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# Critical Success Factors for E-commerce in Thailand: A Multiple Case Study Analysis

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## **ABSTRACT**

A number of developing countries have adopted e-commerce strategies in seeking to boost their economies and competitiveness to a new level. Thailand is one of these developing countries struggling to develop a successful e-commerce plan that will fit the needs of Thai markets. The goal of this research was to identify the critical success factors (CSFs) for e-commerce in Thailand. The researcher conducted detailed case studies of nine e-commerce companies from different industries in Thailand. Results showed that social behavior and national culture, more specifically issues pertaining to trust and shopping behavior, were critical to the success of e-commerce in Thailand. Hofstede's cultural dimensions could explain the phenomenon. The study also found that Thailand's infrastructure also played an important role in the success of its e-commerce development. The findings provided a framework to guide development of e-commerce ventures in Thailand and other developing countries with similar culture and infrastructures.

## **KEYWORDS**

Critical Success Factors, CSFs, e-commerce, developing countries, Thailand.

## **INTRODUCTION**

Thailand is one of developing countries endeavoring to find successful e-commerce business models suitable to its region. Unlike developed countries, the growth of e-commerce in developing countries has been restricted by various factors, such as business environments, inefficient infrastructures, and cultural factors, which pose significant challenges to e-commerce ventures. This might explain why successful e-commerce models from developed countries have not worked well in developing countries. Failed e-commerce ventures in Asia found themselves without viable business models (Crispin, 2001). According to Martinson's (2002), Chinese managers who adopted e-commerce business models from developed countries ended up being disappointed because those models did not work well in China. According to Elliott Yuen, Dream Asia Limited's Chief Executive Officer, Asian companies must develop their own e-commerce/e-retailing business models that are more suited to the region's disparate cultures (Computimes, 2001). The focus of this study was to identify CSFs appropriate for e-commerce in developing countries. The CSFs can provide guidelines for e-commerce ventures in developing countries as well for those planning to enter the developing country markets.

## **E-COMMERCE DEVELOPMENT IN THAILAND**

Thailand was selected as the representative developing country for the study of CSFs for e-commerce for three reasons. First, the Thai government viewed e-commerce as a way of gaining a competitive edge in the regional and global marketplace (Keretho and Limstitt, 2002). Second, the development of e-commerce in Thailand was moving in the right direction. The Economist Intelligence Unit (EIU) assesses e-readiness of the world's 60 largest markets using more than 100 qualitative and quantitative variables such as business environment and social and cultural infrastructure ("The 2003 E-Readiness", 2003). Ranked at 42 in 2003, Thailand's e-readiness was among the top three in Asia and the Pacific region, after South Korea at 16 and Malaysia at 33 ("The 2003 E-Readiness", 2003). Third, in spite of the challenges posed by Thailand's culture, business environment, underdeveloped infrastructure, it was found that many Thai e-commerce companies had successfully developed strategies to overcome those challenges.

## CRITICAL SUCCESS FACTORS

The concept of critical success factor (CSF) was first introduced in 1979 by John F. Rockart of MIT as an approach to defining the key information needed for top-level management (Rockart, 1979). Overwhelmed by reams of reports, executives tried to determine the most critical pieces of information contained in the reports so they could take the necessary actions and correct any problems that had arisen (Rockart, 1979):

Critical success factors... are... the limited number of areas in which results, if they are satisfactory, will insure successful competitive performance for the organization. They are the few key areas where “things must go right” for the business to flourish. If results in these areas are not adequate, the organization’s efforts for the period will be less than desired. (p. 85)

## CRITICAL SUCCESS FACTORS FOR E-COMMERCE IN DEVELOPED COUNTRIES

Due to the lack of CSFs from developing countries for e-commerce research, CSFs for e-commerce in developed countries were used as a tentative roadmap for the researcher to identify CSFs for e-commerce in Thailand even though CSFs for e-commerce in developed countries may not be suitable to explain e-commerce phenomenon in developing countries. The intent of this section is to review literature relating to CSFs for e-commerce in developed countries.

Duffy and Dale (2002) explained key activities considered critical to the success of e-commerce. Rogers (2001), and Keh and Shieh (2001) described CSFs for e-commerce in the online car insurance industry and online grocery retailing industries respectively. Phan (2003), and Phan and Stata (2002) identified the CSFs of e-commerce of Intel. Under the auspices of the Consulate General of Finland and the Finland Technology Center in Los Angeles, Godenhielm (1999) conducted interviews with experts in e-commerce to identify CSFs for e-commerce. The purpose of the report was to provide insight into U.S. e-commerce business in European and Finnish companies. Huff, *et al.*, (1999) described emerging trends of CSFs for e-commerce based on their experience and research into e-commerce companies. Several studies focused on success factors for B2B e-marketplaces (e.g. Kearney, 2000; Brunn, *et al.*, 2002; “Coming in to Focus”, 2000; and Cronin, 2001). Eid, *et al.*, (2002) reviewed existing literature to identify factors that influence the success of implementing B2B e-commerce marketing. Thornton and Marche (2003) reviewed the success and failure factors of traditional retail businesses as the basis for analyzing the failure of five high profile dot.com companies. Mahajan, *et al.*, (2002) tried to identify factors and/or characteristics of public e-tailers, which were profitable in their businesses. Chen, *et al.*, (2003) identified CSFs for e-commerce based on the case of a traditional retail company that successfully conducted e-commerce as a second business channel. Fiendt, *et al.*, (2002) and Chappell, *et al.*, (1999) conducted phone interviews with e-tailers to identify CSFs for their e-commerce activity, and outlined the best practices for competitive strategies in e-commerce. To systematically review CSFs across cases, CSFs are categorized according to e-commerce business activities. Table 1 shows the summary of CSFs for e-commerce.

## CASE RESEARCH METHODOLOGY

A case study approach was used to perform a detailed study of nine companies. In order to yield the most generalisable result, the subject companies were selected from different industries. This study also used the following 2x2 matrix, based on business focus and business format, to guide the selection of successful Thai e-commerce companies (Figure 1). Business focus refers to the source of a company’s main sale revenue by the end customer: either business-to-consumer (B2C) or business-to-business (B2B). Business format refers to the source of a company’s main sale revenue channel: either traditional brick-and-mortar channels (traditional-dominated channels) or online channels (online-dominated channels). The researcher asked the expert panel of professionals and academics involved in e-commerce in Thailand, to select at least two companies considered to be successful in each quadrant of the matrix. As a result, nine case companies were selected as described in Table 2.

CSFs	Huff et al. (1999)	Chen et al. (2003)	Keh & Shieh (2001)	Feindt et al. (2002); Chappell et al. (1999)	Godenhelm (1999)	Rogers (2001)	Mahajan et al. (2002)	Duffy & Dale (2002)	Eid et al. (2002)	Cronin (2001)	Brunn et al. (2002)	Kearney (2000)	McKensy & Company, CAPS Research (2000)	Thornton and Marche (2003)	Phan (2003) and Phan and Stata (2002)
Business Models	✓	✓		✓	✓			✓				✓			
Market Segmentation	✓		✓						✓		✓				✓
Well-designed Website	✓		✓	✓		✓		✓	✓	✓	✓				
Content	✓		✓	✓				✓	✓		✓	✓	✓		✓
Technology-related factors (speed, scalability, security)	✓		✓					✓	✓	✓	✓				✓
Marketing and Sales (type of products, sales force role, price, promotion)	✓			✓	✓			✓	✓					✓	
Customer/Vendor Relationship	✓	✓	✓	✓	✓	✓		✓	✓	✓				✓	✓
Order Fulfillment (logistics)			✓	✓				✓	✓					✓	
Qualified human resources		✓			✓				✓						
Financial control		✓	✓		✓			✓						✓	
Outsourcing/Partnership/Alliance		✓	✓	✓	✓	✓	✓				✓				
System Integration	✓	✓		✓		✓		✓		✓		✓			
Management Support		✓		✓			✓		✓					✓	✓
Trust	✓								✓						
First Mover Advantage			✓		✓						✓				

Table 1: CSFs for E-commerce in Developed Countries

	<b>B-to-C</b>	<b>B-to-B</b>
<b>Online-dominated channel</b>	<b>HotelThailand.com</b> <b>Thaigems.com</b> <b>Tohome.com</b>	<b>Siam Cement</b> <b>Pantavanij</b>
<b>Traditional-dominated channel</b>	<b>ThaiTicketMaster.com</b> <b>Naiin.com</b>	<b>Officemate</b> <b>Value System</b>

Figure 1: 2X2 Matrix

Subject companies	Industry	Description
1. HotelThailand.com	Online tourism industry	Leading online tourism in Thailand
2. Thaigems.com	Online jewelry industry	World's largest online gem store
3. Tohome.com	Retail industry	Leading online retail store in Thailand
4. ThaiTicketMaster.com	Ticket distribution industry	Largest ticket distribution company in Thailand
5. Naiin.com	Online bookstore industry	Leading book and magazines company in Thailand
6. Siam Cement	Cement and building material distribution industry	Largest cement and building material company in Thailand
7. Pantavanij.com	Electronic marketplace industry	Largest B2B electronic marketplace in Thailand
8. Officemate	Stationary industry	Leading stationary company in Thailand
9. Value System	Computer electronic wholesale industry	Leading computer electronic wholesalers in Thailand

Table 2: Description of Nine Case Studies

**RESEARCH FINDINGS**

The study revealed nine common CSFs for e-commerce across the 2x2 matrix.

**Industry Key Success Factors**

The subject of industry key success factors (KSFs) has been developed and discussed in the management literature (e.g. Ohmae, 1982; Porters, 1996; Boulton and Stanwick, 2002). Ohmae (1982) stated that KSFs were factors that were necessary to the success of any companies competing within the same industry group. Corresponding to the KSFs, a company uses existing skills/capabilities and/or develops ones in order to compete in the industry (Katelhohn, 1998). It was found that all subject companies met their industry KSFs. Hofer and Schedel (1978) noted that usually KSFs varied from one industry to another and normally depended on the economic, technological, and competitive characteristics of each industry. For example, Naiin.com provided large book/magazine selections, which was a key requirement for online booksellers. Pantavanij successfully recruited six of the largest conglomerates in Thailand, which in turn attracted a large number of suppliers. A critical mass or a large demand-supply relationship was a KSF factor for an e-marketplace.

**Convenient Websites**

All subject companies developed websites to provide convenient online shopping/business purchasing to their customers. Website access was quick. All subject companies offered large product/service selection, and, thus, designed their websites to be easy to navigate and product/service information was easy to find. Online transaction processes were intuitive involving only a few steps with clear instructions. In addition, All B2C subject companies offered a variety of payment methods to customers. The majority of Thai online consumers were not credit card holders. At the same time, they were still cautious about using their credit cards online. Thaiticketmaster.com and Tohome.com, for example, offered a variety of payment methods including e-payment, money transfer, pay through cell-phone, and pay at delivery. B2B subject companies' websites also provided value-added services, such as creating sale reports and downloading product documents for clients.

### **Reliable Internet Connection**

While there were several web-hosting companies in Thailand to choose from, the quality of Internet connection in Thailand was generally still unreliable. Nothing hurt Thai e-commerce ventures more than visitors not being able to access the web sites. Companies lost credibility and potential sales. According to Cement Thai, dealers wasted 59% of their time on communication from end-to-end due to the slow speed of the Internet. All subject companies carefully selected internet service provider/web hosting companies capable of offering reliable uptime, large bandwidth, and database technologies that could handle multiple entries, and that offered strong technical support. Successful Thai online merchants also looked at the popularity of web hosting companies to ensure that they had sufficient members and a steady growth of new members. The study found that subject companies such as Thaigem.com and HotelThailand.com used web hosting located in the US. Others, such as Cement Thai and Value System, used more than one web hosting company so that if one fails to provide service at any moment, another will provide service.

### **Online Security and Privacy**

With the increasing frequency of online fraud, the major concern of Thai customers was whether an online merchant was trustworthy and had the capability to protect credit card information from online intruders. All subject companies verified that security was critical to the success of e-commerce in Thailand. Secured Socket Layer (SSL) and Verified by Visa were two common techniques employed by the subject companies. They also made efforts to ensure that the policies describing website security and privacy were clear and easy to understand.

### **Strong Information Technology Capability**

Thailand still lacked qualified personnel in information technology (IT) who possessed strong e-commerce-related IT knowledge and experience. All B2C subject companies were among the early e-commerce adopters, and, thus, finding qualified IT personnel was a challenge. However, they successfully developed their in-house IT capability and skills required for e-commerce businesses. Since all B2C subject companies entered markets or implemented e-commerce business earlier than their rivals, their IT knowledge and skills gave them the competitive advantage over their competitors. According to Thaigem.com, number of Thai gem traders could not enter an e-commerce market due to the lack of IT capability. Some competitors tried to steal IT personnel from Thaigem.com. As for the B2B subject companies, they had strong IT departments and/or IT partners. Cement Thai, for example, spun off its IT department to establish the IT-One, a 50-50 joint venture between Cement Thai and Accenture, the leading U.S. consulting company. The joint venture allowed Cement Thai to gain world class e-commerce-related IT capability and skills. Like B2C subject companies, all B2B subject companies were also early e-commerce adopters in their industries. This allowed them to gain more knowledge and skills in e-commerce-related technical capability than their rivals.

### **Brand Name Recognition**

Thai customers were not heavy Internet users, and, thus, lacked awareness of specific e-commerce websites. The B2C subject companies promoted their websites through online and offline channels. Thaigem.com promoted its website through its retail store and tradeshows. Naiin promoted its online service through its retail stores. A strong brand name not only created Thai customer awareness, but also gave potential users confidence about an online merchant. As for B2B subject companies, the study found that they relied heavily on their sale and marketing teams to promote their e-commerce services. Cement Thai, Pantavanij, and Value System promoted their online services through their sale forces. Officemate promoted its online service through its catalogs, magazines, and delivery cars.

### **Competitive Prices/Promotion**

The B2C subject companies knew that Thai people loved to bargain. Therefore they tried to lure customers to their websites by constantly offering competitive prices and/or special promotion. For example, Naiin.com offered different online promotions that were different from retail stores' to encourage customers to shop at its website. Tohome.com offered variety of guarantee-lower-price merchandise. According to the CEO of Tohome.com, first time customers were usually concerned about the risk of online shopping on an unfamiliar website. The company used low prices and special promotions to offset the risk of online shopping and expedite consumers' buying decisions. After customers had positive experiences with Tohome.com, they were more likely to come back. In fact, the company had over 50% return customer rating. Competitive prices and promotion also played critical roles in B2B e-commerce. It was more convenient for clients to place orders through a familiar sale force, and they could negotiate prices. The e-commerce manager of Value System explained that the majority of clients would not be enthusiastic about placing online orders unless the company offered special online discounts and promotions. Cement Thai developed an online feature that allowed its vendors to submit a construction project proposal

for a volume discount. If a proposal is approved for a particular vendor, a separate online account was created; a discount was automatically applied to the vendor every time the vendor placed online orders for that project. This model allowed the company to encourage vendors to rely on its self-service website rather than on the company's call center and sale force.

### **Large Product Selection and Availability**

All subject companies provided a large product selection so Thai customers were more likely to find what they are looking for on their websites. For example, *Thaigem.com* was the largest online gem store in the world. *HotelThailand.com* offered not only large hotel/resort selection, but also variety of tour, car rental, and domestic air ticket reservation. *Tohome.com* offered variety of popular retail merchandises, from electronic products like laptop computers and digital cameras, to books, CDs, and DVDs. *Cement Thai* offered well over 50,000 cement-and-building materials on its website and *Officemate's* website contained over 8,000 stationary items. However, a large product selection will mean nothing if products are not available. For B2C subject companies, the convenience of purchasing products at retail stores in Thailand made the product availability critical to their success. Product availability was also critical to the success of all B2B subject companies. According to *Value System*, product availability was critical to its online service since the majority of online vendors because they needed merchandises immediately. An online ordering service allowed them to place an order at any time without waiting for a sales person. Most subject companies integrated their websites with their back-end operation, and thus allowed them to keep track of availability of their products and provide accurate availability information on their websites.

### **Order Fulfillment**

One of the major concerns of Thai customers was whether online orders would be delivered in a promised timeframe. While the Thai post office was often used for delivery, the researcher found that Thai customers did not have confidence in its service. When a shipment was delayed or damaged, a customer immediately lost trust in the online merchant. To overcome this problem, all B2C subject companies offered a variety of shipping methods including the post office, messenger service, and in-store pick-up. Business clients also desired assurance that merchandise was available and would be delivered on time. In many cases, merchandise was used as raw material or resold to clients' customers. If products are not delivered as scheduled, clients will lose business. The researcher found that delivery service could be a major challenge for B2B e-commerce ventures due to the inefficiency of Thai logistics infrastructure. The Thai post office lacked the capacity to implement large-scale business delivery. Moreover, third party logistics providers in Thailand were expensive, and only large B2B organizations could afford their services. *Value System*, *Cement Thai*, and *Officemate* had their own logistic networks, which allowed them to deliver merchandise around the country within a promised time frame.

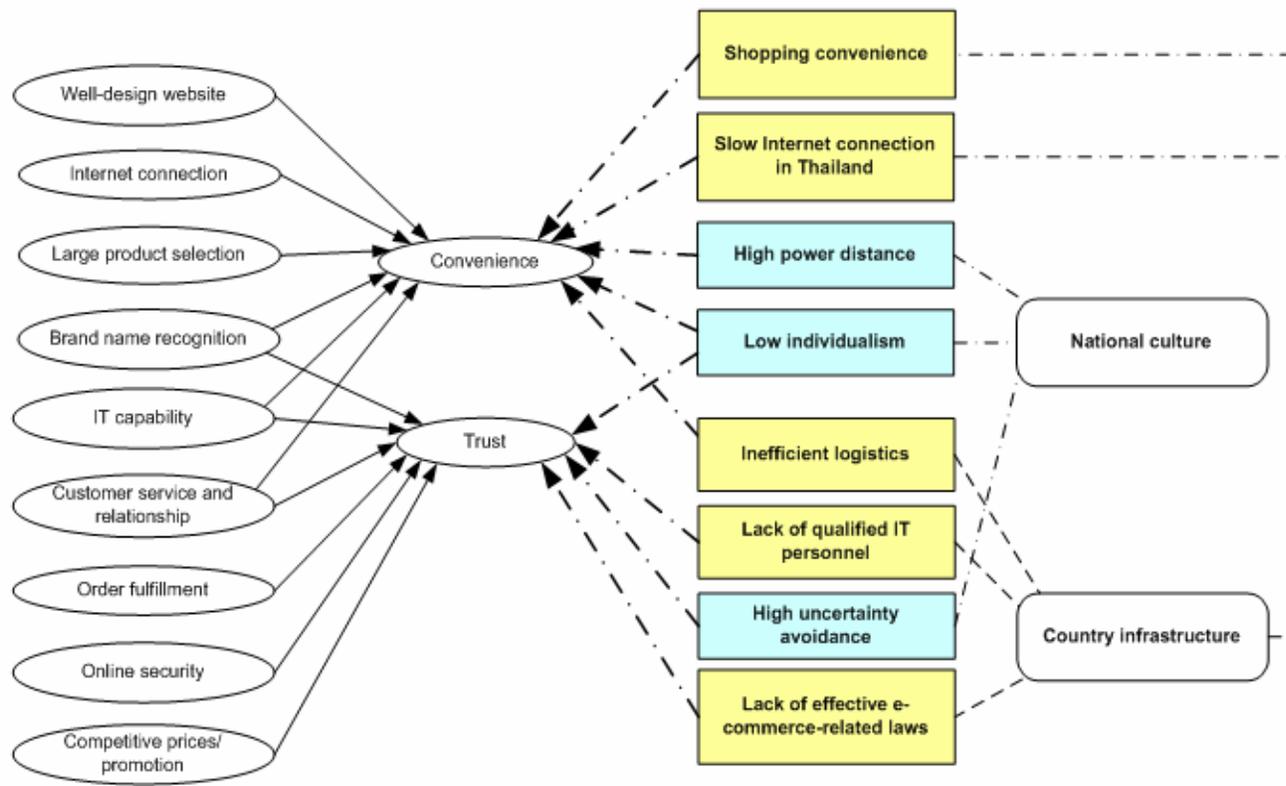
### **Customer Service and Customer Relationship**

Service plays an important role in Thai society. Customer service is used by Thai businesses to build personal long-term relationship with customers. Having strong customer relationships allows them to develop customer trust and create customer loyalty. According to the sale manager of *HotelThailand.com*, Thai customers felt that they developed connection with the company by talking with a customer service, which, in return, provided them with extra care and better offers. In most B2C and B2B subject companies, a call center and an online chat were common methods used to provide support. *Tohome.com*, for example, called first time customers to ensure that they felt comfortable with the company's online service. *Value System* and *Officemate* monitored their clients' online activities. When clients had any problems using their websites, the companies immediately assisted them through a phone call. Besides the call center, *Naiin.com* used the MSN chat to answer customers' questions about books/magazines, ordering processes, and return policy, and to build customers' confidence in its online service. The researcher observed that customer support and strong relationship with clients helped business clients facilitate adoption and implementation of an e-commerce system. In many cases, an online service often required some degree of systems integration with clients' backend systems and/or required clients to change their business practices, such as procurement processes. *Cement Thai* required its vendors to change their purchasing system and practices. Its long-term relationship with vendors facilitated this transition from the old to the new system and practices. Strong customer support was provided through the company's sale forces and online training. *Value System* used its sale force, which had strong relationships with vendors, to encourage customers to place orders through an online system. While vendors had to put more effort into learning how to use a new system in order to place online orders themselves, the sales force put more time and effort into develop marketing programs for them.

### **ANALYSIS OF THE FINDINGS**

At the current stage of e-commerce development in Thailand, the number of online customers was still low, and thus, the real challenge in conducting e-commerce in the Thai market was to convince Thai customers to shop online or use online

services. That was why subject companies focused their effort on factors directly related to customers. The researcher also observed that, except for industry KSFs, the other CSFs were influenced by two factors – Convenience and Trust (Figure 2).



**Figure 2: Influence of Thai Culture and E-commerce-related Infrastructure on the CSFs for E-commerce in Thailand**

Regarding convenience, the majority of Thai customers often compared the convenience of traditional shopping with that of online shopping. In Thailand, shopping was convenient because there were a large number of conventional shopping malls, super stores, convenience stores, and newsstands. A newsstand, for example, sold almost everything including books and magazines, cell phones, and food. There were numerous all-night retail stores. Thai customers could buy anything from anywhere at any time. As for Thai business clients, they preferred placing orders directly with familiar sale personnel through phone and fax to placing orders online. With one phone call, clients could negotiate prices or special offers. Sale personnel also happily provided services such as checking product prices and availability, and faxing product documents and invoices to clients. With convenience of traditional services, clients tended to resist changing their old habits of placing orders through a traditional system. In many cases, clients lacked experience in using an online service, which made it more difficult to convince them to place orders through online services. To convince customers to shop at its website or use an online service, an online merchant must be able to deliver a website that provides a similar or better level of convenience. The finding from the National Electronics and Computer Technology Center (NECTEC) survey supported this explanation. NECTEC conducted the Internet User Profile of Thailand<sup>1</sup> survey in 2003. The survey revealed reasons that prevent respondents<sup>2</sup> from online shopping (Table 3). Highlighted items show factors contributing to inconvenience for online shoppers. The same survey also revealed perceived problems concerning the Internet in Thailand (Table 4). Some of these problems caused inconvenience for online customers (Table 4). While the survey focused on Thai consumers, not business clients, the findings explain why the subject companies focused their effort on well-designed websites, Internet connections, large product/service selections, and brand name recognition. The choice of web hosting and the design quality of a website also affected the speed of website access. The subject companies tried to develop websites that had simple, intuitive transaction processes, and

<sup>1</sup> The survey received 21,049 responses from Thai Internet users.

<sup>2</sup> Out of 20,376 survey participants, 4,263 participants (20.9%) made online purchase at least once, and 16,113 participants (79.1%) never made an online purchase.

various payment and shipping methods. Large product selection allowed customers to save time locating what they were looking for in one place. Brand name promotion created customer awareness of the websites.

Reason against Internet Purchase	Frequency	Percent
1. Can't see/feel products	8,319	51.6
2. Don't trust merchandisers	7,660	47.5
3. Not interested	5,466	33.9
4. Processes are too complicated	5,007	31.1
5. Don't want to reveal credit card number	4,560	28.3
6. Don't have credit card	2,753	17.1
7. Concern for loss/damage	2,673	16.6
8. Don't want to wait for delivery	2,020	12.5
9. Expensive	1,499	9.3
10. Don't know websites for shopping	1,377	8.5
11. Don't want to buy import products	789	4.9
12. No interesting products	636	3.9
13. Others	229	1.4

(Source: Internet User Profile of Thailand 2003, p.79)

**Table 3: Reason Against Internet Purchase in Thailand**

Perceived Problems	Frequency	Percent
1. Speed	12,421	59.0
2. Virus	9,614	45.7
3. Junk mail	6,262	29.7
4. Pornography	4,556	21.6
5. Expenses	4,304	20.4
6. Web Search (Difficult to find a website)	4,003	19.0
7. Network reliability	3,905	18.6
8. Data integrity	3,883	18.4
9. Language	3,584	17.0
10. Impolite/inappropriate content	3,133	14.9
11. Lack of law for web-based business transaction	2,506	11.9
12. Hacking	2,174	10.3
13. ...	...	...

(Source: Internet User Profile of Thailand 2003, p.70-71)

**Table 4: Perceived Problems Concerning the Internet in Thailand**

The need for convenience was embedded within the Thai culture and can be best explained by Hofstede's (1991) national culture dimension. Hofstede (1991) gave Thailand 20 points on the 100-point individualism index (IDV)<sup>3</sup>. Individualism is the extent to which members of society look after their own interests rather than those of the group. A low score, as Thailand had, indicates that Thai society is more collectivist than individualist, whereas online shopping/business purchasing, compared to traditional practices, is more individual and impersonal. Moreover, Hofstede (1991) found that Thailand received 64 points on the 100-point power distance index (PDI)<sup>4</sup>. Power distance is indicative of a high level of inequality within a society (Hofstede, 1991). Hofstede explained that this inequality was not necessarily forced upon the population, but rather accepted by society as a part of its cultural heritage. This explained why service was critical to the success of Thai businesses. Online shopping and service, however, were self-service processes. The subject companies, thus, focused their

<sup>3</sup> With the DVI of 20, Thailand was ranked at 20, which was considered low among other countries. (The US: DVI – 91, ranked at 1).

<sup>4</sup> With the PDI of 64, Thailand was ranked at 21, which was considered high among other countries. (The US: PDI – 40, ranked at 38).

effort on customer service and relationship. By providing a call center, sales support, and online chat, customers could have direct communication with a company. This human touch made online shopping/business purchasing more personal and less individualistic.

Regarding the need for trust, Thai consumers did not trust unknown online merchants. They were concerned with the capability of online merchants to fulfill orders as promised. Thai customers frequently heard about online fraud, which undermined their confidence in the Internet. At the same time, they did not have confidence in Thailand's legal system or trust Thai banks to protect them from online fraud. They were concerned about whether they could trust online merchants and their capability to protect their privacy. For Thai customers, online purchasing was still considered a high-risk process. For business clients, the risk of using an online service was also high because some online services required a certain level of system integration or process change. In many cases, business clients had to commit to the service of a single online merchant. However, the majority of Thai business clients still had limited knowledge and understanding of e-commerce businesses and, thus, perceived risk over benefits of online services. The finding from the same NECTEC survey supported this explanation (Table 3 and 4). Among these items, the lack of trust in online merchandisers, concern about using a credit card online, concern about loss and damage, viruses hacking, and the lack of regulation contributed directly to the lack of trust on online shopping processes.

The lack of trust in online shopping/business purchasing could be explained by Hofstede's (1991) IDV index and uncertainty avoidance index (UAI). Thailand's low IDV score also means that relationships and connections play critical roles in this collectivist society. This explained why the subject companies used their customer service as a channel to develop relationship with customers. Hofstede (1991) gave Thailand 64 points out of 100 on the UAI<sup>5</sup> index. Uncertainty avoidance indicates a society's level of tolerance for uncertainty. In an effort to minimize the level of uncertainty, society tries to control everything in order to eliminate or avoid the unexpected. As a result of a high uncertainty avoidance characteristic, a society does not readily accept change and was risk averse. Online shopping/business purchasing requires new behaviors that could be considered as risk-taking. This explained why the subject companies focused their efforts on brand name promotion, online security, technical capability, order fulfillment, customer service and relationship, and competitive prices/promotion. Brand name recognition and strong technical capability could build customer confidence about an online merchant. Online security gave Thai customers assurance that their information would be protected. More importantly, they kept their promise about filling orders within a promised timeframe and, in return, established trust with customers. Strong IT capability gave clients assurance of the quality of e-commerce services. Good customer service led to long-term relationships, which helped establish trust with customers. Even though competitive prices and promotion did not directly establish trust with customers, they were used as incentives that offset the risk of online transactions.

## CONCLUSION AND APPLICATION

The study examined ten CSFs for e-commerce in Thailand: industry KSFs, well-designed websites, Internet connection, IT capability, large product selection, online security, brand name recognition, competitive prices and promotion, customer support and relationship, and order fulfillment. Except for industry KSFs, the remaining CSFs were influenced by convenience and trust. The framework for CSFs for e-commerce in Thailand was developed (Figure 2). The framework could be used as a guideline for Thai e-commerce ventures and Thai government to focus their resources and effort on the right areas of e-commerce development. The framework could also be applied to other developing countries with similar e-commerce-related infrastructures and national culture. According to the United Nations Conference on Trade and Development (UNCTAD; 2002), inefficient e-commerce-related infrastructures were common among developing countries. A study conducted by Price Waterhouse Coopers of SME Electronic Commerce in Asia Pacific in 1999 revealed that trust and confidence were major inhibitors in the adoption of e-commerce by small-to-medium enterprises (SMEs) in low GNP countries such as Thailand ("APEC's SME", 2002). Security, legal concerns, and liability issues were all identified as critical concerns for SMEs. In addition, there are a number of developing countries with similar Hofstede cultural dimensions. Table 5 shows examples of developing countries with similar cultural dimensions. For example, China had the same level of IDV as Thailand, which means that China is a collectivist society, where relationships and connections play critical roles in Chinese businesses. Martinsons (2001) found that institutional deficiencies played a major challenge in e-commerce development in China. Successful Chinese e-commerce companies responded by developing or leveraging relationships with involved parties, such as government agencies and banks, upon trust and mutual benefits. Their connections enabled them to overcome regulatory, financial and logistic issues.

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<sup>5</sup> With the UAI of 64, Thailand was ranked at 30, which was considered high among other countries. (The US: UAI – 43, ranked at 46).

Country	Power Distance Index (PDI)	Country	Individualism Index (IDV)	Country	Uncertainty Avoidance Index (UAI)
Thailand	64	Philippines	32	Thailand	64
Brazil	69	Mexico	30	Ecuador	67
India	77	Malaysia	26	Czech Republic	74
Indonesia	78	Thailand	20	Brazil	76
China	80	China	20	Venezuela	76
Mexico	81	Indonesia	14	Columbia	80
Malaysia	104	Venezuela	12	Mexico	82

(Source: [www.geert-hofstede.com](http://www.geert-hofstede.com))

Table 5: Examples of Hofstede's Cultural Dimensions in Developing Countries

The CSFs for e-commerce found in this research might change in time when the number of Thai customers increases, customers embrace online lifestyle, or e-commerce-related infrastructures are improved. As a result, these factors might be no longer critical and, thus, e-commerce ventures focus their effort on more critical areas. For a future research opportunity, it will be interesting to continue investigating how CSFs for e-commerce in Thailand have evolved in time.

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