

The e-Commerce of SMEs in Thailand

Arunee Intrapairot, Ph.D.

Faculty of Business Administration
Rajamangala Institute of Technology
Klong 6, Thunyaburi,
Patumthani 12120, Thailand
(+662) 5493081 (Office)
(+662) 5493080 (Fax)
email: aruneei@access.rit.ac.th

Anongnart Srivihok, Ph.D.

Dept. of Computer Science,
Faculty of Science
50 Paholyotin Road, Chatuchak,
Bangkok 10900, Thailand
(+662) 9428026-7 (Office)
(+662) 9428026-7 Ext. 500 (Fax)
email: fsciang@ku.ac.th

ABSTRACT

Small and medium enterprises (SMEs) in Thailand are fundamental business units spread all over the country. Since the severe economic crisis (i.e. Tom Yum Kung disease) in 1997, thousands of SMEs have gone bankrupt and so dropped out of the Thai economy each year. One key means of enhancing the viability of SMEs and assisting in economic recovery of the country that has been suggested is transforming them from traditional business to digital business using the Internet and electronic commerce. The expected advantages of e-Commerce strategy include decreasing costs, expanding marketplaces, enhancing competitiveness, improving business image, and increasing revenues. However, there are snares and hidden pitfalls in the backend of this business.

This chapter presents an overview of *e-Commerce of SMEs in Thailand*. The first part introduces fundamental background of SMEs in Thailand including types and characteristics. The second part investigates advantages and disadvantages of e-Commerce implementation. Finally, the third part discusses SMEs and e-Commerce in Thailand in the case of e-tourism.

INTRODUCTION

In the past, Thailand aimed at being an industrialised country. The country's development schemes highlighted large investment depending on foreign capital, labour-intensive production and advanced technology while neglecting the skills and know-how of local people. The severe economic crisis in 1997 brought Thailand to realise that small and medium sized enterprises (SMEs) are important as a mechanism that may help the country to survive and compete in a highly competitive globalised world.

Intense competition and the advent of information technology have stimulated SMEs to invest in and integrate technological infrastructure. They expect that this will attract customers because of greater convenience, better access to information, more efficient transactions, and more attractive variety of products. Electronic commerce (e-Commerce) has become the most sought after technology because it allows SME customers to conduct real-time, remote transactions without limitations imposed by time or geography and to access more up-to-date and transparent information which helps them in making appropriate decisions and fulfilling their requirements (WebAustralia , 1996).

In turn, SMEs themselves may gain fundamental benefits from e-Commerce in terms of reduction of costs for office establishment and operating costs (e.g. personnel and equipment). The cost of setting up a full-service e-Commerce web site is quite similar to that of opening a single physical storefront, but it can reach more customers. Furthermore, e-Commerce customers, who tend to be young, affluent, and highly educated, may create a high demand for products and services and opportunities for cross-selling and up-selling (Phillips, 1998). The low operating costs and low technology they employ enable SMEs to offer reasonable prices and effective service to not only domestic but also world markets.

Benefits from e-Commerce are contingent upon the completion of telecommunication infrastructure, confidence in the security of the system, and acceptance by customers. Therefore, SMEs wishing to implement this technology need to extend infrastructure, improve the skills of their personnel, and strengthen their security systems (Laudon & Laudon, 2000; Smith, 1997).

However, engaging in e-Commerce may increase overall costs unless SMEs reduce expenditures along conventional channels by closing physical branches, downsizing staff, and re-engineering operation systems. E-Commerce alone may not reduce costs because SMEs are unable to conduct typical transactions and to undertake back office workload via the Internet. Additionally, while SMEs may save costs for customer support due to front-end self-servicing systems, they have to make expenditures on technology devices, communications support, and product or service support (e.g. delivery, on-line payment and certified security).

Initially, adoption of e-Commerce may not necessarily be aimed not at making money but rather at public relations, i.e., maintaining an image as an innovative organisation, defending a market position against competitors, and building relationships with customers. Such intangible benefits aside, potential revenues from e-Commerce are as yet unproved by many SMEs.

SMEs IN THAILAND

SMEs are small and medium-sized enterprises that are driven by services or agricultural or manufactured products involving unique skills. They produce products and provide services using mainly domestic raw materials and employing local people to serve the world market demand. With minimal initial investment they are able to generate incomes from both domestic and overseas sources which are then distributed back to local communities.

Organisations concerned with SMEs in Thailand use various criteria in defining them. According to the Department of Industry Promotion Thailand, for example, an SME is an enterprise with fixed assets of 20-100 million bahts and 20-100 employees, whereas the Industrial Finance Corporation of Thailand (IFCT) requires fixed assets of 100-500 million bahts but does not specify a number of employees.

SMEs have advantages over large enterprises because of their independent management, affordable business establishment, and close communication with customers and staff (Hirunkitti, 1999). For their part, SMEs entrepreneurs expect various opportunities and benefits from running their business, including gaining control over their destiny, differentiating products or services to serve individual customers (i.e. mass customisation), reaching their full potential, reaping unlimited profits, contributing to society, and doing what they enjoy (Scarborough & Zimmerer, 1996).

Thai SMEs represent 80% of the country's industrial producers and account for 70% of all employment (Bunyamanee, 2001). They thus may be able to give a great boost to the Thai economy in many ways. In addition, the demand for handmade and natural products is increasing. According to the WTO (1999), consumer products such as ceramics, hand-woven cotton and silk textiles, wooden toys, and leather products are valued at over 81 million dollars per year, with a growth rate of 15-20 %. Ceramics and hand-woven textile are two main export products, with a value of 173 million dollars per year (i.e. 3.5 percent

of the world market). Although the market shares of other products are about 0.5 - 1.0%, their potential growth rates are promising.

SMEs have been promoted as a means for Thailand to penetrate global markets with products and services involving unique skills despite the country's lack of capital for large investments and of human resources for technology-intensive production. SMEs seem to offer a way to tap the country's rich local wisdom and cultural heritage to produce various unique high quality products.

The Prime Minister advocates SMEs as a mechanism to drive Thai economy especially in such prominent industries as agriculture, gems, and tourism. He has a vision of the Thai product, which incorporates both high technology and local wisdom. Such products will strengthen Thai SMEs and help them gain sustainable growth and so support the Thai economy.

Thus, it is vital for SMEs to adapt themselves to new technology and apply it with local wisdom to generate distinctive products, which entirely fit world demand for products of nature and the human spirit. SMEs can be developed with the support of the public sector by such means as creating a greater variety of products, reducing costs by using technology, conducting research and development, decreasing dependencies especially for software, and creating recognised brand names.

Characteristics of Thai SMEs

As previously mentioned, definitions of SMEs vary according to an organisation's perception. According to the Committee for Economic Development, SMEs should have at least two of the following characteristics: their management is independent (i.e. they are managed by their owners), they obtain capital funds mainly from their owners or their relatives, they operate within domestic markets, and they are small compared with other enterprises in the same industry (Ryan, Roberth, & Hiduke, 1999). The specific characteristics of Thai SMEs are as follows:

1. Thai SMEs have few employees and these are flexible and able to change product lines and production processes and so are able to adapt themselves well to customers' requirements.

2. SMEs are able to initiate their business with low investment leading to low capital requirements, low burden of debt, and less relation to commercial banks.
3. SMEs use skill, mainly manual, in production, blending their own wisdom with new technology to produce diversified products to meet the world demand and world-class standards.
4. SMEs use local or domestic materials and the skills and know-how of local people. The use of imported materials and machines is minimal and limited to only where essential to enhance value and product lines.
5. Products are made on the basis of mass customisation rather than mass production to cope with a current situation and serve individual requirements. Products are unique, high quality, and meet the standards, health regulations, and laws of many countries.
6. SMEs perform an active part in their communities by employing local resources such as funds, people, and material.

Apart from the above characteristics, the usual stereotypes of SMEs are self ownership, close communication with staff and customers, simple organisational structure, high responsibility of the owner, and the relatively high failure rate (approximately 35 percent fail within 6 years of establishment) (Scarborough & Zimmerer, 1996).

Obstacles SMEs Face

Thai SMEs still confront many difficulties in competing with large enterprises and striving for a sustainable growth. The main obstacle is severe financial difficulties, including a shortage of working capital and unsustainable debt burdens. Many SMEs, especially those making handcraft products, have deficient fixed assets and do not use standard accounting procedures. As a result, they have difficulty obtaining credit from domestic financial institutions, and they have limited or no access to other sources of capital because they cannot afford the services of international investment banks (Asian Development Bank, 2000). Apart from financial problems, SMEs lack designers who are able to create products in line with world market demand, and their expertise in accounting and global marketing are deficient. Furthermore, although the government realises the importance of SMEs, its policies to support them are still vague.

Supportive Measures to Help SMEs Overcome Obstacles

Since capital shortage and lack of liquidity are main hindrances to their growth, SMEs have called for prompt action by the government in launching more credit packages through public financial institutions, supporting sound management and effective marketing operations, and promoting the use of modern technology.

The former government launched many programs to help SMEs. It passed the SME Promotion Act on February 18, 2000, and set up a venture capital fund to support promising SMEs. In 2000, the government established the Small and Medium Finance Corporation to increase its capital from 400 million to 4.4 billion bahts for the financial support of SMEs. Other public financial institutions were also encouraged to provide loan packages to SMEs such as the Bank of Thailand (6.57 billion), IFCT (9.23 billion), Bank for Agriculture and Agricultural Co-operatives (3.66 billion), Government Savings Bank (950 million), and Small and Medium Finance Guarantee Corporation (642 million). In addition, Small and Medium Enterprise Development was established to provide technological support and advice (Bunyamanee, 2001).

The present government is also a strong SME supporter. Many programs have been initiated such as the national asset management scheme (AMC), the setting up of an SME Bank, the one-product-per-*tambon* project, credit loans, and the one million baht circulating fund for each village. These programs will create a variety of niche markets, and strengthen SMEs, enabling them to become the backbone of the Thai economy (Bangkok Intelligence News, 2000; Krairiksh, 2001).

Assistance also comes from overseas. For example, the Asian Development Bank (ADB) has approved a US\$25 million equity investment for Thai SMEs. The fund is a part of the ADB's strategy to assist crisis-affected economies by restoring investors' confidence in Thailand, reducing the high debt-to-equity ratios of SMEs, and stimulating the Thai banking system to expand credit or provide new loans (Asian Development Bank, 2000).

ADVANTAGES AND DISADVANTAGES OF E-COMMERCE

Applying the e-Commerce strategy to SMEs in Thailand is in its infancy. Few enterprises use Internet technology and the World Wide Web for their business either for

communication, as a marketing medium, or for transactions. Small and medium-sized firms have suggested both advantages and disadvantages.

Advantages

Electronic commerce (e-Commerce) refers to all forms of transaction relating to commercial activities of both organisations and individuals that are based the processing and transmission of digitised data including text, sound, and visual images (United Nations, 2000).

The e-Commerce strategy is perceived to offer many advantages. One great benefit of online business is that it lowers the cost of information delivery and transfer. There are no expensive brochures, so publishing and postage costs are reduced.

Another advantage is that Internet technology can be used as a marketing tool. It is an inexpensive way of providing catalogs, and new products or services can be advertised on the Internet immediately. Customers can access business content provided on the WWW instantly an unlimited number of times anytime day or night. The Internet lowers the cost of market research. Potential or target customers can be reached in both local and international markets. Furthermore, an effective web site that is entertaining and which contains the information needed for buying decisions quickly enhances an organization's image and public recognition.

E-commerce offers greater returns on investment. Traditional storefronts are costly to build. The expenses include the purchasing or renting a premises, store decorations, labor, and products. On the other hand, the main expenses in setting up an online storefront is the fee paid to web designers for developing web sites. The amount involved in the latter case is substantially less than the former.

Further, online business may lower costs in the long run such as lower costs for business transactions and lower cost for customer services are suggested. From the service perspective, product support or customer services on the Internet can be accessed instantly 24 hours a day. Web technology can be used to improve customer services and reduce costs. Typically in the US, a live call agent of service transaction costs \$5, while a voice responding system costs 50 cents, and service via a web-based system might cost only few cents. A company may publish a web site detailing its products open for

customers to access 24 hours a day and including customer service systems which can capture customer action online and provide an assistant if customers have any problems.

Disadvantages

Various disadvantages are cited by enterprises experienced in using e-Commerce. These include technology problems, lack of resources to fully exploit the Web, lack of expertise in legal issues, lack of brand name recognition, the high cost of set up and maintenance, disadvantages when the product is a commodity, lack of personal contact, and no advantage of being part of a local community.

Low sales figures after e-Commerce implementation might be due to many factors related to competency, time, finance, marketing and technology. Most SMEs have limited experience with information technologies. Since there is a shortage of IT personnel and some firms are unable to update the web sites, they are dependent on web designers and Internet service providers, who may not be responsive to their particular problems. Some companies have encountered difficulties in designing web sites that are customer oriented. Further, some customers cannot find company web sites via search engines, decreasing the company's opportunity to establish contact with potential customers who are looking for their goods or services through the Internet.

Generally, the costs of e-Commerce set up and maintenance include infrastructure establishment, initial web design fee, and web site maintenance. Additional costs may include research, development, staffing, and promotion.

In Thailand, there is a shortage of expertise in legal issues. At present, there are a few guidelines, laws or regulations concerning e-Commerce or online business. In 2002, the Thai members of Parliament have passed two laws for information and technology. They include Electronic Transaction and Electronic Signature Laws (NITCS, 2002). The other two Computer Crime or Electronic Transfer laws have not been passed the Government meeting. Thus, online customers or suppliers still risk facing computer crimes (e.g. illegal access and use, data alteration and destruction, information and financial losses, and fraud).

Newcomer SMEs on the Internet may encounter online competitors who are the first movers. The web pioneer or large firms already have brand name recognition, cost

advantages, and more experience in personnel training and web management, and they may have a major market share. Newcomer SMEs have less chance to capture customers or to compete directly with them.

Traditionally, SMEs have advantages over larger firms in terms of having personal contact with customers, making specialty products or services for customers, being in a local community, and targeting niche markets. An SME might for example produce or market a single product in one geographical area. These markets are protected to some extent because their size is not big enough to be cost effective for large firms. Turning to online business might ease larger firms in penetration to local community and potential customers. Essentially, the Internet allows online business to enter niche markets at low cost. Niche market invasion occurs when the transaction costs are low. This will cause firms with large overheads to go into the markets.

SMEs AND E-COMMERCE IN THAILAND

SMEs perceive the Internet as a powerful technology that can be used as a sales vehicle. Therefore, e-Commerce is not only an additional storefront but also a must for competitive strategy and business survival because it helps SMEs to expand their marketplaces both nationally and internationally without limitation of time and geographical boundaries. This capacity for conducting transactions between firms across geographical space presents new opportunities for SMEs in many respects ranging from public relations, network creation to income generation (Fariselli, Oughton, Picory, & Sugden, 1997).

However, adoption of e-Commerce technology is not easy for SMEs because of they lack essential information and support to get started. Therefore, e-Commerce implementation requires the provision of information regarding potentials and advantages of e-Commerce development, costs, procedures necessary for implementation, and prospective customers (Araujo & Machado, 2001).

E-Commerce in Thailand may be initiated by Internet Service Providers (ISP). There are at least seven ISPs providing online shopping services dedicated exclusively to electronic shopping malls (e-malls) such as GoldSite (www.goldsite.com) of KSC, Shopping Thailand (www.shoppingthailand.com) of Loxinfo, and Hot Zone/Shopping

(www.samart.co.th) of Samart, for instance. These e-mails aim at facilitating additional services to their customers who use web-hosting services.

A survey of 656 participants from almost all Thai industries who attended a seminar held on 22-24 July 1999, revealed that only 28.94% of participants had developed e-Commerce capability for business transactions whereas 71.06% of them had not. However, approximately 92 % of them had a positive view of the importance of e-Commerce implementation. Since this seminar was held at the beginning of the adoption of e-Commerce in Thailand, despite the potential benefits, there were a lot of things most participants were unsure about. Therefore, they demanded that the government provide training programs dealing with security systems, technology use, law, and homepage construction. The main obstacles that must be resolved included increasing security of ordering systems, enhancing awareness, increasing network systems, issuing laws and rules on online transaction, and intensifying government support (Electronic Commerce Resource Center, 1999).

On the consumer side, what Thai customers purchase online is products that are otherwise unavailable, recently placed on the market, or tax-free. The main products are books, CDs, tapes, tickets and accommodations. Many Thais still hesitate to purchase online because they are not able to inspect products, lack confidence in payment and security systems, and feel uncertain whether they will receive what they order (Mayongpong, 1999).

Thus, enhancing motivation for online purchasing is crucial. The important motivational factors are consumer needs, product utility and product characteristics. First, consumer requirements can be fulfilled by reducing time for product selection and increasing convenience in searching, diversification, and availability of products and services. Second, utility factors consist of 24-hour trading, order tracking, and information comparison. Third, product characteristics in demand are famous brand names, image, reliability, new ways of ordering, convenience in payment, security in payment, and competitive prices (Mayongpong, 1999).

Many surveys have been conducted to find out about the characteristics of e-Commerce developers and users, readiness in e-Commerce implementation, obstacles, and supportive factors. Private sector organizations, government agencies, and research institutes have

applied this information to accelerate the diffusion rate of e-Commerce to help Thai SMEs. Information on the three main industries in Thailand: tourism, agriculture, and handicrafts, gives a broad picture of the e-Commerce of Thai SMEs (Electronic Commerce Resource Center, 1999). According to the surveys, SMEs are in the process of web site development. The tourism industry is the most active compared with agriculture and handicraft; nearly half (50.05%) of the SMEs in the tourism industry already have web sites. This may result from the fact that intangible information-based tourism products and services are more suited to e-Commerce transactions than the bulky tangible products of agriculture and handicrafts (Table 1).

Table 1: Progress in Web Site Development by SMEs in various industries

Web site activities	Agriculture	Tourism	Handicrafts
Operational	32.41	50.55	27.33
Work in process	31.02	27.47	29.33
No activity	33.33	14.29	38.67

Source: Electronic Commerce Resource Center, 1999; 2000; Koanantakul, 1999.

SMEs develop web sites for four main activities: advertising, ordering, payment and delivery. In all three industries, it is obvious that advertising plays an important role (Table 2).

Table 2: Web Site Activities of SMEs engaged in e-Commerce

Web site activities	Agriculture	Tourism	Handicraft
Advertising	91.43	16.48	82.93
Ordering	14.29	6.60	34.15
Payment	8.57	11	12.20
Delivery	5.74	N/A	N/A

Source: Electronic Commerce Resource Center, 1999; 2000; Koanantakul, 1999.

SMEs perceive various advantages from e-Commerce. Market and customer expansion is the most widely perceived advantage especially by respondents in the field of agriculture (90.74%). Other expected benefits are advertising and public relations, decreased

operational cost, increased sales and income, increased competitiveness, convenience, reduced work process, and image promotion (Table 3).

Table 3: Expected Benefits of E-Commerce

Expected benefits	Agriculture	Tourism	Handicraft
Market & customer expansion	90.74	69.23	85.33
Public relations and advertising	69.44	53.85	68.67
Reduced operational costs	63.43	47.25	55.33
Increased sales and revenues.	62.50	49.45	55.33
Increased competitiveness	60.65	50.55	47.33
Convenience and reduced work	57.87	52.75	56
Image promotion	55.56	48.35	46

Source: Electronic Commerce Resource Center, 1999; 2000; Koanantakul, 1999.

The main obstacles to e-Commerce development are lack of awareness, unsecured product ordering process, uncertainty about payment systems and security systems, lack of law support, poor communication infrastructure, no certification authority, and language problems. Lack of awareness is the main hindrance. Most participants revealed that they did not understand and lacked knowledge to develop e-Commerce (Table 4).

Table 4: Major Obstacles

Major obstacles	Agriculture	Tourism	Handicrafts
Lack of awareness	79.17	58.24	84
Unsecured product ordering process	68.06	49.45	47.33
Unsecured payment system	55.09	50.55	42
Lack of law	52.31	50.55	37.33
Poor telecommunication infrastructure	49.54	31.87	45.33
No certification authority	49.07	24.18	29.33
Internal impromptu	35.19	29.67	35.33

Language problems	26.39	31.87	44.67
-------------------	-------	-------	-------

Source: Electronic Commerce Resource Center, 1999; 2000; Koanantakul, 1999.

The success of e-Commerce is contingent upon Internet usage. Although the number of Internet users had increased substantially, the participants perceived that Internet was not in readiness for e-Commerce. Main problems concerning Internet use were low access speeds, insufficient relevant information, the lack of search engine systems, unattractive design, and the lack of systems for ordering and payment (Electronic Commerce Resource Center, 1999).

Recommendations for promotion and support e-Commerce are to provide training and seminars, to increase staff competence, to secure support from the government in terms of policy and funds, to enhance security of the system, to develop portal sites, and to establish e-Commerce branch offices in other regions to diffuse e-Commerce knowledge (Electronic Commerce Resource Center, 1999).

A CASE STUDY OF E-TOURISM IN THAILAND

This case study of e-tourism in Thailand is partly derived from the research conducted by the Thailand Development Research Institute (TDRI) in order to develop an e-Commerce master plan for the tourism industry for the Tourist Authority of Thailand (TAT). The study aims at providing general information on e-tourism, business models of e-Commerce for Thai SMEs, and impacts of e-Commerce on SMEs (Kao-Saad, Intrapairot, Tangkitvanitcha, Plangpraphan, & Kaewmesri, 2001).

General Information for SMEs e-Tourism

The technological structure Thailand has developed is at the beginning stage. In 2000, there were approximately 1 million Internet users (Tangkitvanitcha, 2000). A survey of tourists found that 24% of respondents used the Internet as a source of information for tourism. The Internet was third in rank, behind word of mouth and guidebooks. The most popular web sites were www.sanook.com, www.hunsa.com, and www.thailand.com, while the official web site of the Tourism Authority of Thailand (<http://www.tat.or.th>) ranked eighth among the tourism web sites. Approximately 80

percent of Internet respondents used the Internet to search for data, while 8.15 percent used it for online booking and less than 3 percent for on-line payment (e.g. accommodation, air tickets, and package tours).

Approximately 90 % of 512 foreign tourists used the Internet, and 22% of these Internet users used it to search for information before visiting Thailand. The Internet ranked third behind guidebooks and word of mouth as a source of information. The most popular web sites were www.lonelyplanet.com (53%), www.travelocity.com (11%), and www.expedia.com (9%).

E-tourism entrepreneurs in Thailand can be divided into two groups. The first group are those who run their traditional tourism businesses and developed web sites for public relations, providing information provision, and establishing additional storefronts. The second group are pure online tourism companies using Internet to connect with their customers.

A study of Thai entrepreneurs indicated that most of them are not ready to develop a complete e-Commerce. Most web sites are for web presence only. Few online reservation forms are provided because most SMEs still prefer making reservations via e-mail and facsimile to real-time e-Commerce. A survey of 206 tourism businesses revealed that many small and medium sized tourism enterprises did not have web sites (67.6% and 52.9%, respectively). The web sites were used for public relations (35.4%), reservation services (23.3%), and online payment (4.9%). Problems and obstacles for tourism e-Commerce were for the most part similar to those identified by previous research: lack of knowledge and technique for improving web sites, high costs, insufficient competence of IT people, lack of confidence in online payment, fear of imitation (e.g. routes, products, and services), legal problems, and difficulties with language and communication (Kao-Saad, Intrapairot, Tangkitvanitcha, et al., 2001).

An analysis of 150 Thai tourism web sites revealed that half of them were incomplete, inactive, or contained few data. The web sites only facilitated contact via telephone, facsimile and e-mail. Most interactive web sites were those of travel companies (80%), the rest being those of accommodation and car rental concerns. The main purpose for web site development was for public relations (71%) (Kao-Saad, Intrapairot, Tangkitvanitcha, et al., 2001).

Business Models of Electronic Commerce in Thailand

SMEs adopt e-Commerce based on their required business models such as e-shop, e-mall, e-auction, and third-party marketplace. An e-shop is established to promote a company's profile, goods and services, and then provide products directly to customers. An e-mall is virtual collection of shops providing various kinds of products and services. An e-marketplace is a common marketing front-end and transaction support to a number of businesses. Information brokers add value in searching, providing and packaging information and consultancy. In such virtual communities, value is added through communications and exchange of information between members or partners (Pereira & Fife, 2000).

The information derived from the study of Thai SME e-tourism can be classified into the following business models tours (Kao-Saad, Intrapairot, Tangkitvanitcha, et al., 2001).

Direct marketing. SMEs tend to develop their web sites in order to present and offer their products or services via electronic shops, apart from their traditional storefronts or distribution channels. Large enterprises not only sell their own products and services but also collect products from other suppliers or providers and resell to consumers under their trademarks (e.g. www.phuket.com). This business model gains income from sales and advertising.

Indirect marketing. SMEs who are unsure about their products and goodwill or lack marketing or technological knowledge develop their web sites by using the service of virtual malls or portal sites. E-malls and portal sites act as intermediaries between their members and customers. For example, many budget hotels in Thailand have their web pages hosted by www.thaihotel.com.

E-distributor. Some businesses develop portal sites or e-malls as a centre for transactions between their members and customers. Customers are able to order via the web sites. The sites provide information, certify products, and are responsible for payment and delivery. Therefore, the web site hosts have expertise in their business lines. The expected income comes from brokerage fees, and advertising.

E-broker. These businesses develop web sites as portal sites or e-malls the same as e-distributors do. However, they are not responsible for transactions between members and

customers, certifying products, or payment. The web sites are only virtual intermediaries to introduce members to customers. In general, members are responsible for transactions themselves. E-brokers receive commission fees from transactions and advertising. The major web sites in Thailand prefer to be e-brokers to e-distributors (e.g. www.Thai.com, www.Siamguru.com, and www.Thailand.com).

E-marketplace, or virtual corporation, or networking between business partners. An e-marketplace is collaboration among many companies or partnerships in which costs, resources, and expertise are shared in order to achieve success in selling products and services. The companies may be in the same or different industries. For example, tour operators may be in alliance with travel agencies or suppliers and at the same time co-operate with banks and credit companies for payment facilitation, with insurance companies for security, and with transportation companies for delivery. The e-marketplace is an ideal business model of SMEs for each industry in the future (e.g. www.Tourismthailand.org for the tourism industry, and www.ThaiEcommerce.Net for export).

Content creation. The main purposes of this business model are public relations, advertising, and providing correct and up-to-date information. Thai content creators may not aim at selling their content because of low quality content for sales and easy imitation. For example, the official web site of TAT (i.e. www.tat.or.th) and www.sabuy.com provides useful content for tourists. Many SMEs develop their web sites based on this business model.

Most SMEs develop their web sites by becoming a partner or a member of a reputable portal or e-mall. A portal is a web site or service providing an initial point of entry to the web. It offers services and resources such as e-mail, search engines, and discussion forums so that members are able to provide visitors with updated information and services (Laudon & Laudon, 2000).

Portals and e-malls in Thailand are quite similar. Portals acquire members by providing information and facilitation for communication. E-malls provide members with trading facilitation. In the long run, portals and e-malls have to facilitate everything to enhance traffic and business opportunities. Popular general portals are www.sanook.com, and

www.hunsa.com whereas www.Sabuy.com is a well-known tourism portal site. The recognised e-malls for general products are www.Thai.com, www.thailand.com, and www.shoppingthai.com whereas www.phuket.com serves visitors mainly with tourism products or services.

The success of e-Commerce requires the study of business models to analyse directions for profit creation, trust enhancement, risk mitigation, and effective distribution of products and services. However, business models are always evolved based on many factors such as community expansion, technological progress, increased content, experience, and opportunities (Turban, Lee, King, & Chung, 2000). Therefore, there is no fixed criterion for the best e-Commerce business model. The most suitable one should fit organisational competencies in terms of human resources, level of technology, financial support, and business tasks.

Impacts of e-Commerce on SMEs.

It is estimated that the value of e-Commerce for the tourism industry will be no less than US\$10.8 billion US dollar in 2002. This amount will come from three main sectors: online airline tickets, accommodation, and package tours (IDC, 1999). According to WTO Business Council (1999), the Internet is widely used in four countries: USA, Germany, Japan and the United Kingdom (representing about 79% of 129 million worldwide Internet users). Since these countries are the major tourism markets of Thailand, there are good prospects for e-Commerce in the tourism industry.

There are, however, external factors that will have a negative impact on the Thai tourism industry unless it adapts itself to the new changing environment. Among these factors are changing consumer behaviour and taste of foreign tourists, advances in information and communication technology, and the intrusion of large major online tourism companies.

Young, well-educated, and informed tourists seem to have new types of behaviour and tastes. They use the Internet more intensely than other groups. Data and information, then, will become important factors for the tourism industry because customers will make decisions based on information. Since information becomes transparent, the low cost strategy, which is the major problem of Thai tourism, does not work well, compared with the strategy of product differentiation.

The advance of information and communication technology (ICT) will result in a market expansion leading to a change in the structure of tourism industry which will see the emergence of online tourism, bankruptcy of traditional travel agencies, and business alliances sharing information and resources. Technological change will provide good opportunities for tourism entrepreneurs to access numerous worldwide customers directly, accumulate products and services from various sources, customise their products to meet customers' requirements, and supply their customers within a short time. Yet, these innovations will expand the gap between large enterprises and SMEs.

Large online companies from overseas are expanding worldwide, and this will have direct impact on the Thai tourism industry, especially SMEs. Although large online enterprises such as Expedia (www.expedia.com) or Travelocity (www.travelocity.com) have as yet to expand to Thailand, medium-sized online companies such as Chan Brothers (www.BookNTravel.com) and Asiatravel (www.asiatravel.com) have already set up affiliated companies in Thailand.

The evolution of the tourism industry affected by e-Commerce will have impacts on tourism businesses. The World Travel Organization (WTO) indicates that many conventional tourism companies will change in the future (WTO, 2000). For example, travel agencies and tour operators, who act as traditional intermediaries, may be impacted if suppliers (e.g. hotels, transportation) employ e-Commerce for direct sales (i.e. disintermediation), or switch to use the service of major online tourism companies such as Travelocity (i.e. reintermediation). This may lead to decreasing market shares, fees, and revenues. Without preventive strategies, SMEs may lose their business in the long run, a situation similar to the Thai retail industry, where domestic SMEs are losing their market to large multi-national companies (e.g. Carrefour, Lotus and Seven-eleven).

Therefore, SMEs have to adapt themselves to the e-tourism environment. First, they have to focus their business to serve niche markets such as trekking tours, eco-tourism, or cultural tourism instead of competing directly with large enterprises for general markets (e.g. air tickets, accommodations, and car rental). Second, SMEs may have to join with large enterprises as subsidiaries to help them handle domestic business or niche products. Third, they must emphasize e-Commerce development, customer relationship management, mass customisation, product differentiation, and community involvement.

SMEs need to develop strategic plans specially for adopting e-Commerce. The plan should address issues like: customer patterns and customer behaviour on online shopping, choices of technology, policies and regulation, returns on investment, competition and globalisation.

In addition, SMEs have to beware many issues for e-Commerce development. All online products should be available in the physical store to prevent delivery delays that may irritate customers. Customers must be cared with good services because they demand for careful, interactive, and useful communication all the time. This requires Thai SMEs to train themselves in good etiquette in using Internet and in using English for communication. Creative promotion, ease of use, and simple functions are also highly demanded (Lohse & Spiller, 1998).

Since the revolution is ubiquitous, the government should set policies for e-Commerce development and create an environment for the private sector to flourish and survive in the competitive new economic climate. The policies include development and amendment of laws in such areas as electronic transactions, authentication, certification, security, fraud, and consumer rights, effective facilitation in the areas of telecommunication, finance, and interaction of commercial entities, and cultivation of confidence in e-Commerce use (Walters, Clayton, & Greenwood, 2001).

Furthermore, the government should provide opportunities for SMEs to set up their web sites without cost and to develop portals for Thai industries. The portals will be used for group discussion, directories, public relations, information provision, and ultimately transaction (Tangkitvanitcha, 2000). For example, Tourism Authority of Thailand (TAT) must develop a portal site to provide information for tourists and to support SMEs in the tourism industry.

The threat from e-Commerce has forced TAT to set a strategic plan to cope with e-Commerce in the future, and prevent Thai SMEs from losing their markets to the world class e-Commerce web sites. TAT has to be an intermediate for the Thai SMEs because they cannot afford for the set up cost of e-Commerce and lack knowledge for e-Commerce implementation.

In line with the vision of the “World-Class E-tourism” in the year 2112, TAT will issue a development plan for e-tourism to support SMEs. The plan will be implemented based on the following three main phases: a complete content provider web site within 1 year, a complete electronic mall (E-mall) within 3 years, and an electronic marketplace (E-marketplace) within 5 years.

CONCLUSION

This chapter discusses *the e-Commerce of SMEs in Thailand*. SMEs are vital to the Thai economy not only because of their numbers but also their ability to perfectly blend technology and local wisdom in a way fitting the nature and resources of the country.

The rapid change of information and communication technology is forcing SMEs entrepreneurs to make crucial decisions with regard to adoption of e-Commerce despite uncertainty of its actual benefits. SMEs are sometimes placed in a dilemma. If they do not provide e-Commerce they may lose their market share to rival enterprises which are online. However, the provision of e-Commerce does not assure complete success. A better understanding of the advantages and disadvantages would aid entrepreneurs who are going to start up web sites to make proper decisions.

At present in Thailand, the level of acceptance of using e-Commerce for business transactions is not high because there are few developed web sites. However, SME entrepreneurs realize the importance of e-Commerce as a competitive tool and are in the process of developing web sites. Therefore, there is reason to believe that e-Commerce may increase in the long run.

Thai SMEs develop web sites for four main activities: advertising, ordering, payment, and delivery. The main initial objective of Web presence is public relations. Beyond this, most SMEs hesitate to develop their web sites because they cannot cope with the many obstacles. These include lack of awareness and of law support, unsecured product ordering processes, payment systems and security systems, poor communication infrastructure, lack of a certification authority, and poor language competence.

The case study of e-tourism in Thailand reflects *the e-Commerce of SMEs in Thailand* clearly. From on the demand side, foreign tourists use e-Commerce as a common tool for searching information before visiting Thailand. However, based on the supply side, Thai

SMEs are not ready to develop a complete e-Commerce. Most web sites are used only for web presence with few online reservation forms.

The evolution of e-tourism will exert a negative impact on the Thai SMEs. Suppliers will tend to employ e-Commerce for direct sales or replace their traditional intermediation with major online tourism companies. Thus, SMEs may lose their business to their competitors in the long run.

Therefore, SMEs have to adapt themselves to suit the e-tourism environment by serving niche markets, becoming subsidiaries of large enterprises to handle domestic business or niche products, and focusing on customer relationship management, mass customisation, product differentiation, and community involvement.

In addition, support from the government will accelerate the e-Commerce development. The government should provide space for SMEs to set up their web sites at low cost, develop portals for Thai industries, provide sufficient facilities, training, and information, and resolve the macro problems such as law, tax, and security.

REFERENCES

- Araujo, J., & Machado, V. (2001). *Adopting E-commerce in SMEs: The common problems and training needs*. Paper presented at the BITWORLD Conference, Egypt.
- Arminas, D. (2000). UK firms slow to make use of e-procurement. *Supply Management* 5 (4), 12.
- Asian Development Bank, 2000. *Investment Fund to Support Small and Medium-Sized Firms in Thailand* [Online]. Available: <http://www.adb.org/Documents/News/2000/nr2000024.asp> [2000, March 16].
- Bangkok Intelligence News (2000). *Thaksin's trio plays entrepreneurs tune* [Online]. Available: <http://members.tripod.com/thanong/05182000.htm> [2000, May 18].
- Bonk, E. T. (1996). The information revolution and its impact on SME strategy: The Asia Pacific Economic Co-operative forum as a model. *Journal of Small Business Management*, 34(1), 71-77.
- Bunyamanee, S. (2001). *Small Business: Squeeze remains tight for most*. Bangkok Post, Economic Year-end 2000.
- Electronic Commerce Resource Centre. (1999). Awareness and requirement of E-commerce [Online]. Available: <http://www.iecommerce.or.th> [2001, March 12]

- Electronic Commerce Resource Centre. (2000). ECRC survey: E-commerce and tourism. Electronic Commerce Newsletter, 2(3),4-5.
- Fariselli, P., Oughton, C., Picory, C., & Sugden, R. (1997). Electronic commerce and the future for SMEs in a global market place: Networking *opportunities and public policy* [Online] Available: <http://europa.eu.int/ISPO/ecommerce/sme/reports/ecfuture.htm#conclusion>.
- Hirunkitti, S. (1999). *Small Business management*. Bangkok: Teera Film and Cytex, Ltd.
- IDC. (1999). *IDC forecasts strong growth in e-Commerce for travel industry* [Online]. Available: <http://www.idc.com/eBusiness/press/EBIZ022201pr.htm> [2000, December 17].
- Kao-Saad, M., Intrapairot, A., Tangkitvanitcha, S., Plangpraphan, J., & Kaewmesri, T. (2001). *The master plan of e-commerce for Thai tourism industry*. Bangkok: Thailand Development Research Institute Foundation.
- Kleindl, B. (2000). Competitive dynamics and new business models for SMEs in the virtual marketplace. *Journal of Developmental Entrepreneurship*, 5(1), 73-85.
- Koanantakul, T (1999). *Readiness of Thai Business in Electronic commerce activities*. Bangkok: National Electronic Computer Technology Center (NECTEC).
- Krairiksh, S. (2001). *Japan-Thailand Trade and Economic Committee* [Online]. Available: <http://www.thaiembassy.or.jp/economics/j-keidanren.htm> [2001, February 2].
- Laudon, K. C., & Laudon, J. P.(2000). *Management Information Systems* (6 ed.) London: Prentice Hall.
- Lituchy, T. R. & Rail, A. (2000). Bed and breakfasts, small inns, and the Internet: The impact of technology on the globalisation of mall business. *Journal of International Marketing* 8(2), 86-97.
- Lohse, G. L., & Spiller, P. (1998). Electronic shopping. *Communications of the ACM*, 41(7).
- Mayongpong, A. (1999). *Factor affecting on motivation on buying product via Internet*. Master thesis, King Mongkut's Institute of Technology North Bangkok.
- McCue, S. (1999). Small firms and the Internet: Force or farce? *International Forum* 1, 27-29.
- NITCS. (2002). Thai Information Technology laws. National Information Technology Committee Secretariat. <http://www.nitc.go.th/itlaws/itlawss1/head1-3.html> [2002, August 2].
- Pereira, F. & Fife, E. (2000). *Meeting consumer needs on the Internet: Successful business model*. Center for Telecommunication Management, DCC 217

Marshall School of Business, University of Southern California and
University Park Los Angeles California.

- Phillips, W. (1998). Catering to divergent customers. *ABA Banking Journal*, 20(2), S3-5.
- Ryan, J.D., Roberth, J.R., & Hiduke, G.P. (1999). *Small Business: An Entrepreneur's plan (5 ed.)*. Fort Worth: The Harcourt Brace College Publisher.
- Scarborough, N.M. & Zimmerer, T.W. (1996). *Effective small business management (5 ed.)*. Prentice Hall: Upper Saddle River, NJ.
- Smith, M. (1997). Technology and trust. *Canadian Banker*, 104(6), 34-35.
- Tangkitvanitcha, S. (2000). *Creating capacity for competition of e-commerce: Policy recommendations* (Research Report). Bangkok: Thailand Development Research Institute Foundation.
- Turban, E., Lee, J., King, D., & Chung, H.M.(2000). *Electronic commerce: A Managerial Perspective*. London: Prentice Hall International, Inc.
- United Nations (2000). *Building confidence: Electronic commerce and development*. Geneva, United Nations Publication.
- Walters, D., Clayton, T., & Greenwood, A. (2001) Government support for e-business in SME's: A tool for regional development? *Communications of the ACM*, 41(7).
- WebAustralia. (1996) *Internet Banking* [Online] Available: <http://www.webaustralia.com.au/banking/brochures/folder/comm2.htm> [1996, August 3].
- WTO Business Council. (1999). *Marketing Tourism Destinations Online*, The World Tourism Organisation.

Arunee Intrapairot is a lecturer in Management Information Systems, Faculty of Business Administration, Rajamangala Institute of Technology, Thailand. She received her Master, and Ph.D. from Curtin University of Technology, Australia. Her research focuses on Decision Support Systems, System Dynamics, Multiple Criteria Decision Making, e-Commerce, and e-Learning.

Anongnart Srivihok received a Master of Science in Engineering Science-Computer Science from the University of Mississippi , U.S. and a Ph.D. from Central Queensland University, Australia. She is an associate professor at the department of Computer Science, Kasetsart University, a deputy director of the Office of Computer Service, a consultant at Institute of Promotion Science and Technology, Thailand. She regularly presents at international IT conferences, teaches both undergraduate and postgraduate classes in Computer Science and Information Systems. Her research interests are Decision Support Systems, Executive Information Systems, e-Commerce, e-Learning and e-CRM.