPC have jointly organized a series of free seminars on e-commerce targeted at different sectors, including import and export, manufacturing, wholesale and retail, professional and business services, logistics services, and travel industries.

4 The Hong Kong Trade Development Council (HKTDC), the Information Technology

& Broadcasting Bureau (ITBB), the Information Technology Services Department (ITSD) and the Hong Kong Information Technology Federation (HKITF) have jointly organized bi-monthly e-commerce seminar series for Hong Kong's manufacturing or services industries since 1999.

5 www.sme.gcn.gov.hk

6 www.digihall21.org

7 www.tdctrade.com

8 Besides the Hongkong Post, the other two recognized certification authorities in Hong Kong are the Digi-Sign Certification Services Ltd., and the HiTRUST.COM (HK) Incorporated Ltd.

9 Industry support organizations such as the HKTDC - <http://hkenterprise.com>, the HKPC - www.hkiol.org/hkpol/index.htm and the Hong Kong Article Numbering Association (HKANA) - EZTRADE provide e-commerce solutions to business.

10 The ITSD and the HKPC provide a quick, easy-to-use and objective self-assessment tool for Hong Kong's SMEs to benchmark their IT adoption level in their respective industry. www.hkiol.org/itassessment/introduction_main.html

A Sectoral Strategy for E-commerce in Hong Kong

Box 3.3 Hong Kong Trade Development Council

www.tdctrade.com

The Hong Kong Trade Development Council (HKTDC) is a statutory body established to create and facilitate opportunities in international trade for Hong Kong companies, especially SMEs. HKTDC helps local enterprises to adopt IT and e-commerce by offering the following services and activities:

- **Transact Link** - a global e-commerce solution to enable Hong Kong suppliers to promote their goods to overseas buyers, complete trading and logistics documentation and conduct real-time business online.
<http://www.transactlink.net>
- **Business Matching at hcenterprise.com** - a cyber marketplace to help local enterprises find and meet business partners in cyberspace.
<http://www.tdctradepartners.com>
- **Business InfoCentre** - provides information, advice and online resources to assist SMEs in IT adoption
- **SME Training Centre** - provides SMEs business training courses and workshops

- Developing a decision support system for SMEs in the logistics sector for effective investment and planning on IT;
- Helping SMEs in the catering industry identify their IT requirements, and working with software developers to customize management systems for local restaurants;
- Developing a web-based 3D interactive marketing and communication system for SMEs in the jewelry industry;
- Organizing an IT Excellence Awards for SMEs

3.3 FINANCIAL SUPPORT

The Government has allocated HK\$1.9 billion to set up four funds¹¹ to assist SMEs in IT adoption. The followings are some of the projects:

- Setting up IT promotion and support teams, provision of hotline advisory services, and publishing an IT solutions directory for SMEs;
- Setting up IT solution pavilions to showcase sector-specific IT solutions and systems in different SME exhibitions;
- Setting up a Linux Resources Centre to promote and encourage the use of open-source software among SMEs;

Recently, the Government has also amended the terms and conditions of the four SME funding schemes so that more SMEs can obtain financial support from the Government.¹²

3.4 EDUCATION AND TRAINING

Apart from financial support, the Vocational Training Council¹³, HKPC and various trade and industry bodies also offer a number of IT Training programmes, enabling SMEs to upgrade their IT capabilities so as to increase IT adoption through training and education. Moreover, the Government has established the Cyberport Institute of Hong Kong (Cyber.i)¹⁴ to provide practical, state-of-the-art IT education and training, and internship and placement programmes in collaboration with the IT industry.

11 The funds are administered by the Trade and Industry Department. They are SME Business Installations and Equipment Loan Guarantee Scheme, SME Export Marketing Fund, SME Training Fund and SME Development Fund.
<http://www.smefund.tid.gov.hk>

12 Major reviews include extending the scope of Government's loan guarantee to cover working capital loans, raising the ceiling of the business installations and

equipment loan guarantee from \$1million to \$2million for individual SMEs, extending the business installations and equipment loan guarantee period from 3 years to 5 years, and raising the ceiling of the grant under the SME Training Fund to individual SMEs from \$15,000 to 30,000.

13 <http://www.vtc.edu.hk>

14 <http://www.info.gov.hk/itbb/english/cyberport/project.html>

3.5 PROBLEMS OF EXISTING E-COMMERCE POLICIES

Appropriate policy intervention should be underpinned by solid data and research

Good policies should be able to cater to real needs. Solid research and baseline data are necessary for identifying the specific needs and obstacles facing SMEs in different sectors. Whenever the market is likely to fail, policy intervention is needed. Although various initiatives have been set out to enhance the e-business environment in Hong Kong, the existing policies do not mirror the current situation, real needs and challenges in the adoption of IT and e-commerce. Apart from the provision of piecemeal support to local enterprises, many critical issues, such as the underdevelopment of e-commerce in business sectors, the application of wireless technologies in e-commerce and consumer protection for e-commerce transactions, are not addressed under the existing policy framework.

To encourage the growth of e-commerce, the Government should consider formulating a comprehensive policy based on solid data that mirrors the current situation. The policy should remain flexible and be adapted to changes over time. This will help enhance the awareness of local enterprises on the opportunities and threats of e-commerce, and clear the uncertainties and their misunderstanding about e-commerce.

Policies should be implemented in a closely coordinated manner

Commerce, Industry and Technology Bureau (CITB), HKTDC and HKPC are currently implementing their own measures in an isolated manner. The measures range from awareness building and training programmes, support services to financial incentives to encourage local enterprises to better utilize e-commerce as a business tool. To create a critical mass in e-commerce adoption, a coherent and

forward-looking strategy with efficient co-ordination is needed. Otherwise, these measures will only degenerate into a mixture of uncoordinated, unrelated and duplicated initiatives.

Wide and continuous consultation with business community is a pre-requisite and must manifest in e-commerce policies

In a dynamic and evolving sector such as e-business, the needs of local enterprises will change over time, sometimes rapidly, due to the emergence of new technologies, products or business models. Policies should be able to accommodate changes and address common barriers facing the enterprises. It is therefore important to establish effective mechanisms to consult businesses, on a continuous basis, on their real needs and problems as well as their expectations from policymakers.

3.6 CONCLUSION

Despite the financial assistance and support outlined above, recent development in e-commerce, especially among SMEs, is still not encouraging. To facilitate the growth of e-commerce, it is now the right time for the Government to re-define its policy approach and take a more pro-active role in driving e-commerce development in different sectors. The identifiable roles the Government should play in e-commerce development will be discussed in the next chapter.

A Sector-specific Strategy

4. INTRODUCTION

This chapter introduces a sector-specific e-commerce strategy which aims at assisting in building up a critical mass of B2B users in e-commerce adoption and implementation.

4.1 WHAT IS A SECTOR-SPECIFIC STRATEGY?

A sector-specific strategy is an approach primarily focusing on a wide range of sector-based projects that enhance the understanding of the businesses on the opportunities and impacts of e-commerce, and encourage collaboration of stakeholders in different industries, thereby cultivating an e-commerce culture in the business community.

More and more governments around the world have adopted this approach in recent years. Australia, for instance, has undertaken a number of sector-based facilitation projects since 2000¹. Likewise, the United Kingdom has planned to conduct 60 “Sector Impact Studies” by the end of 2003.² The results on the first batch of impact studies on 14 different sectors were released in 2001. InfoComm Development Authority (IDA) of Singapore has also carried out some sector-based initiatives targeting at retail, construction and manufacturing industries. An overview of sector-specific e-commerce strategy undertaken by other countries is set out in Chapter 6.

The Hong Kong SAR Government has launched similar initiatives. In 2001, CITB and HKPC started to provide a pilot “IT Audit Service”³ targeting SMEs in six sectors, namely, manufacturing, import and export, wholesale and retail, business services, financial services and insurance as well as travel, catering and hotel industry. 400 SMEs from these

six industries were offered IT consulting services to facilitate their adoption of IT. Apart from IT audit service, the participating SMEs also received an IT solutions directory, self-assessment tools and business cases on IT adoption in the relevant sectors. Moreover, the Government also plans to develop a Digital Trade and Transportation Network (DTTN) System for the logistics industry. (Box 4.1)

Box 4.1 Digital Trade and Transportation Network (DTTN) System

In December 2001, the Hong Kong Port and Maritime Board commissioned a feasibility study on the DTTN system in Hong Kong.

The DTTN is a platform that provides interconnection among the industry stakeholders and related community systems to facilitate information flow and enhance efficiency. It will fit the Business Process Interconnect (BPI) requirements and provide a platform for development of new business opportunities. This common and shared user platform with defined standards and protocols will attract existing suppliers and open up new businesses including logistics software development, value added services etc., contributing to the economic development and creating employment in Hong Kong.

The DTTN will link up nine major communities involved at different stages of the trading value chain. They are buyers/importers, sellers/exporters, freight forwarders, carriers (ocean, river, road, rail and air), terminals, government and its agencies, banks and financial institutions, insurance companies and inspection agencies.

Source: Study for the Development of a Digital Trade and Transportation Network (DTTN) System to Support the Development of Hong Kong as an International Logistics Hub.

1 The National Office for the Information Economy (NOIE) of Australia has conducted impacts studies of e-commerce on a number of key sectors, namely, banking and finance, IT, communications services, business services, health, media and entertainment, retail, transport, education, manufacturing, agriculture, mining etc. www.noie.gov.au

2 The Sector Impact Studies are undertaken by the Department of Trade and Industry of UK. (DTI) Starting from 1999, the DTI commissioned a series of analysis on the impact of e-commerce on different sectors, including aerospace, agriculture, bio-industry, book-selling, charities, chemicals, clothing, communication, creative media, education, health, printing, publishing, retail, textile, transport and tourism. www.ukonlineforbusiness.gov.uk

3 www.info.gov.hk/digital21

4.2 BENEFITS OF SECTOR-SPECIFIC STRATEGY

Why do many overseas countries adopt a sector-specific approach in promoting e-commerce? Some of the reasons are concluded as follows:

- Eliminating uncertainties and misunderstandings, the sectoral strategy involves an independent analysis to assess the additional investment and benefits of implementing e-commerce, as well as a micro analysis with real-life information to construct business cases. These studies provide an independent assessment on the state of play and challenges of adopting e-commerce on a sectoral basis.
- Understanding the different opportunities, threats and barriers resulting from the implementation of new technologies in different sectors, the government can provide appropriate assistance to businesses. The best practices in different sectors can also be cross-referenced.
- The sectoral approach provides effective means to bring companies together to identify common issues, useful business information and work processes. Practical solutions are agreed upon so that companies may continue their business across sectors. This kind of interaction among businesses means that the sectoral approach facilitates the development of a cooperative business culture.

4.3 E-COMMERCE COMMITTEE (eCC)

A sector-specific strategy is a collaborative project. It requires the participation of the government, key industry players and trade associations in those sectors where market forces alone are not able to ensure effective and widespread implementation of e-commerce. The objective of adopting this approach is to build up a critical mass for e-commerce to take

off across different industries.

To achieve this, the government should establish an e-Commerce Committee (eCC) to drive and coordinate policy formulation and programme implementation so as to accelerate the adoption of online business systems and assist companies in capitalizing on the benefits of e-commerce. The nature of the eCC will be similar to the existing E-government Co-ordination Office under CITB. The eCC will identify critical paths for e-commerce to take off in different sectors. It will set agenda for e-commerce implementation and work closely with trade members to carry out innovative projects that benefit the industry. eCC should have the following three roles to play:

- A catalyst - to articulate the value of e-commerce, build awareness on opportunities and threats brought by e-commerce and initiate discussion within different business sectors.
- A facilitator - to increase the adoption of e-commerce across sectors by encouraging common technology standards, increasing the confidence of businesses and consumers in electronic markets and breaking skills barriers.
- A regulator - to ensure businesses and individuals interact in a competitive business environment and provide a sound regulatory framework.

eCC's scope of work should include:

- Sectoral research
- Collaborative industry projects
- E-commerce awareness campaign

4.4 SECTORAL RESEARCH

Identify the case for intervention

The government needs solid data to render appropriate policy intervention. To build the case for

conducting facilitation work, eCC should convene a steering group to carry out practical research in different sectors. Sector-specific intervention by eCC should be based on a number of benchmarking criteria, such as the current uptake of e-commerce, the pervasiveness of a sector to the economy and the potentials to increase adoption of e-commerce.

Sector-specific impact assessment

After selecting and prioritizing the potential sectors that require sector-specific facilitation, the eCC should carry out sector-based impact studies to collect a range of unique e-commerce data and information on all feasible sectoral projects in different sectors. The data and information should

- Provide an assessment on the usage of e-commerce in particular industries;
- Determine if the progress of e-commerce adoption and the rate of uptake are satisfactory;
- Help identify sectors which may need special attention from the government;
- Provide materials that can be used to educate companies about the benefits of adopting e-commerce;
- Prioritize actions and identify possible e-commerce solutions and projects for different industries.

Some key questions used in sector-based impact studies are listed in Box 4.2. Owing to the ubiquitous nature and diversified impacts of e-commerce on different sectors, the suggested topics below are not exhaustive.

To collect specific e-commerce data on different sectors, eCC should invite academic institutions to participate in assessment studies. Consultation with

key market players as well as trade and industry associations should also be included as part of the impact assessment. This is to ensure the action plans drawn from the studies will reflect the genuine needs of the industry.

Box 4.2 Key questions on e-commerce assessment

- **Nature and scope of the sector** (e.g. market size, percentage of GDP, number of employees, etc.)
 - **Role of e-commerce in the sector**
 - current situation on the usage of e-commerce (number of firms/clients using e-commerce, types of e-services, etc)
 - reasons for using or not using e-commerce
 - reasons for failure of e-commerce adoption (e.g. market failure or government failure)
 - actual/expected opportunities, threats and barriers
 - best/worst practices
 - **Cost savings from e-commerce activities** (in terms of transactions, employees, efficiencies from e-procurement, social costs etc)
 - **Additional cost that might incur in order to facilitate e-commerce** (such as IT spending, expenditure on marketing and advertising and other capital expenditure)
 - **Possible new business models or industry structures**
 - Impacts on traditional services (such as discontinuation of some services)
 - new value-added services (e.g. new form of bill payments, changes in distribution and supply chains, additional service delivery channels, advanced logistics systems)
 - pros and cons of the changes
 - **Potential impacts to employment and other skill-related issues**
 - **International dimension** - value transfer to or from overseas
- Source: NOIE of Australia (2000), *E-commerce Beyond 2000*

4.5 COLLABORATIVE INDUSTRY-BASED PROJECTS

eCIB Projects

To help businesses benefit from e-commerce, eCC, together with the industry, should initiate e-commerce collaborative industry based (eCIB) projects that will provide solutions to critical yet common issues surrounding the development of e-commerce market.

Under the 2003 Policy Address⁴, the HKSAR Government has embarked on a new initiative to develop a Digital Trade and Transportation Network

4 The 2003 Policy Address - Policy Agenda. www.policyaddress.gov.hk

(DTTN) System⁵ to facilitate information flow and sharing between the trade and logistics industry. Similar sector-based collaborative projects should be promoted so as to encourage the wide adoption of e-commerce within and across different sectors. Lessons learnt and business models developed through the sector-based facilitation should also be re-used in other information-intensive sectors to increase the adoption of e-commerce.

The tasks of eCC in eCIB projects include:

- To carry out research on identified sectoral projects in respective industries
- To co-ordinate the implementation of potential sectoral projects together with key industry associations and relevant government departments
- To provide seed funding

Examples of eCIB projects include portals, supply chain management, data warehouse, industry networks, applied solutions, standard setting and skills training programmes. Some suggested ideas of eCIB projects for different sectors are listed below:

Healthcare sector

- To work with the Department of Health, Hospital Authority and the pharmaceutical industry to develop an electronic trading environment for wholesalers, manufacturers and suppliers in the industry. The purpose is to enhance the Supply Chain Management in the pharmaceutical industry in a well-coordinated manner by using e-commerce technologies, such as EDI, EAN and product numbering.
- To work with the Department of Health to develop a quality health information website for consumers.

Building and Construction sector

- To work with key industry associations to examine the feasibility of establishing an industry-wide database designed to facilitate the formation of industry consortia to grasp every significant domestic and overseas business opportunity. This database will be accessible via a website dedicated for the sector and become a central place for all building and construction information in Hong Kong.

Education sector

- All universities in Hong Kong may work together to form an e-Procurement Consortium to achieve savings when dealing with online suppliers and maximize its purchasing power.
- To work with the Radio Television Hong Kong (RTHK) and the Education and Manpower Bureau to provide vocational and adult education online.

Legal sector

- To work with the Department of Justice and key legal professional bodies to build a database containing statutes, regulations and summaries of legal cases in Hong Kong. This will in turn bring significant cost and time savings in information collection for the legal sector.

Tourism

- To work with the Tourism Commission and key tourist associations to establish a “one-stop” travel service website that contains all travel products in Hong Kong and also develop e-Procurement services for tourism service providers. (An example of sectoral assessment on Tourism is set out in Chapter 5)

⁵ Study for the Development of a Digital Trade and Transportation Network (DTTN) System to Support the Development of Hong Kong as an International Logistics Hub. Port, Maritime and Logistics Unit of Economic Development and Labour Bureau. <http://www.logisticshk.gov.hk>

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The above are some possible examples of eCIB projects and therefore not exhaustive.

The eCC has an important role to play in linking up local enterprises in each sector to assess together the effectiveness of e-commerce and identify suitable eCIB projects for different sectors. However, the Government should also set some guiding principles on the implementation of sector-specific initiatives so as to avoid unfair and direct competition within each market segment. The guiding principles include:

- Improve overall competitiveness – To improve the overall competitiveness of the SMEs in all sectors, by enhancing efficiencies and cost-effectiveness.
- Fairness – To provide an equal opportunity to all industry stakeholders to participate in eCIB programmes. No particular group of stakeholders should be precluded from participating in any industry projects. This is to avoid undue competitive advantages accruing to certain industry stakeholders.
- Minimum intervention – Each enterprise or even industry sector has its own way of conducting business and interacting with its business partners. The Government's facilitation should only aim at promoting the benefits of e-commerce, rather than altering or dictating the internal processes of any enterprise or industry sector. Moreover, the Government should intervene only when certain needs are not satisfactorily fulfilled to avoid creating an adverse impact on the industry.

IT Incubator Program

To help start-ups capitalize on the advantages of e-commerce, an IT Incubator Program is proposed. The purpose of this program is to provide funding to help IT companies commercialize their research and development (R&D) and deploy their products and

services for SMEs who seek to transform their conventional way of doing business into a new e-business model.

As a result, IT start-ups can assist in the implementation of e-business plans and marketing strategies for the SMEs. They may also provide training courses for entrepreneurs. The long-term objective of the IT Incubator Program is to increase the adoption of e-commerce and foster innovation in the IT industry.

4.6 AWARENESS CAMPAIGN

Awareness building very often constitutes part of today's e-business policies. It is no surprise because it is always necessary to first inform the prospective participants of the challenges and opportunities brought by IT and e-business before seeking to engage them in more sophisticated e-commerce activities. To achieve this, three awareness building initiatives are suggested below:

EC Training Network

As the lack of understanding and awareness is the key barrier facing SMEs in e-commerce adoption, an EC Training Network is proposed to provide SMEs with non-biased information, training materials and advice from a trusted source on the "why" aspect of electronic commerce.

The Network will be a non-profit-making program aiming at offering SMEs a range of awareness building and training products to encourage adoption of IT and e-commerce. The goal of this Network is to demonstrate to SMEs the benefits of e-commerce by providing courseware and showcasing e-commerce technologies. Products and services to be offered by the Network include:

- **Primary services** – business improvement and industry-specific workshops that aim at increasing the awareness of e-commerce. The workshop should focus on introducing e-business applications and their benefits and identifying implementation issues. During these workshops, SMEs will be given a set of e-business support tools and action plans for them to move forward into e-commerce.
- **Web-based information** – this includes databases of existing e-commerce service providers, key e-commerce initiatives carried out by the public and private sectors, the latest e-commerce technologies, concept and ideas, as well as e-commerce projects taking place in Hong Kong.

To accelerate the uptake of e-commerce, these products and services should be rolled out by the Network Partners - a licensed, third-party training service provider. Ideally, the Network Partners should be made up of industry associations, professional bodies, chambers of commerce, training service providers and electronic commerce consultancies. All of them are the organizations which SMEs usually go to for business advice. This is to ensure that all activities carried out by the Network will complement what these organizations are already doing for SMEs. The government should provide seed funding to this e-commerce awareness initiative.

A similar approach has been adopted by the Australian government to boost e-commerce uptake among SMEs since 1997. Details are available at http://www.ause.net/media_background.html.

eCNews

Another e-commerce awareness building initiative is to deliver customized, sector-based e-commerce information to SMEs through industry associations.

To keep SMEs abreast of the latest e-commerce development in their respective industry, be it in Hong Kong or abroad, key trade and industry associations will be invited to develop eCNews in collaboration with eCC and deliver tailored information to their members via websites, e-newsletters and even conventional marketing materials.

The information may range from updates on the latest Internet technologies, current news and events on e-commerce, case studies, tenders and contracts, professional advice and market research, all of which are provided by online technology publishers for free⁶. Due to the different nature and operation of trade associations, detailed arrangements for each project should further be discussed between eCC and the participating trade associations. eCC should take the overall responsibilities to coordinate the planning and implementation of the projects in collaboration with respective trade and industry associations in different sectors. The government should provide seed funding to all eCNews projects.

Supply Chain Demonstration Program

To help SMEs in Hong Kong become more competitive, innovative and comparable to their counterparts in other parts of the world, a Supply Chain Demonstration Program is proposed to promote the concept and benefits of supply chain management. The eCC should take charge of this program to

- Organize seminars and conferences to increase the awareness on supply chain management among SMEs;
- Provide successful cases in supply chain management;

⁶ Examples of technology publishers providing free e-commerce information: Cnet <http://www.cnet.com>, IDG <http://www.idg.net>, Zdnet <http://www.zdnet.com> and so forth.

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- Facilitate partnership between companies successfully implemented supply chain management and SMEs;
- Assist individual sectors in capturing emerging business opportunities and overcoming the barriers to achieving e-commerce growth by identifying model sector-based projects.

4.7 CONCLUSION

The stagnation of e-commerce in Hong Kong over the past years shows that realignment of government's e-commerce strategies is required. The sectoral strategy, which involves greater input from the industry and stakeholders concerned, is the way to work out e-commerce solutions and standards that cater to the needs of all companies in different sectors. Businesses will then be able to leverage every opportunity during the course of e-commerce development. In a long run, they will become better positioned and more successful in the new economy.

A Case-study - A Sector-specific Strategy for e-Tourism in Hong Kong

5. INTRODUCTION

This chapter attempts to illustrate how a sector-specific strategy can be applied to accelerate the adoption of e-commerce in one of the core industries – Tourism - in Hong Kong. Our proposed strategy for e-Tourism¹ aims at providing a framework within which the industry players and related stakeholders will become more collaborative and competitive.

5.1 STAGE 1 - BENCHMARKING

• Identifying the case for intervention

Contribution to GDP

Tourism is one of Hong Kong's core industries², contributing HK\$64.3 billion to the economy in 2002.

Tourism is a dynamic and growing industry. It has been experiencing growth in volume and value since 1990s, despite a slight slow-down in recent years due to the economic downturn and political uncertainties such as Sept 11 terrorist attack. In 2002, the number of visitors increased by 21%. In 2001, about 13.73 million visitors came to Hong Kong. It is forecasted that the growth rate will exceed 8% in 2003.³

In 2001, overseas visitors spent an average HK\$4532 per capita during their stay in Hong Kong. The average length of stay in 2001 was 3.1 nights. The Mainland is the largest market with arrivals reaching 4.45 million in 2001, up 17.5% as compared to 2000, accounting 32.4% of the total arrivals. Taiwan came second with arrivals of 2.24 million, up 1.4% from 2000 and accounted for 17.6% of the total arrivals.

Current uptake of e-commerce

Despite the growing importance of the Internet as a source of travel information, a marketing tool and a way of doing business, there are limited studies done locally to understand the adoption of IT and e-commerce in this industry.⁴ However, according to some international studies, travel-related services are among the fastest growing areas in e-commerce because of their high-involvement, intangible, heterogeneous and well-differentiated features and functions. It is identified that the total revenue from online travel products and services increased from approximately US\$400 million in 1997 to US\$15.4 billion in 2000.⁵

1 According to the World Tourism Organization report, e-tourism is defined as "...for tourism destinations and businesses, e-business is about realizing the opportunities of improved connectivity both externally, through the Internet and internally through intranets. The external dimension is about transformation of the value chain, linking the tourism supplier to the customer, and of supply chain, linking the tourism supplier with its own supplier. This brings in e-marketing, e-commerce and e-procurement. The internal dimension is about transformation of the way in which the organization functions, enabling it to work in a fully integrated way, through the use of common systems."

2 The Budget 2003-04, Speech by the Financial Secretary on 5 March 2003. Other core industries comprise financial services, logistics, and professional services.

3 Source: The Hong Kong Tourism Board.

4 Some related studies include: A study of travellers' perception on disintermediation by R Law, J Wong and K Leung (2000); Usage of Internet resource by visitors to Hong Kong by Vincent CS Heung (2001).

5 E-commerce's Impact on the Travel Agency Industry (October 2001) by Heartland Information Research Inc.

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Table 5.1 Stakeholders in tourism business

Suppliers	Range from food and beverage, catering, laundry to business services such as banking. Large operators such as hotel chains are more likely to use large wholesalers as their suppliers, whereas a small guest house is likely to use a local retailer.
Accommodation providers	Range from youth hostels, guest house to hotels. They interact with suppliers to purchase food and beverages as well as other supplies for their customers. Youth hostels business usually does not need catering supplies. Accommodation business also interacts with intermediaries such as travel agencies as they sell their rooms. Accommodation providers also sell their products directly to consumers and advertise in directories, magazines and leaflets to reach them directly.
Attractions operators	They interact with suppliers for items to support their operation, such as catering equipment and supplies, retail items for gift shops, as well as paper bags and souvenir items related to the attraction. Attractions providers also interact with intermediaries such as Hong Kong Tourism Board (HKTB) and HKTDC to increase the awareness of their products among travelers; and market directly to customers through leaflets, directories and advertisements.
Intermediaries	They interact with tourism businesses and customers as outlined above. The role of HKTB and HKTDC is to promote tourism and attract visitors to Hong Kong. Commercially-run intermediaries offer booking or listing services at a fee.
Customers	They comprise business and leisure travelers who use intermediaries to look for and purchase travel products. They may access travel products directly, but they rarely interact with the suppliers during their entire journey.

Benefits of information sharing and collaboration are obvious

Tourism is a business that heavily relies on interaction among suppliers, intermediaries, and consumers (Table 5.1)

Potentials of e-business in bringing rapid efficiency gains in the value chain

The advent of e-business clearly impacts on the media, process and efficiency of transactions between accommodation providers, attraction operators and the other stakeholders in the value chain:

- **Suppliers:** e-procurement is a key element of e-business, which can bring considerable savings. Suppliers offer accommodation providers and attractions operators e-ordering tools for items such as food, drinks and supporting services including banking and insurance services. A purchasing platform and consortia can also be established to bring suppliers together.
- **Internal operations:** Some technologies, such as intranets, enable improved efficiency and quickly disseminate new directions and decisions. Operators therefore are able to plan ahead effectively and respond to changes in the market. Customer analysis can also be carried out to assist marketing and product development.
- **Communication between accommodation providers and attractions operators:** Many companies advertise other tourism products related to their own business through websites with an aim to provide added value to customers. For instance, hotels may include links to local attractions in their website. This initiative helps customers find out more about other local offerings whilst researching for their trips well before arriving the destinations.
- **Customers:** Websites and e-mails are used for marketing, reservations and customer relationship management. These allow operators to establish direct contact with customers. Websites provide a wide range of functions, from directions, contact details, online brochures to sophisticated, interactive booking services.
- **Intermediaries:** These companies form a link between the travel products and customers.

They offer information and very often booking services to customers. Some, such as travel agencies, bring together products provided by different operators to offer packaged and tailor-made services. They interact with customers on the one hand and operators on the other in order to keep inventories up-to-date. Trade associations and tourism boards provide businesses with the latest information to keep them up-to-date on issues related to legislation and new initiatives and to encourage networking and information sharing.

- **Sector-specific impact assessment**

- **Global trend in e-Tourism**

- Travel and tourism is increasing its share in the global online commerce market, from an estimated 30% to around 50%.⁶
 - Jupiter forecasts that US online travel industry will see an increase in sales from US\$24 billion in 2001 to US\$64 billion in 2007, nearly half of which will be from corporate market.
 - PhoCusWright's projections show that online travel and tourism sales in Europe will increase from US\$6 billion in 2001 to US\$10.91 billion by 2002.

- **Overview of Tourism industry in Hong Kong**

- Market revenue: HK\$64.28 billion
 - Percentage of GDP: around 5%

- **Current state of e-commerce in tourism**

- DiscoverHongKong.com: a website specifically designed to provide tourists with information about Hong Kong
 - PartnerNet.hktb.com: a website designed specifically for travel professionals to promote Hong Kong. It covers a range of facts and figures about Hong Kong, latest information on HKTB events and activities, tourism partner

database, and tourism trends of overseas markets.

Strengths and weaknesses of Tourism

Strengths

- Hong Kong is the most popular Asian destination and renowned for its cosmopolitan, historic and shopping facilities.
- Geographical proximity to the Mainland China.
- Tourism is identified as one of the core industries in Hong Kong by the government.
- Leisure and holidays are increasingly seen as a necessity even in times of recession.
- Both leisure and business travelers are attracted by our local attractions.
- Despite the importance of services and the "human touch", the industry has proved to be adaptable to new technologies. It is one of the industries in Hong Kong that are offering their products over the Internet.
- It is a core industry supported by the Government. Considerable tourism infrastructure will be completed in the near future, such as Hong Kong Disneyland, Tung Chung Cable Car, a cultural belt in Tsim Sha Tsui, Hong Kong Wetland Park etc.

Weaknesses

- Tourism is vulnerable to external influences such as recession and terrorist attack. Profitability and even survival of smaller companies can easily be threatened by economic downturn.
- The industry is highly fragmented with little standardization in service quality. But in 2000, the Quality Tourism Services (QTS) Scheme was launched to promote high standards of service in retail shops and restaurants.

⁶ *E-commerce in England - a strategy for modernizing English tourism through e-business. English Tourism Council July 2002.*

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- Tourism products are usually purchased on a “sight-unseen” basis or at the moment of consumption. It is therefore difficult for customers and operators to gain assurance on product quality prior to purchases.
- Tourism is dependent on weather. A rainy and hot summer can prompt Hong Kong residents to have holidays abroad and deter potential tourists from visiting attractions which are mostly in the open air.

Opportunities and Threats brought by e-commerce

Opportunities

- **Information sharing and networking between operators:** it can be achieved through trade associations or independently by the operators. E-commerce can serve as a rapid communication channel for sharing best practices, regulatory issues and alerting operators about existing and potential problems.
- **Marketing:** e-commerce allows tourism businesses to market themselves to a global audience through different channels. They can market and sell to customers direct, bypassing intermediaries (with no need for commission). Customer relationships and targeted marketing programmes can be developed. Websites give customers more information about tourism products. Example: DiscoverHongKong.com.
- **Efficiency:** e-commerce enables streamlining of operations and enhance efficiency in communication, purchasing, property management, training and awareness building. There are potential cost savings in marketing, printing and postage. Efficiency in accounting and operational reporting aids decision making and enables operators to track enquiries against sales, manage debtors and track performance on a daily basis.

- **Ticketing:** e-booking enables companies to achieve advance sales, securing cash and commitment from customers for their products. This also assists their planning of resources and staffing.
- **Packaging:** e-commerce can bring together disparate tourism products to create a tailored experience for tourists.
- **All-time access:** information about products and real-time booking services can be offered round-the-clock.
- **Pricing:** online reservation and booking systems enable companies to exercise a reactive pricing strategy, offering last-minute discounts to fill up vacancies.
- **Competition:** e-commerce provides a level playing ground because small operators can compete with large players over the Internet using their websites. Small businesses are also at a more advantageous position as they can react quickly to the market.

Threats

- **Security:** particularly in the areas of online transaction, data protection and e-mail marketing.
- **Additional investment:** without experiencing the benefits, operators may be reluctant to invest in e-commerce systems. For large companies, the risk is even greater as systems must be implemented across the board. Smaller companies may under an impression that those e-commerce systems are too huge and complex and therefore not suitable for their small scale of operations.
- **Information overload:** there may be a general impression that e-commerce is very complicated to use or deploy. Customers may not know how to book their trips. Operators have no clue to what e-commerce channels they should use and how to host their websites. The fast

changing technologies exemplify the problem as systems may soon become outdated. Lack of knowledge in new technologies and trends can lead to inertia among customers and operators in e-commerce adoption.

- **Systems failures:** unreliable systems adversely affect business performance.
- **The personal touch:** many think that tourism services cannot go well together with technologies due to lack of personal touch.

Cost savings brought by e-commerce activities

- Economic benefits of e-commerce derive from the enhancement in operational efficiency and marketing effectiveness.
- It is not easy to put an accurate estimate on the value of these benefits. But in broad terms, it is reasonable to bring an estimated increase in productivity of between 25% and 33%.⁷
- Other potential cost savings include reduced spending on publications, staff time, enhancement in marketing effectiveness as well as quality of customer service and relationship, better business performance and evaluation mechanisms.

Barriers to e-Tourism

- **Lack of e-business awareness and skills among Hong Kong businesses** – It has been proved in a survey undertaken by HKPC and the Census and Statistics Department of the HKSAR Government in 2002. The survey reveals that majority of SMEs do not recognize the necessity of using IT and e-business. The survey also suggests that the key barriers preventing SMEs from using ICT are additional cost, lack of knowledge and their belief that existing ways of getting new business are satisfactory.

- **Lack of a viable e-business environment** – For instance, there is no integrated network to which SMEs in tourism industry can link their existing web-based booking systems in an easy and cost-effective manner.
- **Tourism data and information existing in different formats** – It hinders “interoperability”. There are several independently-managed systems currently in use by hotel groups or tourism operators.
- **Lack of integrated tourism data and e-commerce tools** – A lot of tourism information is yet to be connected together to facilitate effective real-time booking and transactions services.
- **Risks of adopting unproven e-commerce solutions** – There is no guarantee that e-commerce solutions will meet consumer needs or reach the target markets.

Potential stakeholders and customers in e-Tourism

- Customers include
 - Travelers
 - Operators and service providers (tour operators, travel agencies etc)
 - Travel media
 - Conference and event organizers and other intermediaries.
- Stakeholders include
 - Tourism businesses
 - Suppliers of goods and services to tourism businesses
 - Suppliers of e-commerce services
 - Companies not primarily involved in tourism such as content providers, data administrators, ISPs, Mobile Virtual Network Operators (MVNOs) etc.

⁷ *E-commerce in England - a strategy for modernizing English tourism through e-business. English Tourism Council July 2002.*

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5.2 STAGE 2 - IDENTIFYING SECTORAL PARTNERSHIPS

Government	Trade associations and related intermediaries
<p><u>Role:</u></p> <ul style="list-style-type: none"> - To formulate e-tourism strategies in collaboration with trade organizations and commercial partners concerned - To liaise with stakeholders in tourism industry to secure collaboration opportunities in order to remove or reduce avoidable barriers caused by market failures - To ensure the additional investment for and the benefits of e-business are well understood 	<p><u>Role:</u></p> <ul style="list-style-type: none"> - To promote collaboration among SMEs in tourism industry and provide them with support in e-commerce adoption
<p><u>Organizations or bureaus involved:</u></p> <ul style="list-style-type: none"> - Economic Development and Labour Bureau - Commerce, Industry and Technology Bureau - Tourism Commission - HKTB - HKPC - HKTDC 	<p><u>Organizations involved:</u></p> <ul style="list-style-type: none"> - Association of Better Business & Tourism Services (BBTS) - Hong Kong Association of Registered Tour Coordinators (HARTCO) - Hong Kong Association of Travel Agents (HATA) - Hong Kong Hotels Association (HKHA) - Travel Industry Council of Hong Kong (TIC) - Transport-related companies/trade associations - IT-related companies/trade associations
<p>Actions required to facilitate e-Tourism</p>	
<ul style="list-style-type: none"> - Ensuring the additional investment for and benefits of e-commerce are well understood - Realizing the potential of electronic marketing - Modernizing information services offering to consumers - Developing standards on the comprehensiveness of tourism information 	
<p>Immediate measures to build up sectoral partnership</p>	
<ul style="list-style-type: none"> - Set up a dedicated working group under the HKTB to co-ordinate issues related to e-Tourism - Conduct an "Impact Assessment on e-Tourism" to identify the actual needs for and the related impacts on e-business in tourism; and to benchmark Hong Kong with other leading tourist destinations - Conduct workshops and seminars to collect views on e-Tourism from the industry - Develop a preliminary joint action plan to turn the e-Tourism strategy into action 	

5.3 STAGE 3 - ESTABLISHING COLLABORATIVE INDUSTRY PROJECTS

Agenda	Key Actions
<ul style="list-style-type: none"> - To ensure the additional investment for and the benefits of e-commerce are well understood 	<ul style="list-style-type: none"> - Disseminate the findings of "Impact Assessment on e-Tourism" through collaborative workshops/ meetings/ conferences for key stakeholders. - Highlight best practices and case studies through seminars, workshops and other conventional promotional channels. - Provide awareness building and training programmes tailored to the needs of the SMEs in tourism industry. - Maintain communication with HKTB and the industry to keep them informed of the progress in e-tourism development.
<ul style="list-style-type: none"> - To realize the potentials of electronic marketing 	<ul style="list-style-type: none"> - Enhance the DiscoverHongKong.com website as a "one-stop shop" for all tourism products in Hong Kong. Types of products can be community building services for tourism, content and customer management system and E-commerce services. - Ensure Customer Relationship Management and Marketing is implemented as an integral and important aspect of marketing strategy. - Develop a business model for online bookings via the DiscoverHongKong.com website.
<ul style="list-style-type: none"> - To modernize information services offering to consumers 	<ul style="list-style-type: none"> - Develop a web-based tourism product database for the entire tourism industry so that tourism product information can be collected and managed electronically. - Build local online communities linking tourism services providers either by e-mail, or through websites. - Conduct trials of delivering visitor services through new channels – e.g. Internet-enabled payphones, handheld mobile devices etc.
<ul style="list-style-type: none"> - To enhance the competitiveness of business and suppliers 	<ul style="list-style-type: none"> - Develop an interactive Internet portal to provide a convenient access to business advice and intelligence. - Identify online tools such as booking systems, e-procurement services for tourism services providers. - Develop online tourism community services, such as extranets. - Develop a benchmarking tool for tourism SMEs to assess their success in using e-commerce.
<ul style="list-style-type: none"> - To set standards for comprehensive tourism information 	<ul style="list-style-type: none"> - Develop an e-commerce interoperability standard and promote it to local tourism industry.

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5.4 CONCLUSION

This chapter outlines the application of a sector-specific e-commerce strategy in tourism, one of the core industries in Hong Kong. The recommendations listed above are yet to be exhaustive. A similar approach is suggested for other industries in order to assess how e-commerce may help improve

competitiveness of each sector. The Government should first carry out pilot trials in sectors that make substantial contribution to GDP, and then transfer the experience to other sectors. The contribution of different sectors to GDP at current value in 2000 is summarized in Box 5.2.

Box 5.2 Contribution of Different Sectors to GDP at current value in 2000

Sector	Percentage	Current value in 2000 (HK\$million)
Agriculture and fishing	0.1	920
Mining and quarrying	**	241
Manufacturing	5.8	71 655
Electricity, gas and water	3.2	38 853
Construction	5.2	64 026
Wholesale, retail and import/export trades, restaurants and hotels	26.4	324 622
Transport, storage and communications	10.2	125 724
Financing, insurance, real estate and business services	23.7	291 062
Community, social and personal services	20.5	252 435

Sector-specific e-commerce Strategy in other Countries

6 INTRODUCTION

This chapter gives a brief summary of the sector-specific e-commerce strategy in other countries as a reference.

6.1 AUSTRALIA

The Australian government is committed to developing a strategy to accelerate Australia's participation in the Internet economy. The government recognizes that the adoption of Internet technologies and e-commerce are the pre-requisite for sustaining economic growth and development in Australia. To help business embrace the enormous opportunities promised by e-commerce, the government has played a key role in

- Promoting the adoption of online business technologies and awareness building;
- Fostering the diffusion of online business technologies by conducting trial and demonstration of these technologies through the Information Technology Online (ITOL) program;
- Improving the quality and timeliness of statistical information for benchmarking the uptake of online technologies.¹

The organization within the Australian government that oversees information economy issues is the National Office for the Information Economy (NOIE) which was established in 1997. Its goal is to ensure Australia maximizes the benefits of e-commerce. NOIE has been actively involved in e-commerce activities including facilitating cooperative business networks for B2B e-commerce to take off across and within industry sectors; developing e-government and promoting local development of new business solutions in Australia.

By partnering with the private sector, NOIE has been involving in a range of sector-wide initiatives, including research, business case development, PR campaigns and seed funding. The roles of NOIE in the sectoral strategy are:

- Playing a facilitator role to lead the market in e-commerce adoption by articulating the value of B2B e-commerce;
- Acting as an honest broker to bring companies together and provide jurisdiction between competition and cooperation.

Over the past years, NOIE has worked with a number of sectors such as health, road transport, insurance and financial services to identify the impacts of e-commerce in respective industry. As the second wave of its sectoral strategy, NOIE has commissioned a series of pilot studies/projects to understand more about e-commerce in the following sectors:

- Banking and finance
- Information technology and e-commerce
- Communications services
- Business and professional services, e.g. legal and accounting services, marketing, surveying services, architectural services.
- Health
- Media and entertainment
- Retail
- Transport
- Education
- Manufacturing
- Agriculture
- Mining

¹ NOIE of Australian Government, *Getting Business Online*, 1998

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Publications by NOIE on sectoral strategy include: *E-commerce Beyond 2000*, *Advancing with e-commerce*, *B2B E-commerce Capturing Value Online*. Other publications related to e-commerce by NOIE include *Getting Business online*, *Taking the Plunge 2000: sink or swim?*

6.2 CANADA

In 1998, the Electronic Commerce Task Force was formed to serve as a coordinator and facilitator for the development of a comprehensive regulatory and legal framework, and to promote the use of electronic commerce in Canada. With its close partnership with the private sector, the Task Force works closely with the business community and consumer groups. The Canadian government recognizes that the private sector plays a leadership role in developing electronic commerce. The government's role, therefore, is to provide a supportive and responsive policy environment to businesses and consumers, that allows market flexibility while ensuring a minimum baseline for a fair marketplace.

Formed in 1999, the Canadian E-business Roundtable under the Electronic Commerce Task Force is a voluntary, private sector-led initiative to accelerate Canada's participation in the information economy. The aims of this initiative are to 1) turn Canada into the world's largest Internet-related industry in terms of GDP and 2) make Canada the country with the world's highest rate of adoption and usage of Internet technologies by SMEs.

To achieve these goals, the Canadian E-business Roundtable established e-teams to facilitate sectoral adoption. Tasks include identifying best practices, building networks for association members and the e-commerce supplier community, and fostering the diffusion of e-commerce knowledge and information.

Recently, the Electronic Commerce Task Force has released a series of publications related to the impacts of e-commerce at sectoral level, such as *E-commerce Overview series - Retail Trade in Canada*; *Impacts of IT, the Internet & E-commerce on Firms & Industry Structure: The Personal Computer Industry*; *E-business: Electronic Business Practices in the Canadian Environment Industry*; *Connectedness in Manufacturing: Results of a Survey on Standards Adoption in Canada*.

6.3 EUROPEAN UNION (EU)

The e-Europe: An Information Society for All initiative was launched in 1999. The main thrust of EU in facilitating the adoption of e-commerce is to harmonize the legal and regulatory framework among the member states. Over the past years, the EU has been particularly concerned about the e-commerce uptake in the transport and health sectors in its member states. Some of its recommendations include upgrading the national telematics infrastructure and developing a multi-modal transport network.

To increase the awareness of SMEs on the potentials and opportunities brought by e-commerce, a report entitled *Benchmarking National and Regional E-business Policies for SMEs* was released in June 2002. The report intensively discusses about the problem of "digital divide" in business sector, benchmarks existing policy initiatives that are designed to help SMEs to go digital and identifies a number of e-commerce targets. The best practices in different sectors are also articulated in great detail in this report.

6.4 SINGAPORE

The Singapore Government established the Infocomm Development Authority (IDA) of Singapore to facilitate advances in the new economy. As a policy maker, IDA's role is to offer an attractive and open telecommunications market as well as world-class transport and financial infrastructure.

The Information Technology Standards Committee (ITSC) under IDA works in partnership with the Singapore Productivity and Standards Board. The ITSC administers working groups and technical committees on key sectors or technologies identified by the IDA. In particular, ITSC oversees the standards in the construction and education sectors, and also technologies for smart cards, Unicode, EDI, e-payment and e-security, among the others.

To further strengthen the adoption of e-Business and increase Electronic Commerce (EC) transactions among businesses in Singapore, IDA and the Singapore Productivity and Standards Board (PSB) have put in place a S\$30 million incentive programme to develop 1) eBusiness Industry Development Scheme (formerly known as eBIDS) managed by IDA; 2) Jumpstart Programme managed by PSB. Both programmes have a sectoral focus.

eBIDS aims at promoting and accelerating the online business adoption in the business sector as well as increasing EC transactions and the total EC value in Singapore. eBIDS targets companies that already have EC capabilities and wish to expand further to create more value from their e-Business operation. IDA funds companies according to the total EC value they create, up to a maximum of S\$500,000. The amount of funding is dependent on the actual online transaction value generated by the proposed project. The fund is limited to one e-Business project per company per year.

Jumpstart Programme is another sectoral-specific initiative to meet the needs of local enterprises in building e-Business infrastructure. It is an improved and enhanced incentive programme with an expanded scope to cover the usage of applications through an Application Service Provider (ASP) model. These applications include customer relationship management, electronic resource planning and supply chain management. Jumpstart Programme supports up to 50% of the qualified EC-related consultancy and subscription fee for up to 12 months as well as hardware and software purchases.

Over the past years, the Singapore Government has been targeting a number of sectors namely manufacturing, retail services and construction in its effort to accelerate e-commerce adoption in the country. In the manufacturing sector, the government aims at building advanced e-commerce capabilities in the electronics, chemicals, life sciences and engineering clusters in order to attract international investment and bring greater resilience to the foundation of its economy. In the retail sector, its e-Retail Programme aims at "e-transforming" SME retailers through the use of IT and Internet in the areas of e-commerce, m-commerce or other capabilities related to e-business. Projects under this Programme include ready-made packages and specific e-commerce solutions to cater to the needs of SME retailers.

6.5 THE UNITED KINGDOM (UK)

In the *1998 Competitiveness White Paper*, the UK government set out its e-commerce goal of making the country the best e-commerce environment in the world. The Prime Minister directed the Performance and Innovation Unit (PIU) to carry out a study – **e-commerce@its.best.uk** to define a detailed, comprehensive and cross-departmental strategy required for the UK to achieve this goal.

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This report seeks to address the following questions:

- Why e-commerce is important
- What is the UK's current position
- What it means by becoming the best place in the world for e-commerce
- What the barriers to achieve the UK's goal are
- How these barriers can be overcome

Knowing that the lack of understanding is the major challenge to the adoption of e-commerce, PIU has recommended to carry out Government/industry sector-specific "e-commerce impact assessments" to find out the current state of e-commerce in each sector and also its threats and opportunities as well as barriers to e-commerce adoption. It is expected that the government has a role to play in helping overcome many of these barriers.

Since 2000, the Department of Trade and Industry (DTI) together with a number of government departments have commissioned a series of sector-specific studies on 29 industry sectors. The purpose of these studies is to define common concerns and opportunities brought by e-commerce within each sector as well as the role of the Government in facilitating e-commerce development in UK. The 29 sectors include aerospace, automobiles, oil and gas supplies, retail, chemicals, textile and clothing as well as metal forming and manufacturing, among the others. The results on the first batch of studies were released in late 2000. The report is entitled *Business-to-Business E-commerce in the UK: A Synthesis of Sector Reports*. DTI has also published a series of case studies on e-commerce-based supply chain management.

Other sector-specific initiatives undertaken by the UK government include:

- Sectoral projects and PR campaigns carried out in partnership with respective industries - A recent example is "Go for IT" supported by the Department for Culture Media and Sport, English Tourism Council and the business sector. The

programme aims at encouraging agencies in the tourism industry to further develop its business using ICTs.

- Conducting benchmarking studies to monitor the country's progress towards the Information Age in comparison with its major competitors. The studies cover several areas including levels of ownership, usage and understanding of information and communication technologies (ICTs) by companies of all sizes and sectors.
- "UK online for business" - It is a partnership programme between the industry and the government. It provides small businesses with impartial advice on e-business, information and communication technologies.
- E-commerce packs - The packs contain useful information about doing business online in different sectors.

6.6 THE UNITED STATES (US)

To foster the growth of e-commerce, the US government emphasizes the importance of the leadership of private sector in developing new technologies and best practices to facilitate the growth of online business. The role of the Government is to encourage self-regulation on the efforts made by the private sector, and to establish a simple legal framework for e-commerce activities.

The Department of Commerce's Technology Administration (TA) of the US Federal Government is responsible for facilitating the development of e-commerce in the US. The role of TA is to build a favorable operating environment for technological innovation in business sector. TA involves in a wide range of areas related to e-commerce such as R&D investment, economic and labour conditions, education, intellectual property, standards and regulations. A special unit under TA has been formed to work together with the industry to identify obstacles and opportunities, with special focus on e-commerce policy issues.



Recently, the US Small Business Administration (SBA) of the Office of Advocacy has released various reports like *Small Business Expansions in Electronic Commerce* and *E-commerce's Impact on the Travel Agency Industry*. Both examine the impacts of e-commerce on SMEs and the ways they are heading in e-commerce.

6.7 CONCLUSION

There is considerable work underway by governments throughout the world to address the impediments to e-commerce uptake using sector-specific strategies. Awareness building initiatives and sectoral-based projects are taking place in many countries to encourage businesses to adopt e-commerce. The initiatives currently being carried out in Hong Kong, as compared with other countries, are rather piecemeal and do not have significant impacts on the development of e-commerce in Hong Kong. For Hong Kong to be internationally competitive, we suggest the Government to re-define its e-commerce policy and dedicate greater efforts to encourage SMEs by using sector-based approach.

Conclusion

Despite a high degree of readiness to embrace the benefits from an information-based economy, Hong Kong still sees limited e-commerce activities. Except a few big companies, e-commerce is seen by most SMEs as an additional expenditure rather than a long-term investment for reaching the international market and generating new revenues. SMEs, who are typically constrained by limited resources, often lack access to the latest information on the development of technologies that are useful to their business. It is also difficult for them to research for new market opportunities outside their existing business coverage. Lack of awareness on the real value of IT and e-commerce has prevented them from jumping onto the digital business wagon.

The uptake of e-commerce is of paramount importance to the transformation of the entire economy. E-commerce will re-engineer business processes and make the supply, distribution and customer support networks more productive and effective, hence enhancing efficiency of the entire economic system.

The government therefore has a decisive role to play in modernizing the business environment for SMEs. To achieve this, the government has to re-define its e-commerce policy so as to help SMEs become aware of and then capitalize on the value of IT and e-commerce.

In this report, we propose the Government to adopt a pro-active sector-specific approach as the blueprint for promoting e-commerce development in Hong Kong. By implementing this approach and also the measures contained in this paper, we hope that the specific needs and difficulties of different industries in the adoption of e-commerce will be adequately catered to. All SMEs will then be able to successfully get onto the IT superhighway and grasp new business opportunities in the age of e-commerce.

Appendix – E-Commerce in Hong Kong

INTRODUCTION

Despite the intensive usage of information and communication technology (ICT) in Hong Kong, the adoption of e-commerce, both in of business-to-business (B2B) and business-to-customer (B2C) sectors, is still not as popular as it is in other advanced economies such as the United States, the United Kingdom and Singapore. By the same token, new e-commerce rivals like South Korea and Taiwan have already achieved drastic growth in their e-commerce market. It is generally agreed that these latecomers have been catching up very quickly and have already attained a large share of regional e-commerce market, thus hindering Hong Kong to achieve its goal of becoming the leader of e-commerce in the Asia Pacific region. This chapter provides a snapshot of e-commerce development in Hong Kong.

A FRAMEWORK FOR MEASURING THE UPTAKE OF E-COMMERCE

Due to the diverse social and economic situation as well as regulatory environment, every economy encounters different challenges in the development of e-commerce. It is of utmost importance for each government to tailor policies to the specific needs of its own economy and to remove barriers obstructing the diffusion of e-commerce at different stages. An assessment that measures the state, growth and performance of e-commerce activities will clearly provide us with insights for the development of the most desirable strategy to overcome these impediments.

The growth of e-commerce has prompted governments around the world to develop their own plans on e-commerce. Due to the differences in scope and emphasis, there is a need to employ an objective

measurement framework for comparison purpose.

In order to develop a globally recognized framework to guide e-commerce measurement, Organization for Economic Co-operation and Development (OECD) has developed an e-commerce metric composed of three broad areas of indicators to measure the growth and changes of e-commerce. These include¹:

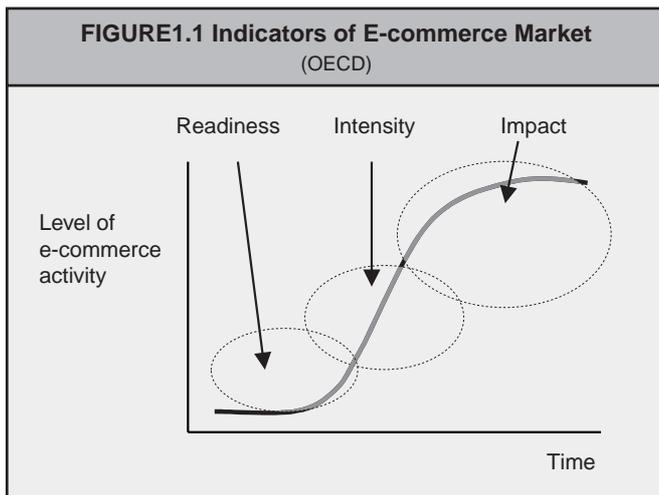
- **Readiness** – refers to socio-economic and technical infrastructure that is essential for the uptake of e-commerce;
- **Intensity** – refers to the level of Internet usage, such as volume, frequency and nature of transactions conducted over the Internet;
- **Impact** – refers to socio-economic impacts, efficiency and wealth brought by the Internet. Impact indicators include number of persons and businesses conducting transactions over the Internet, nature of online transactions and economic significance to Gross Domestic Product (GDP).

The above indicators in fact represent three developmental stages of the S-curve - a classical theory explaining the diffusion of new technologies (Figure 1.1). A point to note is that an economy, when evolving through successive stages of e-commerce development, very often encounter different needs and concerns as they progress to next level of e-commerce development.

¹ OECD (1999), *Defining and measuring e-commerce: a status report*.

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FIGURE 1.1 Indicators of E-commerce Market (OECD)



As the growth in e-commerce stabilizes and the differences in e-commerce uptake level out, the focus will shift from growth towards wealth creation which concerns more about the “qualities” of the transactions in respect of people involved in the transaction, products and services sold, market and industry structure as well as the industrial organization and management evolution². Figure 1.2 provides a range of data required for e-commerce measurement under these three commonly-used indicators in OECD countries. These three indicators, together with the related data, will be discussed thoroughly in this chapter.

FIGURE 1.2 E-commerce Metric (OECD)

Indicators	Data requirements
Readiness	Number of Internet Service Providers (ISP's) Number of telecommunications operators Number of telephone lines Penetration of PC and Internet access Penetration of mobile services Penetration of broadband network Number of secure servers Persons with computer skills
Intensity	Frequency of PC and Internet usage Nature of Internet transactions Number and value of Internet transactions Share of transactions made electronically
Impact	Expenditure on e-commerce

READINESS

“Excellent infrastructure is one of the crucial factors that puts Hong Kong well ahead of many Asia countries in e-commerce development”³. The well-developed infrastructure is our competitive edge for further growth in the usage of the Internet and various e-business applications in the future. A brief summary on Hong Kong’s information infrastructure and ICT literacy of our population is shown in Figure 1.3.

Although being considered one of the most wired cities in the world, Hong Kong has to face the ever more competition from the neighboring cities in recent years.

• Fixed Telecommunication Network Services

According to Figure 1.4, fixed telephone line is the most common type of telecommunications facility in household sector in all benchmarked economies. Despite the rapid development of mobile services, fixed phone lines will still be Hong Kong’s major communication channel for some time in the years to come, particularly for accessing the Internet at home. Figure 1.5 shows that Hong Kong is one of the leading economies in the world with households having an additional fixed phone line. Of the 14 countries benchmarked, Hong Kong ranks fifth, with an estimated 13% of households having two or more fixed phone lines at home.

² New Zealand Institute for the Study of Competition and Regulation Inc. (August 2001) *Scoping Study: E-Commerce Performance Measurement Research for New Zealand*

³ Economist Intelligence Unit

FIGURE 1.3 Technological Infrastructure and Information Literacy of Hong Kong

Technological Infrastructure	
Main Telephone Fixed Lines (Total)	3.926 million
Cellular Mobile Phones Subscribers (Total)	5.447 million
Cellular Mobile Phones, Coverage of Population (%)	81.16%
Internet Access in Household (%)	80.4%
Internet Access in Business Establishments (%)	37%
Internet Users (Total)	2.283 million
Internet Users, per 10,000 inhab. (2000)	3358.98
Internet Host (Total) (2000)	228,979
Internet Host, per 10,000 inhab. (2000)	336.9
Penetration of PC among household sector	60.6%
Penetration of Internet among household sector	48.7%
Usage of PC in household sector	50.3%
Usage of Internet in household sector	43.3%
Usage of PC in business sector	49.7%
Usage of Internet in business sector	37.2%
Number of telecommunications operators	
Wireline-based FTNS:	9
Wireless-based FTNS:	2
Mobile network operator:	6
Number of ISPs (12/2000)	235
Profile of ICT Capability	
No schooling in the total population	18.3 %
Tertiary education in the total population (degree holder)	10.5%
Internet access in schools (connected with broadband or leased line)	90%
Percentage of IT incorporated in school curriculum (02/03)	25%
Investment in IT education:	
1) Capital spending	HK\$3.2 billion
2) Annual recurrent expenditure	HK\$550 million
Number of place for IT-related studies (undergraduate & postgraduate)	8 245
Number of persons engaged in IT-related work ⁴	61 356

Source:

HKSAR Office of the Telecommunications Authority (OFTA)

HKSAR Census and Statistics Dept

International Telecommunications Union (ITU)

HKSAR (2001) Thematic Household Survey Report No.6 - Information Technology Usage and Penetration

HKSAR Report on 2001 Annual Survey on Information Technology Usage and Penetration in the Business Sector

HKSAR 2001 Population Census

Vocational Training Council of Hong Kong, Manpower Survey Report 2000 - Information Technology Sector

HKSAR(July 2001) Report of the Task Force in IT Manpower

⁴ IT-related work included IT management, application systems development, Internet/multimedia/contents development, telecommunications and networking, database, system programming, hardware support, systems operation, IT research and product development, and IT education and training.

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FIGURE 1.4 Penetration of Fixed Phone Line in Household Sector (%)
(Nielsen/NetRatings 2001)

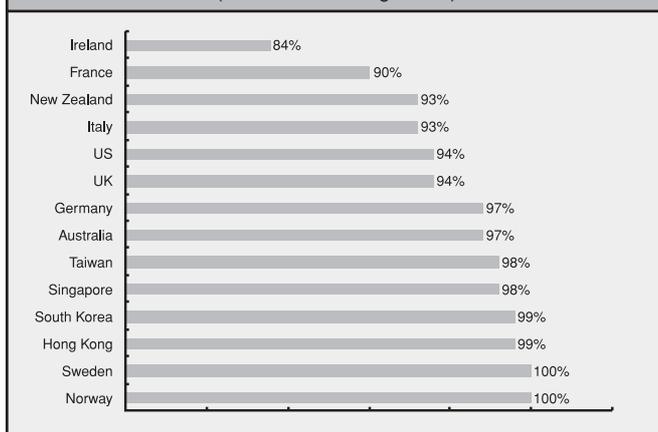
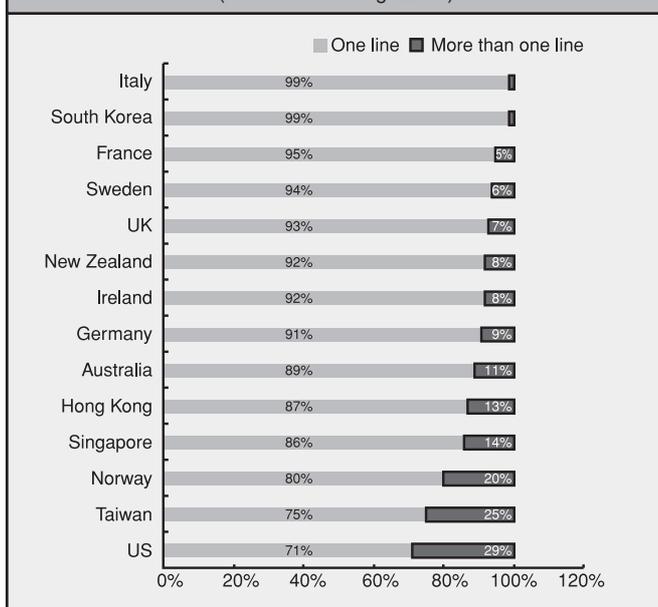


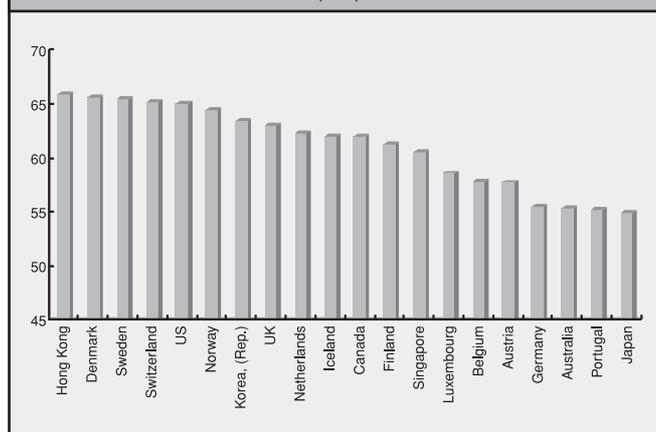
FIGURE 1.5 Percentage of Household with More than One Telephone Line
(Nielsen/NetRatings 2001)



• Mobile Communication

According to the ITU Mobile/Internet Index⁵ released in 2002, Hong Kong has the highest mobile Internet penetration, followed by Denmark and Sweden. (Figure 1.6)

FIGURE 1.6 Top 20 Mobile/Internet Index rankings in 2002
(ITU)



Nonetheless, if we consider mobile services only, our development has slowed down markedly since 2000. According to another studies by ITU, Hong Kong ranked third in terms of mobile penetration in 2001, with 85.5% of population using mobile services, following Luxembourg and Taiwan. (Fig 1.7) The growth of mobile penetration in Hong Kong has lowered as compared with other countries in the same benchmarking exercise. For example, while Taiwan and Luxembourg recorded 20% and 11.6% increase between 2000 and 2001, Hong Kong's mobile users only rose by 6%, from 80% to 85 % during the same period.

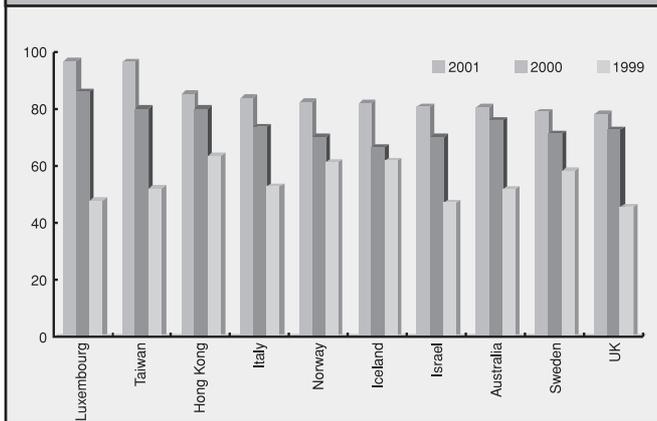
• Personal Computer (PC) and Internet Access

In 2002, there are 62.1% and 52.5% of households with PC and Internet access respectively in Hong Kong.⁶ The uptake of these technologies, however, far lags behind other Asian e-commerce markets. South Korea, for instance, with rapid deployment of broadband, has a relatively high level of PC ownership and Internet access in the household

⁵ ITU Mobile/Internet Index measures more than 200 economies' performance in development of mobile and Internet technologies.

⁶ Thematic Household Survey Report No.10 (2002). The Census & Statistics Department of HKSAR.

FIGURE 1.7 Penetration of Mobile Phone in 2001
(ITU)



sector. According to the statistics from ITU, the diffusion of Internet in Hong Kong's household sector is even significantly behind that of Singapore and Korea. (Fig 1.8)

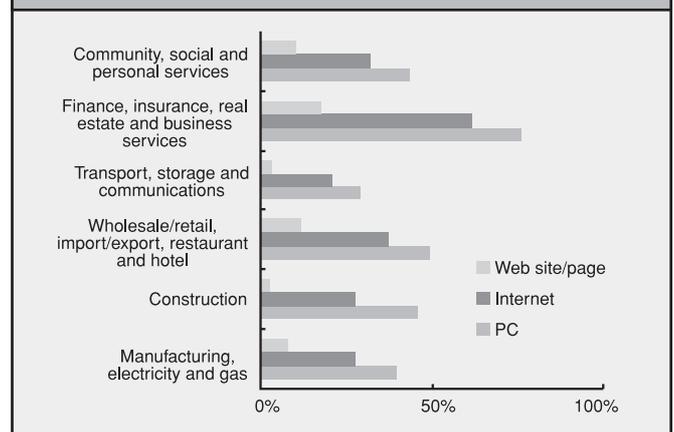
FIGURE 1.8 Penetration of Internet access in household sector in major Asian markets (1999-2001)
(ITU)

Year	Total (thousand)			Users per 100 00 inhab.		
	1999	2000	2001	1999	2000	2001
Hong Kong	1 734	2 283	3 100	2 580	3 358	4 586
S Korea	10 860	19 040	24 380	2 317	4 025	5 107
Singapore	950	1 200	2 500	2 439	2 986	6 052
Taiwan	4 540	6 260	7 820	2 055	2 810	490

Likewise, the PC and Internet usage in business sector has been growing in a steady pace, albeit it is considerably slower than we expected. The adoption rate of PC and Internet recorded a positive growth from 49.7% to 55% and 37.2% to 44% respectively from 2001 to 2002.⁷ Although the diffusion of Internet access saw a 19% growth in 2002, websites remain an unpopular platform to conduct business with only 11.8% of businesses having a website. Such sluggish demand for web-based technologies means that many companies, especially SMEs, are still cautious about adopting e-commerce.

In light of PC and Internet usage in commercial sector, it is found that finance, insurance, real estates and business service sectors see the highest penetration rate, with 76.1% and 61.5 % companies having PC and Internet access respectively. (Fig.1.9) Other sectors that follow are wholesale/retail/import/export/restaurant/hotel, with 49.5% and 37.2% companies having PC and Internet access. Transport, storage and communications industries record the lowest usage of these two enabling technologies, with only 29.2% and 21% companies having PCs and connecting to the Internet respectively. In regard of web presence, only finance, insurance, real estates and business service industries have a relatively high adoption in this aspect.

FIGURE 1.9 Use of PCs and Internet by Industry Sector in 2002
(Census & Statistics Dept of HKSAR)



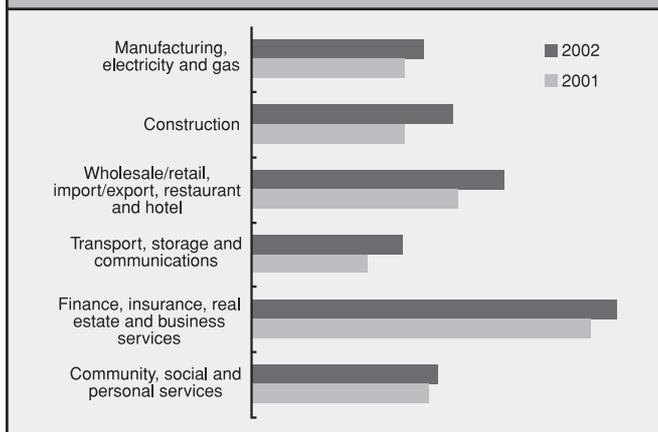
Between 2001 and 2002, more companies from construction, wholesale/retail/import/export/restaurant and hotel sectors as well as community, social and personal services sectors started to use the Internet, with a 7.6% growth during this period. (Figure 1.10)

⁷ Report on 2002 Annual Survey on Information Technology Usage and Penetration in the Business Sector

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FIGURE 1.10 Growth of Internet Access by Industry Sector 2001-2002

(Census & Statistics Dept of HKSAR)



- Broadband Network**

Broadband access supports a more sophisticated and intensive use of online content particularly bandwidth hungry interactive services, such as network games, multi-media services and e-learning services which are important applications in various e-commerce activities.

Hong Kong is a strong performer in broadband access in household sector. In 2001, an estimated 52% of Hong Kong population accessed the Internet at home via broadband networks, putting Hong Kong on the second place among the 14 countries benchmarked in terms of broadband penetration. South Korea was the leader in broadband adoption with 87% of its population accessing the Internet at home through broadband network. (Figure 1.11)

- Secure Server**

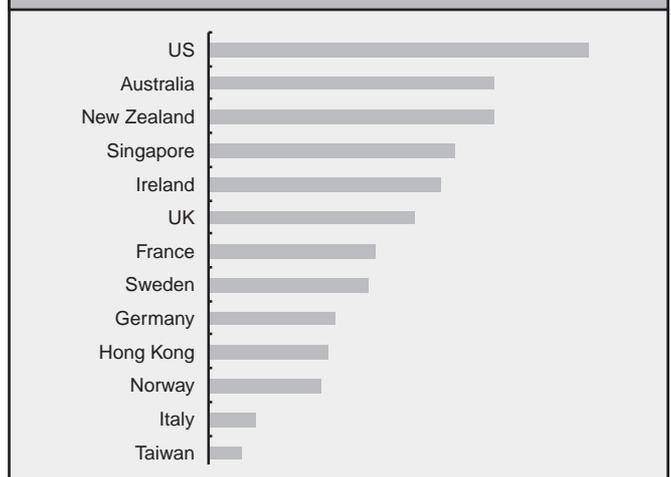
The measurement on secure servers provides one of the best indicators of the security level of the existing e-commerce infrastructure in Hong Kong. Secure socket layer (SSL) protocol, for instance, provides a secure encrypted transmission over a TCP-IP network that enables business transactions over the Internet. The United States led the world in the usage of secure servers in the beginning of 2001, with 49 secure servers per 100,000 persons aged 16 years and over with Internet access. Out of the 14 benchmarked economies, Hong Kong ranked tenth with only 15 secure servers. (Figure 1.12)

FIGURE 1.11 Broadband Access in 2001

(AC Nielsen/NetRatings)



FIGURE 1.12 Number of Secure Servers per 100,000 Persons 16 years and over with Internet Access
(Netcraft Jan 2001 SSL Server & AC Nielsen estimates for adults with access to the Internet 4th Quarter 2000)



- **ICT Capability**

The level of ICT skills can be understood as the information literacy of a country. Users need to have basic ICT skills so as to participate in Internet and e-commerce activities. The ICT capability is therefore an important factor driving the development of e-commerce.

So far, a unique measurement for ICT capability has not been established. Different research companies take different data sources according to their own definition. To better understand Hong Kong's ICT capability compared with that of our neighboring cities, rankings on the ICT capability of Hong Kong and other countries are listed in Figure 1.13.

FIGURE 1.13 ICT Skills Capability in Major Asian Market			
Index/City	GITR Index 01/02: Networked Society sub-index including Networked Learning, ICT Opportunities, Social Capital ⁸	World Competitiveness Year 2001: Availability of Information Technology Skills	GNEI Index 2000: Knowledge Jobs sub-index
Rankings			
Hong Kong	25	28	39
S Korea	29	24	30
Singapore	16	7	27
Taiwan	13	12	11

In respect of information literacy in the four e-commerce markets in Asia, Hong Kong occupies the last place in two out of the three measurement areas.

In another assessment on the e-commerce and Internet market potential of 47 countries worldwide⁹, similar findings are observed. In the report, Hong Kong is regarded as a place that "has very average scores in the education category... The educational system and the university educational system rank 31st and 34th, respectively." On the contrary, Singapore and Taiwan which have a high level of ICT skills and education, are highly appraised for their strong results in secondary school enrollment and the quality of their higher education. Singapore's university education system, for instance, ranks fourth among the 47 countries. It is generally agreed that a highly literate and educated populace may have a higher chance and desire to engage in e-commerce. With their highly-educated populace, the two countries are therefore considered a potential e-commerce hot spot in Asia.¹⁰

- **The overall readiness of e-commerce**

In April 2003, the Economist Intelligence Unit (EIU) released its fourth report on the e-business readiness rankings of the 60 largest economies in the world. Countries are ranked on the basis of their overall e-business environment.

Hong Kong's overall ranking remained at the tenth, with a score of 8.2 in 2002. (Figure 1.14) Hong Kong gains the highest ranking ahead of many other Asian e-commerce markets and its major competitor, Singapore, which falls from the eleventh to twelfth in 2003.

8 The Global Information Technology Report 2001-2002: Readiness for the Networked World (GITR)

9 The World E-commerce and Internet Market Report 2001
10 Ibid.

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FIGURE 1.14 E-readiness Rankings in 2003
(EIU)

2002 E-readiness ranking	Country	2003 E-readiness ranking
4	Sweden	1
7	Denmark	2
2	Netherlands	3
1	US	3
3	UK	3
10	Finland	6
11	Norway	7
4	Switzerland	8
6	Australia	9
9	Canada	10
14	Hong Kong	10
11	Singapore	12
8	Germany	13
13	Austria	14
15	Ireland	15
21	South Korea	16
16	Belgium	17
18	New Zealand	17
17	France	19
20	Taiwan	20

As commented by the EIU, Hong Kong and Singapore, both as a small economy, are better placed to implement nationwide infrastructure. Hong Kong is also “among the first places in Asia to embrace e-commerce in all major industries”.

But a slightly different result is drawn from another worldwide index. According to the Networked Readiness Index, Singapore is the only Asian country ranked as one of the top 10 countries worldwide in terms of network readiness. It ranks eighth following the United States and other six European nations. Hong Kong ranks thirteenth and is followed by Taiwan and South Korea which rank fifteenth and twentieth respectively. (Figure 1.15)

FIGURE 1.15 Network Readiness Index

(The Global information Technology Report 2001-2002: Readiness for the Networked World (GITR))

Country	Ranking	Country	Ranking
United States	1	New Zealand	11
Iceland	2	Canada	12
Finland	3	Hong Kong SAR	13
Sweden	4	Australia	14
Norway	5	Taiwan	15
Netherlands	6	Switzerland	16
Denmark	7	Germany	17
Singapore	8	Belgium	18
Austria	9	Ireland	19
United Kingdom	10	Korea	20

As illustrated, albeit there are strengths in some areas of our information infrastructure, there is still a potential risk of Hong Kong lagging behind our counterparts in Asia in the development of e-commerce especially when other Asian markets have already been gearing up to improve their e-readiness over the past years. Together with the relatively low ICT capabilities of our labour and a weaker e-commerce culture in business sector compared with our neighboring cities, it is imperative for Hong Kong to improve a lot more in many aspects if we want to survive in an increasingly global and competitive marketplace.

INTENSITY

As defined by OECD, e-commerce intensity relates to the state of e-commerce application. In many developed countries, the most common way to assess e-commerce intensity is to measure the usage of ICT. In Hong Kong, the Census and Statistics Department has been conducting this kind of survey annually since 2000. The following sections examine the degree of applications and prevalence of e-commerce activities in Hong Kong.

- **Nature of online activities in household sector**

In 2002, of people aged 10 and over who had used Internet services, 86.9% of them used Internet at least once a week, accounting for a slight increase of 2.4% as compared with the adoption rate of 84.5% in 2001. However, the average time spent on using Internet service per week was down from 12.1 hours to 11.3 hours in the past year as high-speed broadband services became increasingly common in household sector.¹¹

As compared with other Asian cities, Internet users in Hong Kong spent relatively more time on Internet activities. A report released by Nielsen//NetRatings in August 2001 indicates that South Korea web surfers are the most intensive Internet users in the Asia Pacific region. They spend more time on online activities, view more Web pages and surf the Web more frequently than any other population in the region. The result is no surprise because South Korea accounts for almost one-third of the total Internet usage in the whole Asia Pacific region due to their nearly ubiquitous uptake of broadband service at home. Hong Kong followed closely in terms of usage intensity.¹² (Fig.1.16)

As for the nature of Internet activities, communicating with others is the major reason for staying online (76.1%), followed by other types of usage such as browsing non-government web pages (75%), downloading non-government information online (59.9%), reading magazine/newspaper online (48%) and browsing Government websites (36.3%). (Figure1.17)

While Hong Kong people are active Internet and mobile users, their move to e-commerce has been comparatively slower. In 2002, only 19.4% of the population aged 10 and over used electronic business services.¹³ As compared with other countries, shopping on the Internet is still in its infancy in Hong Kong. In terms of the uptake of online shopping, Hong Kong ranked fourteenth, with 31% of its Internet users aged 16 years and above had purchased on the Internet in the past six months up to September 2001. (Figure1.18) Other countries recorded more intensive usage of online shopping include the US (67%), Germany (65%), the UK (62%), Sweden (60%), Norway (58%), South Korea (55%), Singapore (38%) and Taiwan (37%).

**FIGURE1.16 Internet usage in six Asia Pacific countries (Home users)
(March/2001 vs. June/2001)**

(Nielsen//NetRatings, June 2001)

	Page views per Month		Time Spent per Month		Sessions per Month	
	Mar-01	Jun-01	Mar-01	June-01	Mar-01	Jun-01
Australia	512	541	7:32:00	7:53:41	13	13
Hong Kong	1 123	1 143	11:36:31	11:46:19	18	18
N Zealand	414	436	6:08:35	6:42:59	14	15
Singapore	699	864	7:07:25	8:22:28	13	14
S Korea	2 164	2 184	16:51:38	17:15:46	24	24
Taiwan	618	1 081	6:32:12	7:32:15	11	13

11 *Hong Kong as an Information Society, 2002 edition, Census and Statistics Department of HKSAR*

12 *Nielsen//NetRatings (31 August 2001) Insight - Asia Pacific Internet Trends, Q2 2001.*

13 *Thematic Household Survey Report No.10 (2002), HKSAR Census and Statistics Department.*

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FIGURE 1.17 Purpose of Using Internet service in 2002
(Census & Statistics Department of HKSAR)

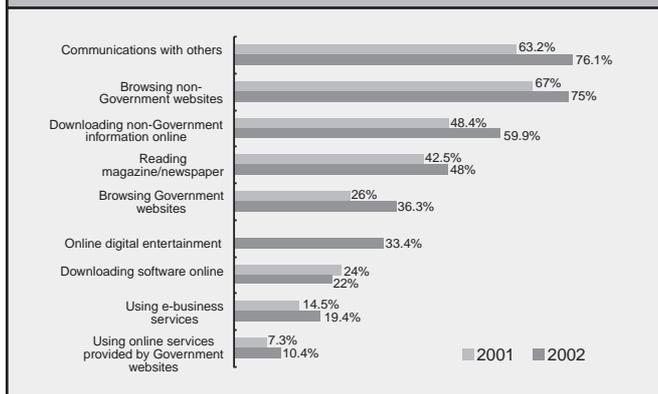


FIGURE 1.18 Percentage of Persons 16 years and above Purchasing Online in the Past Six Months up to Sept 2001
(Nielsen//NetRatings)

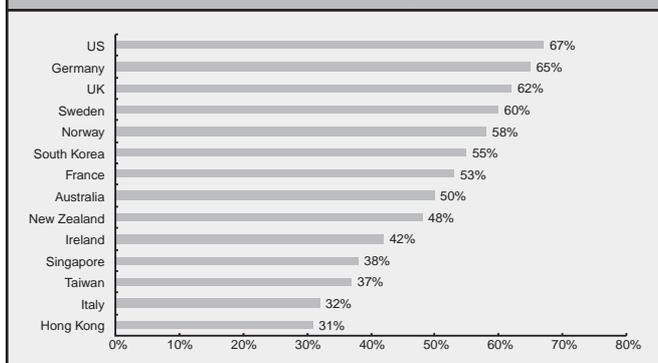


FIGURE 1.19 Products or Services Purchased Online in 2000

(Taylor Nelson Interactive Global E-commerce Report 2000
ABS November 2000 Use of Internet by Households Survey)

Ranking	Australia	US	UK	Germany	Hong Kong	Japan
1	Books & Magazines	Clothes	Books	Books	Food	Books
2	Music	Music/CDs	Music/CDs	Clothes	Books	Clothes
3	PC Software	PC Software	PC Hardware	Music/CDs	Furniture	Food
4	Entertainment/tickets	Books	PC Software	PC Software	PC Hardware	Toiletries
5	Holidays	Tickets	Clothes	Electronics	PC Software	Travel
6	Clothing/Shoes	Travel	Tickets	PC Hardware	Tickets	Toys/Games

In terms of shopping pattern, food is the most frequently purchased item through the Internet in Hong Kong. Figure 1.19 presents a list of the top six products most frequently purchased online in Australia, the US, the UK, Germany, Hong Kong and Japan. Books top the list in four countries. Other popular items on the Internet, as shown in Figure 1.19, are music CDs, PC hardware and software, clothes and entertainment/tickets.

Similar shopping pattern is also observed in another survey conducted in 2001 by www.consult.com.hk. According to the survey results, Hong Kong people prefer purchasing books, food and groceries, tickets to concerts, music CDs/videos and making travel bookings over the Internet.¹⁴

• Nature of online activities in business sector

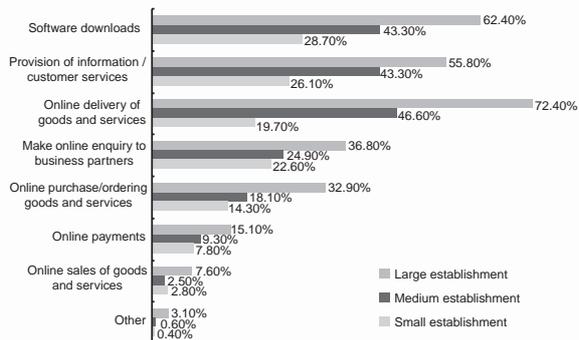
In 2002, there were about 44% businesses using Internet services. The percentage however was much higher in large establishments (83%) than in medium (66%) and small establishments (41%). Among various Internet services, we find that the Internet is used more for communications and information search than conducting electronic business activities. (Figure 1.20)

Similarly, the research conducted by the Hong Kong Productivity Council (HKPC) on E-business Adoption among SMEs in Hong Kong shows that 46.2% of them did not adopt e-business in 2001. 39.4% SMEs used email for internal and external communications. Among 13% SMEs having a web presence, only 0.2% of them added online purchase or ordering features on their websites.¹⁵

¹⁴ SCMP (March 12, 2001), "E-shoppers forked out \$926m online last year, says survey".

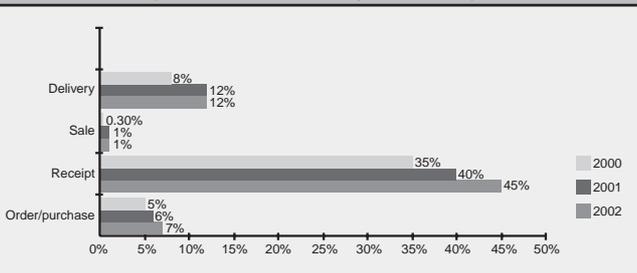
¹⁵ HKPC, *eBusiness Adoption in Hong Kong - Research Findings (July-December 2001)*

FIGURE 1.20 Purpose of Using Internet in Business Sector in 2002
(Census & Statistics Dept of HKSAR)



Among various e-business activities carried out by the business sector in Hong Kong, the most common one is receiving goods, services and information through electronic means, followed by delivery related activities. (Figure 1.21) However, the survey conducted by HKPC in 2001 shows that only 2% of companies had ever utilized their websites for online ordering and payment.¹⁶

FIGURE 1.21 The Adoption of E-commerce 2000-2002
(Census & Statistics Dept of HKSAR)



Finance, insurance, real estates and business service sectors has recorded a high adoption rate

in all kinds of online business activities. (Figure 1.22) In 2002, receiving goods/services/information was the most popular online activity among all businesses, ranging from 41.4% for small business establishments to 80.7% for large business establishments. Sales-related activity was still under-performed across all businesses. As shown in Figure 1.23, SMEs lag far behind the large business establishments in all kind of online business activities.

FIGURE 1.22 Online Business Activities by Industry Sector in 2002
(Census & Statistics Dept of HKSAR)

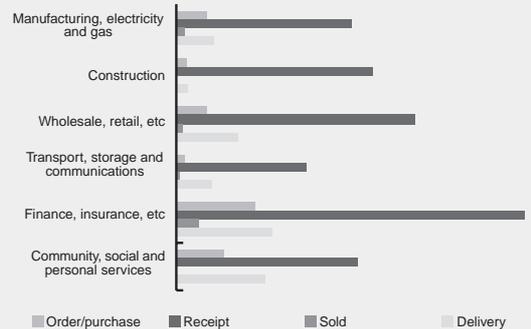


FIGURE 1.23 Business Use of Online Business Activities by Firm Size in 2002
(Census & Statistics Dept of HKSAR)

Size of Establishment/ Online Activity	Ordered/ Purchased	Receipt	Sold	Delivery
<10 people (SMALL)	6%	41.4%	1.3%	8.4%
10-49/10-99 people (MEDIUM)	12%	67.6%	1.9%	31.8%
50/100 people (LARGE)	28.6%	80.7%	6.5%	61.3%

Note:
Category 10-49 & 50 people falls within non-manufacturing industry
Category 10-99 & 100 people falls within manufacturing industry

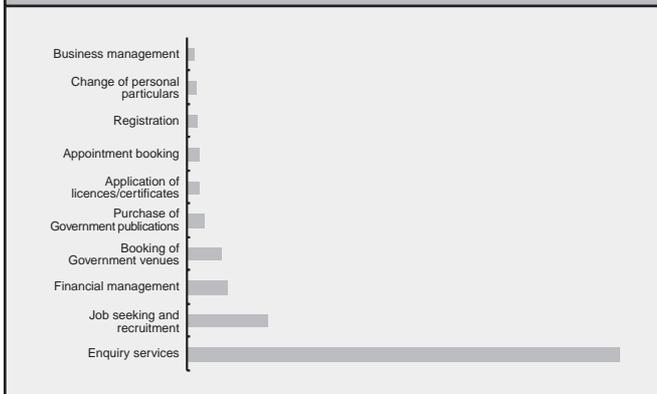
16 Ibid.

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• Penetration of government online services

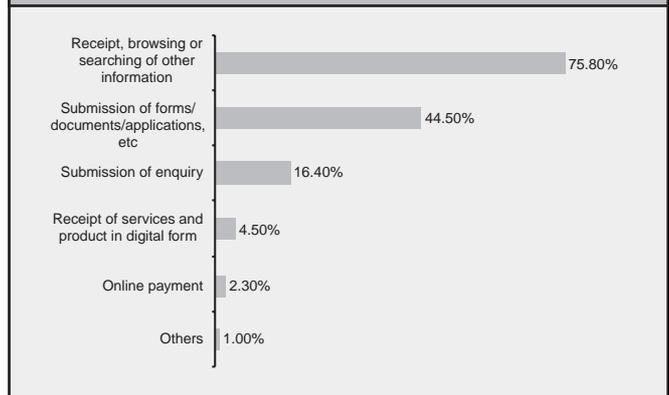
18.1% of people aged 15 and over in Hong Kong used one or more types of online Government services in 2002. While 10.6% of them used these services via Electronic Service Delivery (ESD) Scheme, 74.1% of them accessed e-government services via other Government websites. “Enquiry services” (86.8%) is the most commonly used, followed by “job seeking and recruitment” (16.2%), “financial management” (8.0%) and “booking of Government venues” (7.0%). (Figure1.24)

FIGURE 1.24 Percentage of Persons aged 15 and over Using Online Government Services in 2002
(Census & Statistics Dept of HKSAR)



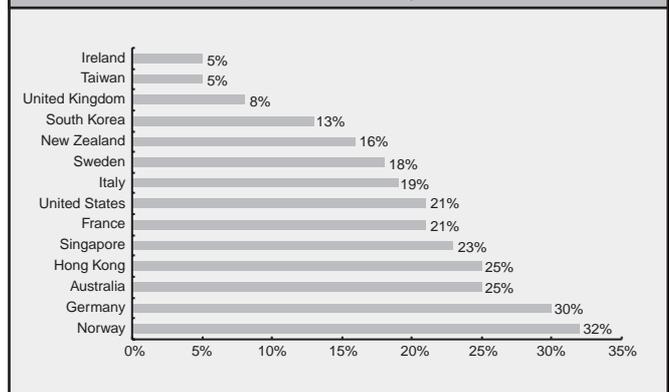
In business sector, the greater adoption of online Government services has been observed over the past year. Among the business establishments having received goods and services through electronic means, 66% of them received government goods and services. Browsing or searching for government information is the most common activity (75.8%), followed by the submission of government documents (44.5%) and enquiry (16.4%), receipt of services and products in digital form (4.5%) and online payment (2.3%). (Figure1.25)

FIGURE 1.25 Types of Online Government Goods and Services Received by Business Sector in 2002
(Census & Statistics Dept of HKSAR)



In fact, Hong Kong shows relatively good performance in the penetration of online Government services as compared with other countries. Hong Kong ranks fourth in terms of the proportion of Internet users accessing online Government services (25%), well ahead of other Asian economies in the benchmark study such as Singapore (23%), South Korea (13%) and Taiwan (5%). Germany, Norway and Australia are the top three among all the economies, having higher penetration levels during peak periods. (Figure1.26)

FIGURE 1.26 Peak Penetration of Online Government services 2001
(Nielson/NetRatings)



BOX 1.1 THE ADOPTION OF E-COMMERCE IN VARIOUS SECTORS

The level of IT deployment varies widely even among large establishments in Hong Kong, and some companies have taken an entirely different approach to incorporate IT into their business plans. Although there is a lot of capital being funneled into the IT industry in Hong Kong, the internal use of IT within some of these large conglomerates is still relatively low. Some of the companies that claim to be adopting IT are not using IT internally to improve their business operations and lack an understanding of how IT can be used to improve business processes. Early adopters of advanced IT applications in Hong Kong are considered to be the financial sector, such as stockbrokers and bankers, shippers and freight forwarders, and IT companies themselves. This section briefly depicts the adoption of IT in different industries.

- **Manufacturing**

The manufacturing sector is generally viewed as a relatively slow adopter of IT in Hong Kong. Most of the manufacturers that have integrated IT into their operations have done so due to pressure from their foreign partners who are automating their supply chains. Their partners are driving the supply chain by requiring shorter lead times to delivery and just-in-time inventory. Smaller companies, in particular, are reluctant in making the initial capital investment to set up a supply chain management system and lack the skills needed to maintain and manage it.

- **Banking and Finance**

According to the Hong Kong Trade Development Council, Hong Kong ranks ninth in the world based on the volume of external banking transactions, eleventh in the world's securities market, and is the second largest banking center in the Asia/Pacific region, after Japan. The banking and finance sectors account for the majority of larger installations, and are the leading users of back-office applications. Banks that previously outsourced many of their data operations, such as account management and fund transfers, are increasingly turning to in-house system development because of concerns about releasing inside information to contractors.

- **Shipping and Freight Forwarding**

Hong Kong's total container throughput is projected to reach 24 million Twenty-Foot Equivalent Units (TEUs) in 2006 and 33 million TEUs in 2016 according to the Hong Kong Trade Development Council, and Hong Kong's ports handle over 250 million documents annually. Hong Kong shipping and freight forwarding companies have made large IT investments to automate their documentation processing in order to manage the tremendous volume of cargo shipments that are

processed daily through the Hong Kong harbour. For example, Hong Kong has computerized its ship registration procedures and utilizes applications tailored for warehousing and container management to control and track transactions. Many shipping and freightforwarding companies use electronic data interchange (EDI) to transmit documents among themselves and with importers and exporters. Other example of incorporating IT in this industry including, CargoNet, a web-based EDI services to process shipping documentation.

- **Import/Export**

According to a survey conducted by IBM and the Hong Kong Productivity Council in September 1999, the import/export sector is supposed to be the most willing sector in Hong Kong to adopt e-business technologies. Some initiatives, such as Tradelink and EZ*Trade have been launched by the government and associations to facilitate IT integration into this sector. But since the majority of the companies involved in international trade are SMEs, widespread adoption is still slow. Beginning in April 2000, the Customs and Excise Department closed its Hong Kong collections office and mandated that all import and export declarations must be in electronic form. Importers and exporters have the option of directly submitting their declarations online via Tradelink's tradelinkebiz.com website or can go to one of Tradelink's twenty-seven service centers throughout Hong Kong. The Hong Kong Article Numbering Association's (HKANA) EZ*Trade also offers EDI solutions that conform to EANCOM/EDIFACT international standards. EZ*Trade automates the flow of paper between trading partners. The web-based EDI service was developed to meet the needs of small- and medium-sized businesses that could not afford large investments in systems that support EDI transactions.

- **Wholesale and Retailing**

Many larger retail shops have installed barcoding and electronic point-of-sale (POS) systems to manage their inventory. Some retail chains have connected their POS systems with their suppliers, exchanging purchase orders and invoices. Data mining applications are also used to analyze the information collected by the POS systems. The textiles, toys, and construction industries have B2B portals. Most small shops, however, make limited use of IT applications.

Source:

Hong Kong Trade Development Council
EXPORTIT Asia

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According to another international e-government ranking, Hong Kong has reached a maturity level in delivering electronic public services. Despite placing at the seventh place among the benchmarking economies in 2003, Hong Kong still far lagged behind Singapore which ranked second and was viewed as having slow progress in its e-government program in the past years. (Figure 1.27)

FIGURE 1.27 E-government Rankings

(Accenture.com)

2003 Ranking	Countries	2002 Ranking
1	Canada	1
2	Singapore	2
3	United States	3
4	Denmark	5
5	Australia	4
6	Finland	7
7	Hong Kong	8
8	United Kingdom	6
9	Belgium	16
10	Germany	9
11	Ireland	10
12	France	12
13	The Netherlands	11
14	Spain	15
15	Japan	17
16	Norway	13
17	Italy	21
18	Malaysia	20
19	Mexico	23
20	Portugal	18

IMPACT

Defined by OECD, impact broadly refers to how the Internet is bringing changes to our society. Major impact indicators include the value of e-commerce, economic significance to Gross Domestic Product (GDP) and perceptions of benefits from using the Internet.

It is noteworthy that high ICT access does not always guarantee a boom in e-commerce market. According to the figures from the Census and Statistics Department of Hong Kong, our value of business receipts from selling goods, services and information through electronic means totalled \$22.1 billion in 2001, only accounting for 0.43% of the total business receipts from all industry sectors.¹⁷ Although we have more than 50 percent household connected to Internet, our B2C e-commerce have not yet taken off. As for B2B activities, businesses generally use e-commerce for marketing and communication instead of integrating e-commerce in their operations as a revenue-generating tool. It is not surprising that Hong Kong's e-commerce development is significantly behind that of other e-commerce market players.

• Value of B2C e-commerce

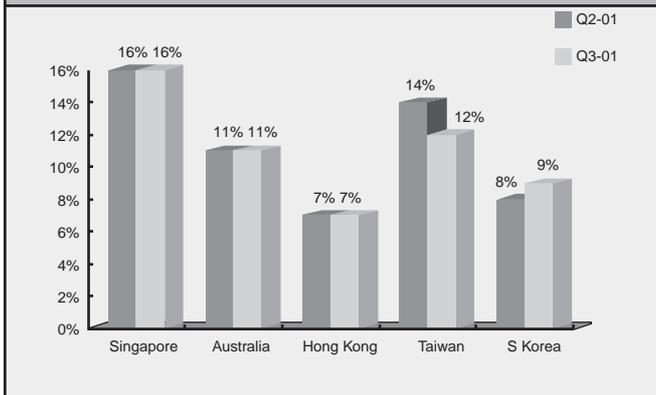
Despite the rapid growth of the number of Internet users, our B2C e-commerce market only captures low-value transactions. While Hong Kong's online retail revenues stood at around \$926 million and represented less than 0.5% of total retail revenues in 2000, Korea's online purchases accounted for 1.8% of its total revenues in the same year.¹⁸

Similar findings have also been found in another study. As shown in Figure 1.28, Hong Kong companies only achieved 7% of their total sales revenue from B2C e-commerce in Q2 and Q3 2001, the lowest among all major Asia-Pacific e-commerce markets such as Singapore (16%), Taiwan (14%) and Australia (11%).

¹⁷ Report on 2002 Annual Survey on Information Technology Usage and Penetration in the Business Sector, Census & Statistics Dept of HKSAR

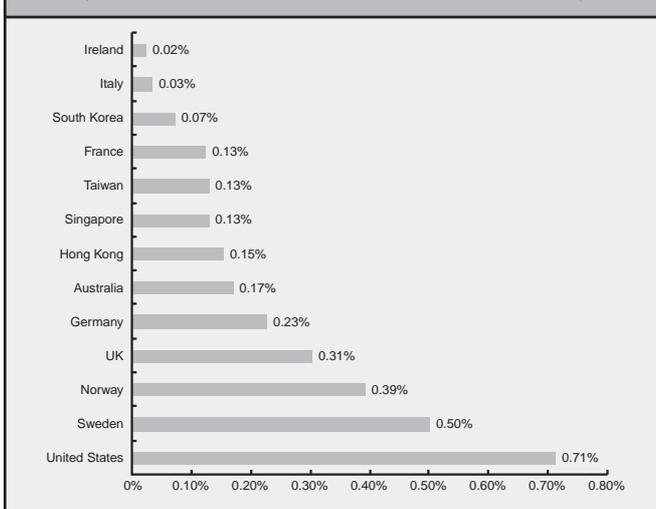
¹⁸ Korea Times (July 19, 2001) "E-commerce thriving in Korea."

FIGURE 1.28 Proportion of B2C E-commerce Sales Revenue as a Percentage of Total Sales Revenue (IDA of Singapore)



In terms of value of B2C e-commerce as a percentage of GDP, the United States was the leader in 2001, with an estimated value of B2C online transaction standing at 0.7% of Gross Domestic Product (GDP). Hong Kong ranked seventh with 0.154%, followed by Singapore and Taiwan (both were 0.131%), France (0.126%) and South Korea (0.074%). (Figure 1.29)

FIGURE 1.29 E-commerce as Percentage of GDP in 2001 (eMarketer 2001, OECD Communications Outlook 2001)



• **Value of B2B e-commerce**

According to the Gartner Group, the volume of Asian e-commerce transactions will reach US\$340 billion by 2003, with B2B e-commerce transactions accounting for 80% of the total value. While the worldwide B2B e-commerce is forecasted to reach US\$7.3 trillion by 2004, only about US\$1 trillion of the total is expected to be from Asia. (excluding Japan)

Another research firm, Forrester, reported that the surge in Asia-Pacific e-commerce will result in US\$1.6 trillion of revenues by 2004. Total B2B e-commerce revenues are expected to grow from US\$36.2 billion in 2000 to over US\$300 billion in 2004.

Findings from the Boston Consulting Group also indicates that the value of B2B transactions is to be as much as US\$430 billion in Asia by 2003. IDC even expected that the total value of e-commerce revenues in the Asia-Pacific region would grow at a staggering annual rate of 120% between 1999 and 2003, rising from US\$2.1 billion to US\$50.7 billion during the period. (Figure 1.30)

FIGURE 1.30 Comparative Forecast: Asian e-commerce revenue by 2003

	B2B (US\$ billions)	Total (US\$ billions)
Gartner Group	272	340
Forrester Research	300 (year 2004)	724.2
Boston Consulting Group	430	-
IDC	-	50.7
eMarketer	300 (year 2004)	338 (year 2004)
Goldman Sachs	242.4	-

Source:

- Export Asia: Preliminary Report (Dec 2000), US Dept of Commerce <http://glreach.com/emg/ed/art/2004.ecommerce.html>
- http://cyberatlas.internet.com/markets/b2b/articles/0,,10091_735181,00.html
- <http://www.idc.com/getdoc.jsp?containerId=ebf20000615>
- <http://www.emarketer.com>

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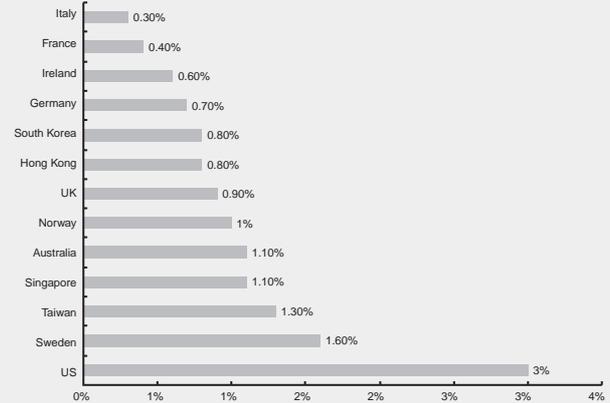
Likewise, the outlook for B2B e-commerce in Hong Kong is much more optimistic than B2C e-commerce. Though some analysts predicted that many small family-owned firms are unlikely to adopt e-commerce, they will be forced to do so because of the international nature of their businesses and pressures from foreign suppliers or customers.¹⁹

In Q2 and Q3 2001, Hong Kong achieved 16% of its total sales revenue from B2B e-commerce, and ranked second following Singapore. However, the figure was still slightly higher than other Asian rivals, i.e., South Korea and Taiwan. (Figure 1.31)

In terms of B2B e-commerce as a percentage of GDP, the value was estimated to be 0.8% in Hong Kong, following the US (3%), Sweden (1.6%), Taiwan (1.3%), Singapore and Australia (both are 1.1%), Norway (1%) and the UK (0.9%). (Figure 1.32)

FIGURE 1.32 B2B* Percentage of GDP in 2001**

(eMarketer 2001, OECD Communications Outlook 2001, CyberAtlas 2001)

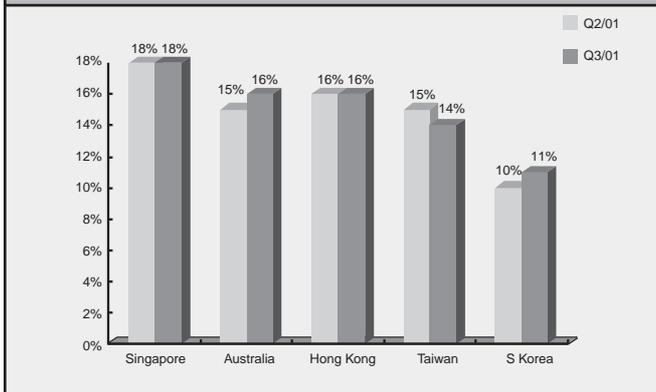


Note:

* Estimated B2B activity for 2001

** GDP figure for 1999

FIGURE 1.31 Proportion of B2B E-commerce Sales Revenue as a Percentage of total Sales Revenue
(IDA of Singapore)



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