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## What Prevent B2B eCommerce Adoption In Developing Countries?: A Socio-Cultural Perspective

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### Abstract

*It is widely believed that B2B e-commerce will help firms in developing countries to reduce cost and to improve their access to global market. Yet, developing countries are still some way from success in their adoption of B2B e-commerce. This paper explores social and cultural perspectives that impact on B2B e-commerce adoption in developing countries. Interviews were conducted with key informants from various industries in Thailand. Some common problems related to social and cultural issues faced by industries are presented. It was found that even though B2B e-commerce was implemented in many firms, its use was still very limited. Firms do not feel that they have benefited much from B2B e-commerce adoption. The problem identified is that the immediate social and cultural expectations of e-commerce users in Thailand are not being met by e-commerce technologies. It appears that technologies that have evolved from Western society are designed to meet needs that do not necessarily exist in the commercial environment of Thailand.*

### 1 Introduction

Internet based business to business (B2B) electronic commerce<sup>1</sup> has been predicted to be a new driver of economic growth for developing countries, (Kraemer et al., 2002; UNCTAD, 2001; UNCTAD, 2002a, UNCTAD, 2002b; Humphery, 2002; Humphery et

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<sup>1</sup> Internet based B2B e-commerce defined by this research is limited to B2B e-commerce platform based on Internet and the World Wide Web (WWW) and excludes Electronic Data Interchange (EDI).

al., 2003). This has promoted a new hope for developing countries<sup>2</sup> to exploit new areas of competitive advantage and to leap-frog other economies through Internet-enabled social and economic development. In theory, this presents great opportunities to business organizations in developing countries to gain greater global access and reduce transaction costs (Kraemer et al., 2002; UNCTAD, 2002a; Humphrey et al., 2003). However, previous research has found that developing countries have not derived the expected benefits from B2B e-commerce (Pare 2002, Humphrey et al. 2003, Tregurtha and Vink, 2002). Consequently, there is still doubt about how B2B e-commerce will actually lead firms in developing countries to new trading opportunities (Humphrey et al. 2003, p.i). Thus, understanding B2B e-commerce adoption has become an important issue.

Much of research into e-commerce adoption concludes that the lack of technological infrastructure is the main barrier to e-commerce adoption and the key priority for developing countries is to ensure that their citizens have access to the Internet at a reasonable price (UNCTAD 2002a, p.11; Gibbs et al., 2002). On the other hand, the literature on the digital divide problem generally concludes that the divisions that prevent productive use of Information and Communication technologies (ICTs) are more than technology and also include cultural factors (Gurstein, 2003; Jussawalla, 2003, p.4; Kling, 2000; Tibben, 2003). According to Kling (2000, pp. 258-259) overcoming the digital divide problem, means that both “technological infrastructure” and “social infrastructure” must be considered. The little evidence that is available suggests the need for further research. In particular, the area of B2B e-commerce adoption in developing countries in relation to social and culture aspect requires further investigation.

This report addresses this gap. It focuses on the use of Internet based B2B e-commerce which scopes the use of the Internet and related applications to support business. This study provides empirical evidence and discusses how Internet based B2B e-commerce fails or enables firms in Thailand. We investigate a relationship between social and culture aspect and Internet based B2B e-commerce adoption. Various industries and key informants enabling B2B e-commerce in Thailand were interviewed. The results of this study indicate the impact that cultural factors have on the adoption of B2B e-commerce in developing countries.

## **2 Theories And Framework**

Although, there are number of studies that examine e-commerce adoption (Zhu and Kraemer, 2002; Kraemer et al., 2002; Humphrey et al., 2003; Rokhman and Finley, 2002; Gulledge, 2002; Clarke and Flaherty, 2003; Standifer and Wall, 2003); it is note worthy that what is missing in this area is a framework that is specific for B2B e-commerce adoption in developing countries with a cultural perspective. Hence, this research adopts a culture theory that has been widely used in related research areas such as IT adoption and e-commerce adoption. Hofstede’s national culture theory is selected.

Hofstede, one of the most famous scholars in the area of culture research, identified and validated five independent factors of national culture differences. These are power distance, individualism, masculinity, uncertainty avoidance and long-term versus short-

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<sup>2</sup> Developing countries is defined by the World Bank (2001) as “low and middle-income countries in which most people have a lower standard of living with access to fewer goods and services than do most people in high-income countries. There are currently about 125 developing countries with populations over 1 million; in 1997, their total population was more than 4.89 billion”. Economies are divided according to 2002 Gross National Income (GNI) per capita, calculated using the World Bank Atlas method. The groups are: low income, \$735 or less; lower middle income, \$736 - \$2,935; upper middle income, \$2,936 - \$9,075; and high income, \$9,076 or more (The World Bank, 2002).

term orientation. This idea was first based on a large research project that studied national culture differences across subsidiaries of IBM in 64 countries and there were 117,000 questionnaires from 88,000 respondents (Hofstede, 1997).

**Table 1:** Hofstede's National Culture Dimensions

<b>Factors</b>	<b>Description</b>
1. Individualism/ Collectivism (IDV)	Individualism pertains to societies in which the ties between individuals are loose. Collectivism pertains to societies in which people from birth onwards are integrated into strong, cohesive in groups.
2. Power distance (PDI)	The extent to which the less powerful members of institutions and organizations within a country expect and accept that power is distributed unequally.
3. Masculinity/ Femininity (MAS)	Masculinity pertains to societies in which social gender roles are clearly distinct. Femininity pertains to societies in which social genders roles overlap.
4. Uncertainty avoidance (UAV)	The extent to which the members of a culture feel threatened by uncertain or unknown situations.
5. Long term /Short term orientation	Values associated with Long Term Orientation are thrift and perseverance; values associated with Short Term Orientation are respect for tradition, fulfilling social obligations, and protecting one's 'face'.

These cultural factors by Hofstede are used in the data analysis process to find out how well the research data can be explained by these culture factors and to what extent that Hofstede's national culture theory can be adapted to this area of research.

### **3 Research Methodology**

A qualitative research method is used for this study, as it is best suited to research relating to social and cultural context (Rubin and Rubin, 1995; Travers; 2001; Creswell; 2003; Miles and Huberman, 1994; Punch, 1998; Gray, 2003). This study was conducted by using a case study research approach. Thailand, which is one the developing countries in the South East Asia region, was selected. A brief summary about Thailand and the reasons for choosing this case study will be presented. Then, the data collection methods will be discussed.

#### **3.1 Brief Summary On Thailand**

Since 1997, Thailand has faced a major economic crisis. The Thai government has acknowledged the importance of e-commerce. They are attempting to use e-strategies for economic transition by setting up the national IT 2010 development plan. Five areas that the Thai government supports are e-government, e-commerce, e-industry, e-education and e-industry (NECTEC, 2002a; NECTEC, 2002b; NECTEC, 2002c; NECTEC, 2002d; NECTEC, 2002e; ECRC, 2002; NSTAD, 2000). According to a recent national e-commerce survey in 2001 by NECTEC (2002a), there are a total of 6,460 Thai websites. Among those websites only 3,765 are active and accessible websites. 88.85% (3,335 websites) of these websites are mainly used for promotional purpose only. Compared to the year 2000 this represents only a 1% increase towards adoption of e-commerce strategies.

To date the Thai government's policies have concentrated on building technological infrastructure (NECTEC, 2002b; NECTEC, 2002c; NECTEC, 2002d; NECTEC, 2002e; ECRC, 2002; NSTAD, 2000; NITCS, 1999). Interestingly, Dr. Thaweesak Koannatakool, director of national electronics and computer technology centre of Thailand in the Joint UNCTAD-UNESCAP Asia-Pacific Regional conference on e-commerce strategies for development, points out that access to technologies including basic telecommunications, hardware and software is not a major problem in the adoption of the Internet in Thailand. More important is the challenge of how Thai companies can adapt knowledge and technologies to maximize the benefits for social and economic development (Koannatakool 2002, p.13). Similarly, research by Gray and Sanzogni (2004) of national e-commerce plans and strategies in Thailand led them to state "How do you change cultural impacts on technology developments? seems to be the real and imposing question in Thailand". However, there is little further investigation on this issue.

### 3.2 Data Collection Methods

The data collection method employed by this study is in-depth interviews. The data was collected by a fieldwork study in Thailand for one-month period during June to July 2003 by the author, who is a native of Thailand and has experienced working in IT consultant area in the region. Before visiting organizations, each of the interviewee was preliminarily contacted and they received a list of guideline question. Each interview is approximately an hour.

The 21 key informant interviews were conducted in Thailand with various industries sectors such as manufacturing, tourism industries, banking, e-security services provider (see Table 2). The majority of the interviewees are top managers such as Chief Executive Officer (CEO), founder, marketing executive, presidents, vice presidents of organizations or at least the divisions that support e-commerce of an organization. In addition, we also interviewed research scholars who have the expertise in this area and government officers who involve in the development of e-commerce in Thailand.

**Table 2:** Shows The Number Of Interviews By Industry

Types of interviewees	Numbers of interviewees	Numbers of organizations
Banking industry	3	2
Manufacturing industry	5	4
Manufacturing: B2B e-marketplace	2	2
Research scholars	2	2
Tourism industry: B2B e-marketplace	3	1
Government institution	3	4
Security service provider	1	1
E-payment service provider	1	1
Retailing	1	1
Total	21	18

The interviewees were asked about their firms' e-commerce operation except for the research scholars and government officials. Firstly, they were asked about scope and e-commerce applications that they have implemented and future plans. Secondly, we asked them to recall the general problems that they encountered from using Internet based B2B e-commerce. Then, we specifically discussed the social and cultures issues by using a framework from Table 1. In this stage, we seek to understand whether there is a relation between social and culture factors that can impact on technology implementation.

## **4 Key Findings**

This section discusses the key findings that we gained from the interview. The findings are presented in two main parts. Firstly, we present how Thai firms perceive the importance of e-commerce and to what extent they have implemented B2B e-commerce. Secondly, we discuss in details how and why social and culture factors impact on the adoption of B2B e-commerce in Thailand.

### **4.1 Overall B2B eCommerce In Thailand**

The interviews revealed that all of these firms have an awareness of the importance of e-commerce and the potential impact on their organizations. Together with the support from the government such as setting up a National IT plan 2010, firms have realized that e-commerce will change the way they do business (NECTEC, 2002b; NECTEC, 2002c; NSTDA, 2000). They know that they have to do something about it. In addition, with the expectation that firms will gain benefits from global market access and reduce cost some firms have started to implement e-commerce technologies into their organizations.

There are a few forms of B2B e-commerce being used in Thailand. However, in our study, the primary use of B2B e-commerce is limited to e-mail. E-mail is used for exchange information between trading partners. In addition, e-bidding and e-auction has been introduced to the organizations. Furthermore, industry market leaders acted as the first movers by setting up B2B e-marketplaces such as [pantavanich.com](http://pantavanich.com), [tourismemarketplace.com](http://tourismemarketplace.com), and [foodmarketexchange.com](http://foodmarketexchange.com). Buyers and sellers conduct trade assisted by an intermediary. However, the problem expressed by interviewees who are the technologies providers such as e-marketplaces is that there are very low online activities.

### **4.2 Social And Culture Issues**

Although there is some evidence supporting the importance of culture in e-commerce adoption in Thailand, the interviews show that both industries and government sectors have not considered these issues when building B2B e-commerce strategies. Many Thai organizations are trying to build the physical infrastructures to support the development of e-commerce and mimic e-commerce models from Western countries. The interviews with the government officials on national ICTs projects revealed their main concerns were how to develop the modern technologies. There is no government research centre and little research concerned with the impact of social infrastructure (such as culture issues) on the success in designing and implementing e-strategies in Thailand. The common culture related issues faced by interviewees follows.

#### **4.2.1 Trust And Control**

Thai society has a large power distance which is constructed by a high hierarchical structure and centralized control. This can be seen in family life where father has the most power. Children, students and subordinates are taught to show their respects to superiors. In addition, harmony and maintaining face are very important (Hofstede 1997, p.35-38).

These hierarchical relations are also a feature of the work where boss has the absolute power. Questioning or arguing the supervisor's works shows disrespect. Many interviewees said that there was a big gap between boss and subordinate where subordinates are afraid to propose new ideas if it most likely to be different from what is in their boss's mind. One of the interviewees is an expatriate European working as a senior management in Thailand expressed that

“Sometimes, I feel frustrated in working with Thai staff. Our work is related to the Internet and requires creativity and independent working environment. I am not saying that they their work is not good. But they have to wait for me to tell them what to do and they fear to approach to tell me their ideas.”

Thus, the decision making process is usually often executed in a top-down fashion. As indicated in the interview just quoted, this can stifle creativity. In addition, many of top management in Thailand are from the older generations who have little knowledge about e-commerce. This suggests that the context for the adoption of new methods such as e-commerce adoption is far from ideal.

According to Hofstede (1997, p.27), power distance reveals the extent to which less powerful members of a society expect and accept that power is distributed unequally. Hofstede's power distance can explain the low level of trust in Thai's society and its relation to the adoption of B2B e-commerce. This is confirmed by other research that states that Thai society has a hierarchical structure and centralized control which reflect characteristics of a low trust society (Thanasankit, 1999; Fuguyama 1996, p.31). The low trust society is generally works within a series of bureaucratic rules and less flexibility in the working environment (Fuguyama 1996, p.31). This results in less innovativeness and inhibits information flow. In addition, a study by Shane (1992) also confirms that a society that has high hierarchical tend to be less innovativeness than a non hierarchical society. Hierarchical societies tend to have control systems based less on trust, and more on rules and procedures.

The hierarchical nature of family life and work-life within Thai society is confirmed both by the interviews and other research. The specific factors that contribute to these cultural characteristics are explained sufficiently well by Hofstede's model.

#### **4.2.2 Motivation**

The interviews with managers selected for the study focused on their motivations for adoption of B2B e-commerce. We found that motivations to adoption of e-commerce can be categorized into three areas: forces by trading partners; free services; and company image.

Firstly, some firms were coerced to adopt e-commerce systems they now use. Such coercion can come from internal and external forces. Internal factors can take the form of overseas parent companies. In one example of internal forces, one company was forced to adopt B2B e-commerce arrangement because it was ordered by the company's head office in the US. The benefits from this change have largely been absent from the local

operations though better cost accounting measures have proved to be useful for head office.

External factors can take the form of powerful trading partners and government projects. Eight of the interviewees said that they have implemented online systems such as e-bidding, e-auction and e-marketplace by pressure. For example, a large organization that is a market leader pioneered e-marketplace project forced trading partners to use online bidding system. If they do not use this new system, they cannot trade with them. Generally, participants need to pay extra online transaction fees and setup related costs. Companies then need to buy computers, Internet connections and skilled staff for bidding online. In addition, some government projects have began to introduce the online bidding system for contractor companies to bid for the best price. However, we found that companies prefer the traditional bidding method that involves less cost and makes better use of locally available skills.

For others, the motivation for participating in e-commerce is because it is free such as free email, free web space and free participate in e-marketplaces. For example, there are some projects initiated by governments or private companies that offer free entry to join e-marketplace and email. This case is normally found in small and medium enterprise (SME).

Thirdly, many firms have adopted B2B e-commerce because of company image. For example, many firms have built websites after they have seen what others have done. It is clear that, for some, having a websites is important in order to maintain a modern image against competitors.

The value that Thai culture places on the maintenance of face and image may explain why some have adopted e-commerce for reasons that cannot be directly related to business strategy. According to Hofstede's culture dimensions image and face are both characteristics of time-orientation and collectivism. Hofstede (1997, p.173) describes the characteristics of short-term orientation society as: concern with 'face'; expectation of quick results; and social pressure to keep up with someone else (even if it means overspending). In the collectivist Thai culture of Thailand, image, face, shame and belongingness are very important (Hofstede 1997, p.61). Similarly to companies' worldwide, Thai companies are probably using e-commerce to promote image. However, the knowledge of the dominant cultural traits of short- term orientation and collectivism also provides an important window on factors that detract from successful e-commerce outcomes in Thailand.

### **4.2.3 Lack Of Initiative**

From the interview, we found that many Thai managers prefer to use "Wait and See" strategy. They often said that *Lor Doo Pai Korn* (in Thai), which means that they would not adopt until they see a good result from other people. This also shows the lack of initiative role in the adoption of new technologies in Thai's society.

The reason why Thai's society lacks of initiative in adoption of B2B e-commerce may cause by an inadequate knowledge about e-business. From the interview, we found that many Thai people do not have a good understanding of this new technologies and new business model. An example is the interview with one of the biggest manufacturing in Thailand. This may explain why Thai manufacturing industry has a very slow uptake in e-commerce. According to a survey by Thai Electronic Commerce Resource Centre shows that only 1 to 2 percent of Thai's manufacturing industry has e-commerce system (NECTEC, 2002a).

Interviewer: Does your organization have e-commerce system?

Interviewee: Yes, we do.

Interviewer: What kind of online systems implemented in your organization?

Interviewee: Oh, we now have our website and we also have implemented full e-commerce system.

Interviewer: Can you give me some examples, please?

Interviewee: We have email and customers can order products online as well.

Interviewer: So, you have an online ordering system. How does it work?

Interviewee: Customer can order by using email and then my secretary will print the order and put it on my desk.

In addition, Hofstede's culture factors which are uncertainty avoidance and femininity can be used to explain the issue of initiative in Thai's society. Firstly, Hofstede refers to uncertainty avoidance where members can feel threatened by unknown situations (Hofstede 1996, p.113). If we consider a decision making process, people tend to make a decision by choosing an option that remove the difference between desired and actual outcome (Baird 1989, p.11-13). For e-commerce, the actual outcome is difficult to pre determine. The high degree of uncertainty tends to clash with Thai's society strong uncertainty avoidance. Thai people tend to use a conservative approach in conducting business and there is a high degree of resistance to change. Thus, it stands to reason that a strong uncertainty avoidance people are slower adopters of new e-commerce strategies.

In addition, Hofstede (1997, p.96) ranked Thailand as a country that has a strong femininity value. Thai's femininity value also can explain slow adoption of e-commerce. Femininity culture cares for others and quality of life, while masculinity culture dominates by success and achievement. Lor Doo Pai Korn expresses the characteristics of conservative "wait-and-see" way of thinking rather than taking the initiative.

#### **4.2.4 Importance Of Personal Network Contact**

Many interviewees, particularly in manufacturing industries, do not believe that B2B e-commerce will help their business to gain more business opportunities. Although, they have their own websites, most of businesses contacts are not from the web channel. According to the interviewees, many Thai managers are required to socialize with business partners especially customers to gain business contacts. It is a cultural factor to visit customers in person on the important occasions such as New Year and sometimes birthday. Gift exchange is an etiquette custom in Asia to maintain a good relationship, which is contrast to Western culture, where give is normally exchanged in between relative and family (Irwin 1996, p. 73). Thus, it is a common practice to visit suppliers and customers in person and organize activities such as golfing, business lunch or dinner to success in businesses.

For example, one of the companies, which is the US based company in Thailand, has a policy to implement e-mail in order to enhance communication method. It is no doubt that email works well in US; however, there are some unusual examples of email use in Thailand. One of the interviewees said,

"I have to use email because it is a company policy. Many of our clients and trading partners do not like to use email. They prefer fax or telephone. Sometime, I have to send email to clients, but I still need to make a call to confirm with them whether they have received it. Some of

them do not have emails or if they have, they do not check it in on regular basis. And it is a nature of our business that we always entertain clients after hour to get business contacts. For example, this evening, I have to entertain our clients. I have to use email to send him a document because my boss' policy. However, I can give him the document in person any way.”

In Thai's femininity society, maintaining a warm relationship with people is important (Hofstede 1997, p.96). Personal relationships including exclusive personal services, warm relationship and face-to-face contact are the fundamental to building trust and it is very important in doing business in Thailand. This contrasts to e-commerce models where face-to-face contact is minimized and self- service is promoted. A study by Thongeen and Speece (2002) on small and medium enterprise (SME) and e-commerce adoption in Thailand also confirms the importance of personal network in doing business in Thailand. Similarly, they pointed out that “connection” (this means personal network contact in Thailand) inhibits e-commerce adoption in Thai's society.

#### **4.2.5 Cost**

One of the prime benefits from implementing B2B e-commerce is cost deduction (Kraemer et al., 2002). Firms that implement Internet based B2B e-commerce reduce transaction cost in many ways. Berthon (et al., 2003) classified type of transaction cost that firms may benefits from Internet based commerce into six categories that are searching costs, information costs, bargaining costs, decision cost, policy cost and enforcement cost (see table 3).

**Table 3: Examples Of How Internet Based eCommerce Can Reduce Transaction Cost (Berthon et al., 2003)**

<b>Type of costs</b>	<b>Description</b>
Searching costs	Reduce time and effort in finding products, services and solutions, and potential suppliers and buyers.
Information costs	Buyers who wish to learn more about thermoplastics and what is available before purchasing previously would have had to read magazines and journals, talk to knowledgeable individuals and visit producers. They can now access company and product information easily and at no cost, obtain comparative product information and access suppliers on the Web.
Bargaining costs	Time normally taken by customer to negotiate can now be used for other purposes as intelligent agents transact and negotiate on the customer's behalf.
Decision costs	The cost of deciding over Supplier A vs. Supplier B, or Product A vs. Product B. Proprietary and/or comparative websites provide information on suppliers, products and services.
Policy costs	Previously, customers had to wait to receive statements and accounts, and then to check on paper for correctness. On-line ordering and billing allows buyers to check statements in real time.
Enforcement costs	When a problem exists with a supplier, how does the buyer enforce contractual rights? In the real world this would require legal assistance. Publicizing the infringement of rights would be difficult and expensive. Chat lines, bulletin boards and on-line media offer an easy and inexpensive way of making suppliers listen.

According to the interviews, most of the Thai firms use e-commerce for information only. Firms benefit from searching cost and information cost. However, for the bargaining and decision processes, most firms still prefer to use a traditional way to do business such as meeting and face to face contact. In addition, doing business online makes them feel insecure. For the policy cost, Thai people do not accept digital documents for official use. There is a hesitation in using digital documents such as online billing, online statement and online ordering. They prefer to see the hard copy papers with the stamp and signature.

Given example of email, the objective of email is to enhance a communication method with a very reasonable price. However, introducing email to some firms may result in increasing cost. Thai society is a low trust context. We learnt from interviewees that they prefer to use telephone and fax to make sure that recipients get the message. Many times they have to make a phone call to confirm with another party to ensure that they receive and read the message.

Another example is using online payment methods. Using online payment methods conflict with local people's life styles. Many people find that it is more convenient to use staff to do offline payment such as cash and walk in to the bank. Besides the security issue, we found that Thai people feel that it is easier to use junior staff to do this task rather than they have to do it online themselves. This is maybe because the cost of technologies here is relatively high and sometimes it is higher than a cheap local labor cost. One of the interviewee said,

“Why do I need to use online banking? It is complicated and I have to spend more time to process a transaction by myself. I think it is easier to use my messenger to go to the bank near by. It is more convenience to me.”

Thus, it can be seen that B2B e-commerce technologies are not likely to enable a cost reduction in Thailand. This finding is similar to findings by Pare (2001) which conducted an analysis on 117 B2B e-hubs in developing countries in South Africa countries, Kenya and Bangladesh. He found that these countries were not gaining much benefit from e-commerce as well.

The above examples show how Thai's life style, which refers to the common behavior in a society, conflicts with the way that B2B technologies operate. As a consequence many interviewees do not see how these technologies will help them to improve their businesses processes. In addition, Thai's society may be unfamiliar with B2B e-commerce technologies which evolve form Western's lifestyle. Generally, Western culture offers sharp contrasts to the traditional Thai culture. However, Hofstede's culture theory does not address the problem where cultures “clash” through technology – where needs of Thai businesses are different to the needs Western technologies are designed to meet. As a result, it is suggested that life style should also be included when analyzing B2B e-commerce adoption in developing countries.

#### **4.2.6 Language Barrier**

From the interviews, language is ranked to be a very serious problem. The issue related to language is important because it is a gateway of information and knowledge transfer in the digital age (Gloor 2000, p.5). English is a primary language used in many Western countries where new technologies originate. It is the predominant language for development of IT and e-commerce and it also the main language used on the Web (Chieochan et al. 2002, p.26; Perry and Schneider, 2001). English language represents 50

percent of Internet users (228 million), and it is expected to grow to 270 million in 2003 (Chalakornkul et al., 2001).

Thailand has never itself be colonized by Western countries. Thai people do not speak another language. Generally, the ability to communicate in other languages such as English, Spanish, Chinese and French are poor. In other words, no other countries speak Thai language except Thailand.

The impact of language barrier is found in B2B more than B2C. For B2C, Thai people do not have much problem in accessing to websites because there are many websites in Thai language. On the other hand, for B2B, businesses hope to use this new channel to access a global market. Ability to communicate in the international language such as English is necessary. The problem that Thai firms face is a lack of staff that has the ability to communicate in English. For example, we found that in Thai tourism industry, many tour operators do not want to use email and update their information on the web. They have email enquiries from overseas, but they have difficulty replying back in foreign languages.

An apparent gap appears in the study of role of culture on B2B e-commerce adoption in developing countries where language seems to be a significant issue. Although Hofstede does identify and discuss language, there appears a need to better understand of the role of language by more specific incorporation into the model (Hofstede, 1997).

## **5 Discussion And Conclusion**

The following discussion is classified into two main points. Firstly, the research findings from the case study are discussed. Then, the effectiveness of Hofstede's national culture theory is discussed. From this conclusions are drawn.

**Firstly**, the key findings drawn from the interviews relate to social and cultural issues on B2B e-commerce adoption. These were presented as six issues: control; motivation; initiative; personal network contact; cost; and language barriers. These issues demonstrated a sharp contrast between Thai culture and the needs that the adopted e-commerce technologies fulfilled. It can be seen that B2B e-commerce does not always help firms to reduce cost and gain business opportunities. In fact, it depends on how technologies are adapted to the local physical and social environment.

This study, therefore, confirms Koannatakool's (2002, p.13) assertion that access to telecommunication technologies and associated hardware and software is not in itself the primary barrier to the adoption of the Internet in Thailand. The fundamental problem of B2B e-commerce in Thailand cannot therefore be solely focused on technology. The research data tells us that the primary challenge that Thai companies face today is how to maximize the advantages from the technologies that are currently implemented. In general, Thai firms do not feel that B2B e-commerce helps their business to gain more business opportunities. Hence, this research shows that there is a relationship between culture value and the success of B2B e-commerce adoption in developing countries.

**Secondly**, this study finds that Hofstede's national culture dimensions can be used to explain many aspects of B2B e-commerce adoption in relation to Thai culture. However, there are some issues that emerge from the interviews that suggest further refinement of the framework is needed for the study of B2B e-commerce adoption in developing countries.

This research suggests that *language* should be incorporated better within Hofstede's culture dimension. Language is an important aspect of culture (Hall, 1973; Evers, 1999).

It is a communication tool to express feeling of the world around us. The study found that the ability to communicate in English language is important. Language holds a strong influence over the use of B2B e-commerce technologies in developing countries as the nature of B2B e-commerce enables global trading.

In addition, this research suggests that it is necessary to consider common use and familiarity of technologies in a society. This is referred to here as the *life style* factor. There are some cultures issues that could not be explained logically or yet understood why by researchers unfamiliar with the nuances of Thai culture. For example, while Thai people's reluctance to adopt online payment methods appears as irrational, it makes sense if one realizes that transactions performed in a face-to-face manner actually save time and money. This is why Thai businesses generally prefer to use messengers to do it for them.

Hence, it is found that e-commerce technology and business models evolved from Western countries, does not always work well with developing countries where cultures and business environment are different. It appears that cultural assumptions can be built into technologies (Hill 1988, pp.85-86) and when such technologies are transported to a foreign location a serious mismatch may occur. If one views language as being a tool the analogy of technology could be also applied to language. The absence of a specific function for technology or language in Hofstede's model indicates an area where further development of his model can occur.

The more immediate insights that can be drawn from this study are that Thai businesses should pay attention to the use of combination strategies between online and offline models when designing e-strategies. Social and cultural context can be used as a key variable to determine the extensive use of online and offline strategies and this needs future research.

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