Trust, Social Network and Electronic Commerce Adoption

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This paper uses an empirical case study methodology to examine the impact of trust within social networks on Thai SMEs’ adoption of electronic commerce (EC). In particular, the paper examines the significance of dispositional and experiential trust between social network members on EC adoption. The findings suggest that dispositional trust is a significant factor influencing the EC adoption for SMEs. These findings contrast earlier research arguing that EC adoption was significantly related to the quality and quantity of experiences amongst network members who had adopted EC adoption. The implications for government attempting to promote EC adoption by SMEs is that it has a strong role to play in informing business about the benefits of EC adoption if it is to promote its use.
INTRODUCTION

Globalization has caused major change in business in every country. The change of globalization has effects on environment, culture, and economic development. Technology is a primary driven force for this globalization, and its diffusion is affected by many factors. One way of examining diffusion is to use Rogers’ model. Rogers (1983) defines diffusion as “the process by which an innovation is communicated through certain channels over time among the members of social system” (Rogers, 1983). Innovation is an idea or object that is considered new. The new idea emphasized by Rogers’ work is technological innovation which is developed with the objective to reduce uncertainty in the cost-effect relationship involved in achieving potential outcome (Rogers, 1983). This is important because, to reduce the uncertainty, potential adopters have to seek relevant information in order to be able to justify whether to adopt or reject the innovation.

Innovative activity is claimed to be crucial to the growth of firms, especially Small and Medium Enterprises (SMEs) (Shane and Venkataraman, 2000). Innovation generally begins with ideas. If a firm can find the way to convert these ideas into original design and process that could contribute to the firm’s advantage then the firm is being innovative and is likely to grow and succeed (Amabile, Coon, Lazenby and Herron, 1996). According to Rogers (1983), in order to successfully adopt the innovative ideas such as Information Technology (IT), the information sources are very important because it helps reduce the uncertainty and build confidence to the adopters. Social network theorists have focused much attention on tie-strength in relations to the diffusion and adoption of innovative ideas. Granovetter (1973) argued that weak-tie, the infrequent interactions, were more likely to be sources of novel information because strong ties tend to have the same knowledge and information the seeker already knows.

The specific national setting for the examination of this research is Thailand. Wiboonchutikula (2001) argued that it is widely accepted that SMEs play a significant role in economic development; however there are not many studies available for the case of Thailand. One major reason is because the lack of data. In the year 2003, there were 2,006,528 enterprises in Thailand. Among this, 1,995,929 enterprises or 99.5% were categorized as SMEs (Mephokee, 2004). According to the regulations of the Ministry of Industry issued in 2002, SMEs can be categorized into 4 categories: manufacturing sector where the number of employees does not exceed 200 persons, wholesale sector where the number of employees does not exceed 50 persons, retail sector where the number of employees does not exceed 30 persons and service sector where the number of employees does not exceed 200 persons (Office of SME Promotion, 2005).

The impact of SMEs in Thailand is very interesting. They are the biggest source of employment and generate a high share in exports. However, the majority of them is family-owned and uses the traditional technology in both production and management (Mephokee, 2004). Even though currently Electronic Commerce (EC) has become an integral part of many company’s growth, only a small number of Thai SMEs are using EC. Limthongchai and Speece (2000) posit that recently technology innovations such as EC have become more widely and quickly diffused among SMEs. This is important because the OECD (2001) argues that the implementation of EC can contribute to the development of competitiveness and market power of SMEs. Unfortunately, SMEs in Thailand have been very slow in EC adoption, and are still reluctant to do business online with EC. This is because they lack essential information and support to get started. The support from the Thai Government so far is unreliable and vague (Wiboonchutikula, 2001). Hence, there is a need for greater analysis about EC adoption issues among Thai SMEs particularly in relation to the factors affecting the development of network to support each other. There appears to be neither a history nor a widely accepted practice that Thai SMEs engage in network activities.
A review of literature suggests that there are a number of benefits associated with forming and joining the network; however, there has been a lack of research examining the factors affecting networking within SMEs (Sherer 2003; Human and Provan, 1997). Furthermore, most research has put a great emphasis on the role of weak-ties in opportunity recognition or as a source of innovative idea. Only a few researches have suggested the importance of strong ties in helping firm with new innovation adoption (Levin and Cross, 2004). Strong ties could play a major role in innovation adoption process because trust can affect knowledge transfer and the sharing process needed to transfer knowledge that may give a firm a competitive advantage (Levin and Cross, 2004). Though there have been a number of researches examining the role of trust in strategic alliance and EC adoption (Das and Teng, 1998; Gulati, 1998; Gefen, Karahanna and Straub, 2003), there has been less research examining the role of trust in strong network ties in EC adoption. A simple definition of trust is that it is a state in which both parties are confident about the others’ motives and conduct activities involving risk (Lewicki, McAllister and Boes, 1998). It is unclear how trust could play a significant role in EC adoption among Thai SMEs through strong network ties. Therefore, the aim of this paper is to examine the impact of trust amongst social networks on SMEs’ EC adoption. The research question is:

What is the impact of trust within social networks on SMEs’ Electronic Commerce Adoption?

The reason for examining the role of trust in the network is that it is a common belief that weak-ties are more likely to assist EC diffusion and the theory of strong ties suggest that those who are close to a knowledge seeker have similar knowledge and perceptions. However, the advantage of strong ties could be more than knowledge sharing because it involves trust development. The SME owner/manager might form a positive perception about EC, for example, when their confidences are built up just because of the positive experiences of a “trusted” person. This phenomenon could accelerate the adoption process.

The paper is in two parts. The first part reviews relevant literature and the second part encompasses results and examines implications of the findings.

LITERATURE REVIEW

Social Network Characteristics

The social network theoretical framework is a growing theory that is of interest to today’s researchers because it can assist in in explaining the success of entrepreneurship (Casson, 1997; Hoang and Antoncic, 2003). Casson (1997) defined social network as “a set of high-trust relationships which either directly or indirectly link together everyone in a social group”. In the study of the effect of network on the entrepreneurial process, Hoang and Antoncic (2003) argue that network comprises three major components:

- **Network content**: an interpersonal and interorganizational relationship that helps actors gain access to required resources held by other actors.
- **Network governance**: the mechanism that facilitate network exchange. Trust between partners is a crucial element in network governance as it enhances the quality of information flow.
- **Network structure**: is a pattern of linkage between actors in particular network. The linkage can be either direct or indirect in its ties. A general proposition is that a different positioning of each actor within the network structure has an important impact on resource flow.
Hoang and Antoncic (2003) posit that for a network to be effective, there must be both strong and weak ties linking individual actors. Even the strong ties, which are the support from friends and family, are important in explaining firm success; however, much of the research suggests that weak ties can be the most advantageous for EC adoption. Weak ties, which are the support from business partners and acquaintances, generate an access to the diversity of necessary information for operating business (Huang and Antoncic, 2003). Batjargal and Liu (2004) have used social networks to study the entrepreneur’s access to private equity in China. The result shows that the direct ties between entrepreneurs and venture capitalist have a great influence on the access of entrepreneurs to private equity because it helps reduce the social risk. In addition, the importance of referrals as an indirect tie is also emphasized as an influential factor in investment decision (Batjargal and Liu, 2004).

Social networks tend to influence on EC adoption in two ways: via the notion of diffusion of innovation (Deroian, 2002) and by providing relevant information for the adoption process (Casson, 1997). From the perspective of the diffusion of innovation, Roger (1998) argues that the adoption rate of any innovation is dependent on the values, beliefs, and past experiences of the social system. Deroian (2002) postulates that some innovations need delays to diffuse and this can be explained using social network theory. According to Deroian (2002), the success of technological adoption needs a strong network formation which normally takes time to develop. However, the gradual formation of the social network leads to a collective evaluation of the innovation which can have a positive effect on the rate of adoption (Deroian, 2002).

From the information synthesizing perspective, Casson (1997) argues that networks play an important role in providing necessary information to network actors. This argument is supported by Licoppe and Smoreda (2005) who argue that social networks generate the possibility of interpersonal communication, which in turn affects the quality of information. According to Licoppe and Smoreda (2005) personal networks are shaped by technological means of communication since it entails the re-constituting of social ties and re-drawing of social boundaries. They conclude that the social network may facilitate the adoption of new technology by providing necessary information for potential adopters via the linkage between actors (Licoppe and Smoreda, 2005).

The Importance of Strong Ties: The structural properties of networks have gained wide interest from social network researchers in recent years. Tie strength is one of the most important network properties that is believed to facilitate the technology selection process (Suarez, 2005), the knowledge transfer process (Levin and Cross, 2004) and change management (Tenkasi and Chesmore, 2003). Hensen (1999) postulates that the concept of tie strength is characterized by the closeness and interaction frequency of a relationship between two parties. According to this tie strength description, social network theorists have raised the importance of two extremes within the tie-strength concept: strong and weak tie. Both strong and weak ties were found to have advantages, but in different ways. For example, Granovetter (1973) argued that weak tie were more likely to be a source of innovative idea, while strong tie was important because they were more accessible and willing to be helpful. Granovetter (1973) argued that the strengths of a tie is a combination of four properties namely amount of time, the emotional intensity, the intimacy and the reciprocal services which is characterized the tie.

Even though the researchers have found that both strong and weak ties were advantageous, evidence suggested that strong ties lead to greater knowledge exchange (Levin and Cross, 2004). Krackhardt (1992) argued that strong ties tend to expend more effort to ensure that the knowledge seeker has sufficient understanding and is able to utilize the new knowledge. Suarez (2005) has applied social network theory to study a key determinant of technology adoption in the case where several technologies competed. The author argues that small networks with strong ties are more likely to be more valuable for organization than large network with weak
ties especially under the condition of environmental change and great uncertainty (Suarez, 2005). In the study of the impact of strong network ties on effective change implementation and use in 40 large organizations, Tenkasi and Chesmore (2003) postulate that strong network ties is normally characterized by frequent interaction, an extended history, intimacy and sharing, and reciprocity in exchanges that allow mutually confiding and trust-based relationship. The authors confirm the importance of strong ties in change management and that change is more likely to be successful in densely interconnected with many redundant ties (Tenkasi and Chesmore, 2003). Levin and Cross (2004) argue that the major reason as to why strong ties tend to have more influence on knowledge transfer or technology adoption is because the members in the network highly trust one another. The authors conclude that trust plays a significant role in facilitating knowledge transfer and sharing processes (Levin and Cross, 2004).

**The Role of Trust**

The study of trust in business and management generally falls into two main areas: E-Commerce adoption (Jarvenpaa and Tractinsky, 1999; McKnight, Choudhury, and Kacmar, 2002; GEFAN, Karahanna and Straub, 2003) and business relationships (Kumar, 1996; Hart and Saunders, 1997). The importance of trust in these two areas is of interest to researchers and practitioners especially in the study of Small and Medium Enterprises (SMEs) behaviour (Brown and Lockett, 2004). Brown and Lockett (2004) suggest that trust is important for SMEs to seriously consider in the E-business adoption model so as to avoid the threat of the disintermediation effect. Interestingly, in their “eTrust Platform”, trust between e-Vendors (acting as the intermediary) and groups of SMEs plays a significant role in the success of the business model (Brown and Lockett, 2004). Hence, their research suggests that trust may have a great effect on EC adoption.

Trust has traditionally been difficult to define and measure. It is a social phenomenon that has varied definitions depending on the content (McKnight et al., 2002). However, Gefan, Rose, Warkentin and Pavlou, (2005) has proposed the definition of trust in EC study as “the belief that another person or organization on whom one depends will behave in a socially acceptable manner – honest, caring and capable – in doing so will fulfill the trusting party’s expectation”. Based on this definition, in the study of cultural diversity and trust in IT adoption, Gefan et al. (2005) argue that culture influences trust in the way that the perception of socio-cultural similarity should encourage trust building process because people will have greater trust with those whom they have shared value. In addition, increase in perceived similarity can build trust by reducing the social uncertainty. In a similar study about IT adoption, Gefan et al. (2003) proposed a model of trust in online shopping by integrating trust-based antecedents and technological attribute-based antecedents found in Technology Acceptance Model (TAM). There are five trust antecedents applied in this model: personality-based trust antecedent (the tendency to believe or not to believe in others and so trust them), cognitive-based trust antecedent (the extent to which trust is built on first impressions and is formed via categorization and illusion of control), knowledge-based trust antecedent (the extent to which trust is created in a prediction process by trustor’s knowledge about the other party), calculative-based trust (trust can be shaped by the assessment of costs and benefits of another party cheating or cooperating in the relationship), and institution-based trust antecedent (a sense of security from guarantees, safety nets, or other impersonal structure) (Gefan et al., 2003).

The study from McKnight et al. (2002) provides useful information to the present research. They posit that previously many researchers treated trust as a unitary concept; most now agree that trust is multidimensional. However, there is little agreement regarding specific dimensions that constitute trust and how these dimensions interrelate. The authors have proposed and validated measures for multidisciplinary and multidimensional model of trust in EC. The model includes four high level constructs (McKnight et al., 2002):
1. Trust-related behaviors are “actions that demonstrate dependence on a web vendor, that make one vulnerable to the vendor, or increase one’s risk” (p.336). When applied to this study, the trusted-related behavior refers to EC adoption.

2. Trusting intention means “the truster is securely willing to depend, or intends to depend, on the trustee” (p.337).

3. Trusting beliefs means “the confident truster perception that the trustee has attributes that are beneficial to the truster” (p.337).

4. Institution-based trust is “the belief that needed structural conditions are present (e.g. in the Internet) to enhance the probability of achieving a successful outcome in an endeavor like EC” (p.339).

5. Disposition to trust is “the extent to which a person displays a tendency to be willing to depend on others across a broad spectrum of situations and persons” (p.339).

The above constructs constitute “Web Trust Model” which basically was influenced by the Theory of Reasoned Action (TRA). TRA posits that beliefs lead to attitude, that lead to behavioral intentions that lead to actual behavior.

This paper is looking at the role of two basic types of trust namely dispositional trust and experiential trust. Erikson (1968) described dispositional trust as “a sense of basic trust, which is a pervasive attitude toward oneself and the world”. It is a generalized tendency to assume that others would fulfill expectation (Gefen, 2000). Experiential trust, on the other hand, occurs through the positive interaction and experience with another party. The more one interacts with another, the more information one gains about their attributes and the more confidence one has about predicting their actions (McKnight and Chervany, 2005). Two hypotheses can be drawn from the above concept:

**Hypothesis 1:** Dispositional trust will positively influence on network characteristics.

**Hypothesis 2:** Experiential trust will positively influence on network characteristics.

**Trust and Business Relationship:** Trust in business relationship is considered relevant to this research because it is a key ingredient in forming alliances between SMEs and intermediaries. Brown and Lockett (2004) propose the eBusiness model for SMEs in creating and maintaining competitive advantage. The eTrust platform model emphasizes the role of intermediaries in the e-business engagement process and defines the relationship between multiple SMEs and intermediaries which has trust as an important component (Brown and Lockett, 2004). Ratnasingam (2005) explains that trust is important in EC partnerships because EC encourages the creation of institutional structures for online exchange relationship. However, the differences among business partners and the rapid change of technology have generated uncertainties in B2B EC. These uncertainties cause a lack of trust and reliability in EC partnership (Ratnasingam, 2005). Kim, Song, Braynov and Rao (2005) postulate that trust is an essential component in every business relationship. This is because trust encourages exchange partners to work at preserving relationship through cooperative transaction (Kim et al., 2005).

The study by Das and Teng (1998) suggest that confidence in partner cooperation is a key variable in alliances formation. This confidence comes from two distinct sources: trust and control. The authors posit that trust is believe to be a source of confidence because it is defined as the degree to which truster has a positive attitude towards trustee’s goodwill and reliability. The more trustor believes in trustee’s goodwill and reliability, the more confidence in cooperation. The authors argue that when it is possible to fully trust the partner, there is no need to control its behavior. Control will come to play only when there is insufficient trust in the relationship (Das and Teng, 1998). Ratnasingam (2005) argue that trust in business relationship
evolve from four perspectives, namely economics, technology, behavior and organization. These perspectives focus on how institutional-based trust provides structural assurances and security technological solution in form of technological trust which will lead to interpersonal or relationship trust (Ratnasingam, 2005). Willcocks and Choi (1995) studied the concept of cooperation and its relevance to strategic alliances. The authors argue that one of major objectives in alliances is to maintain the relationship over a long period of time; therefore maintenance and enforcement issue need to be taken into account to avoid the threat of opportunism. The only way to reduce such opportunistic behavior is by using trust mechanism (Willcocks and Choi, 1995).

**Trust and EC Adoption:** Trust is one of the most pervasive concepts that are used to explain EC adoption. Gefan, et al. (2005) suggest that trust is considered an important facilitator in IT adoption process when the IT is a social medium through which individual interact or transact with other people or organization as in the case of EC. In the study of trust in online shopping, Gefan et at. (2003) posit that trust is a central aspect of many economic transactions because human needs to understand what is happening in the society and how and why others behave. Therefore, when the society cannot be regulated through rules and customs, people have to adopt trust as a central social complexity reduction strategy (Gefan et al., 2003). This trusting perspective is applied in later studies of online activities, for example, in the study of trust in online tax adoption, Wu and Chen (2005) also view trust as a common mechanism for reducing social complexity and perceived risk of transaction through increasing the expectation of a positive outcome and perceived certainty about the expected behavior of trustee. McKnight et al. (2002) postulate that EC is a kind of social medium and the decision to adopt EC not only depends on the perception of the technology but also on the beliefs about the e-vendors (i.e. trust). The role of trust on EC adoption is used to develop two hypotheses:

**Hypothesis 3:** Dispositional trust will positively influence on EC adoption.

**Hypothesis 4:** Experiential trust will positively influence on EC adoption.

Finally, it is interesting to understand the role of network in the EC adoption process. According to social network literature, it is likely that network characteristics would play a significant role in EC adoption. Therefore, the fifth hypothesis is listed below:

**Hypothesis 5:** Network characteristics will positively influence on EC adoption.

The research questions mentioned in earlier section are used to generate data to examine the role of trust in strong network tie in EC adoption. Figure 1 presents the propose research model.

**Figure 1. A Summary of Proposed Model**

![Proposed Model Diagram]

**METHODOLOGY**
Introduction
This paper uses an empirical case study methodology to examine the role of trust in strong network type in EC adoption process. This methodology is necessary because the impact of trust in decision-making process is complicated within the real world context and tends to be influenced by a number of factors (Yin, 2003). It is necessary to use multiple sources of evidence to establish a chain of evidence (Yin, 2003: 42) using data collected from multiple sources together with analyzing the processes that are consistent with the research protocol and practice. To achieve this objective, information was obtained through 2 processes:
1. Interviews with 11 Thai small and medium companies in hospitality industry; and
2. A questionnaire was developed using themes emerging from the interview.

The advantage of using both quantitative and qualitative research methods is that the former can be used to measure the outcome and the latter can provide an in-depth understanding about the phenomenon (Marshall and Rossman, 1989). The qualitative method (in-depth interview) is used to understand the respondents’ general opinion about the role of EC in doing business in Thailand. Because the research focus was largely exploratory in nature, convergent interview was used to design, conduct and analyze 11 in-dept interviews with target SMEs owners/managers identified as having realized the benefits of adopting EC in the companies. The convergence interview involves interview new participants until no new issues emerge (Perry and Jensen, 2001).

Sampling
The process of determining the sample was complex. Three sampling methods were applied: convenient, purposive and random sampling method:

1. **Convenient sampling**: Thailand is selected to be a context for this research because there are only a few research studies that focused on the impact of culture and social network on EC adoption in Thailand.
2. **Purposive sampling**: Small and medium hospitality companies (i.e. travel agent, hotel and resort) are the area of interest of this research. The impact of globalization has enforced these companies to consider EC system to increase their competitiveness.
3. **Random sampling**: The sample frame of this research is the small and medium hospitality companies in Thailand. The list of Thai Small and Medium Enterprises (SMEs) was obtained from the Association of Thai Travel Agents (ATTA). The list of population was narrowed down to include only the companies that match with SMEs definition by Institute of Small and Medium Enterprises Development (ISMED).

The questionnaire was sent to managers or owners of Thai SMEs via email. However, because only a limited number of SMEs use email, another set of questionnaires were collected by a group of Thai university students. The students were given a list of small and medium hotels, resorts and travel agents and left questionnaires there for a few days. Then they returned to collect the complete questionnaires. In addition, the questionnaire was written in two versions: English and Thai.

Instruments
A survey is used to examine the impact of trust on the take up of E-Commerce among Thai SMEs, specifically those in hospitality industry. Demographic variables and perception of business growth are included to examine cross-sample equivalence. The questionnaire included 2 parts: a short demographic section and statements that asked the respondents to indicate their level of agreement (1 = strongly disagree and 5 = strongly agree). In particular, the questions were developed to test the role of trust in strong network tie in EC adoption among Thai SMEs. In social network theory, organizations are perceived as a system or object which consists of individuals and a group of people which are joined together by a variety of relationship (Tichy,
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Tushman and Fombrun, 1979). A set of questions were added to identify the role of trust in explaining intention to adopt EC by Thai SMEs. Some questions testing each variable had to be removed due to the low alpha reliability coefficient.

This study has used an ordinary least square regression (OLS) approach to perform path analysis. The OLS approach uses multiple regression method from the SPSS statistical package. The key feature of this approach is that it assumes perfect reliability of the instrument (Mulsil, Jones and Warner, 1998). In other word, this approach assumes the variables are measured without error. The advantage of using path analysis with OLS approach is that it estimates parameters with an independent system which could avoid the problem of multicollinearity (Crapentine, 2000).

RESULTS

Demographics
A total number of approximately three hundred and seventy (370) questionnaires were handed to the prospected respondents in Bangkok and some major provinces. A total of two hundred and ninety eight (298) questionnaires was returned and five of them were incomplete which left the final number of respondents to two hundred and ninety three (293).

The majority of respondents’ business location was in Bangkok (94%) which is the capital city of Thailand (see table 1). Bangkok’s today is considered a centre of IT and a starting point for a tourist’s arrival. Table 4.5 presents business type of respondents’ company. Majority of the business types which accounts for 81.23% fell within two categories of Hotel (54.27%) and Travel Agents (26.96%). In term of business size by number of employees, 62.26% of Hotel respondents had more than 50 employees; while 59.49% of Travel Agents had about 11 to 50 employees (see Table 2)

Table 1. Respondent by Business Location

<table>
<thead>
<tr>
<th>Business Location</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bangkok</td>
<td>275</td>
<td>93.86%</td>
</tr>
<tr>
<td>Chiang Mai</td>
<td>3</td>
<td>1.02%</td>
</tr>
<tr>
<td>Phuket</td>
<td>4</td>
<td>1.37%</td>
</tr>
<tr>
<td>Samui Island</td>
<td>2</td>
<td>0.68%</td>
</tr>
<tr>
<td>Others</td>
<td>9</td>
<td>3.07%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>293</strong></td>
<td><strong>100%</strong></td>
</tr>
</tbody>
</table>

Table 2. Business Type

<table>
<thead>
<tr>
<th>Business Type</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inbound tour operator</td>
<td>41</td>
<td>13.99%</td>
</tr>
<tr>
<td>Outbound tour operator</td>
<td>18</td>
<td>6.14%</td>
</tr>
<tr>
<td>Inbound &amp; Outbound</td>
<td>20</td>
<td>6.83%</td>
</tr>
<tr>
<td>Hotel</td>
<td>159</td>
<td>54.27%</td>
</tr>
<tr>
<td>Resort</td>
<td>40</td>
<td>13.66%</td>
</tr>
<tr>
<td>Others</td>
<td>15</td>
<td>5.12%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>293</strong></td>
<td><strong>100%</strong></td>
</tr>
</tbody>
</table>

Result from Quantitative Analysis

Descriptive Analysis
Almost all employees (98.94%) listed at least one social contact with which they discussed the issue about IT (see table 3). The majority of respondents (49.30%) had the network contact of 3-5 people followed by 6-10 people (17.25%). When asking the respondents to list top five people who assisted them in recognizing the importance of EC (referred people), only 71 respondents or 37.37% of total respondents could provide the whole list. Most of the respondents provided up to two people (182 respondents or 95.79%). Interestingly, more than 80% of respondents received an idea about EC from their social networks. This finding implied that majority of Thai people generally knew about the idea of EC in organization.

Table 3. Network Contact

<table>
<thead>
<tr>
<th>Number of People in Network</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>3</td>
<td>1.06%</td>
</tr>
<tr>
<td>1</td>
<td>3</td>
<td>1.06%</td>
</tr>
<tr>
<td>2</td>
<td>48</td>
<td>16.90%</td>
</tr>
<tr>
<td>3-5</td>
<td>140</td>
<td>49.30%</td>
</tr>
<tr>
<td>6-10</td>
<td>49</td>
<td>17.25%</td>
</tr>
<tr>
<td>More than 11</td>
<td>41</td>
<td>14.44%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>284</strong></td>
<td><strong>100.00%</strong></td>
</tr>
</tbody>
</table>

Table 4 shows the types of relationships that respondents had with social network contacts. Almost half of the respondents (44.89%) classified their closest network contact as a family members or close friends followed by their colleagues (25.75%). A similar pattern also occurred with the second and the third person in the network. Interestingly, besides the respondents’ relatives, friends and colleagues, customers and suppliers were identified as a source of EC adoption idea.

Table 4. Type of Relationship

<table>
<thead>
<tr>
<th>First Person</th>
<th>Relative / Friends</th>
<th>Co-founder</th>
<th>Employee</th>
<th>Customer / Supplier</th>
<th>Business Partner</th>
<th>Industry Known Person</th>
<th>Gov Bus Advisor</th>
<th>Fed Bus Advisor</th>
</tr>
</thead>
<tbody>
<tr>
<td>44.89%</td>
<td>9.09%</td>
<td></td>
<td>25.57%</td>
<td>7.39%</td>
<td>6.82%</td>
<td>2.84%</td>
<td>1.70%</td>
<td>1.70%</td>
</tr>
<tr>
<td>Second Person</td>
<td>36.53%</td>
<td>16.17%</td>
<td>25.75%</td>
<td>10.18%</td>
<td>2.99%</td>
<td>6.59%</td>
<td>1.80%</td>
<td>0.00%</td>
</tr>
<tr>
<td>Third Person</td>
<td>32.52%</td>
<td>15.45%</td>
<td>30.89%</td>
<td>10.57%</td>
<td>6.50%</td>
<td>4.07%</td>
<td>0.00%</td>
<td>0.00%</td>
</tr>
<tr>
<td>Fourth Person</td>
<td>12.66%</td>
<td>5.06%</td>
<td>31.65%</td>
<td>17.72%</td>
<td>13.92%</td>
<td>13.92%</td>
<td>3.80%</td>
<td>1.27%</td>
</tr>
<tr>
<td>Fifth Person</td>
<td>10.53%</td>
<td>10.53%</td>
<td>10.53%</td>
<td>22.81%</td>
<td>24.56%</td>
<td>10.53%</td>
<td>3.51%</td>
<td>7.02%</td>
</tr>
</tbody>
</table>

Path Analysis

As mentioned earlier, path analysis was utilized to analyze the relationship between trust, network characteristics and EC adoption. Path analysis was conducted using SPSS 13.

Table 5. The Regression Result of Trust and Network Characteristics

<table>
<thead>
<tr>
<th>Independent Variable</th>
<th>Beta</th>
<th>p-Value</th>
<th>t-Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dispositional Trust</td>
<td>.128</td>
<td>.087</td>
<td>1.716</td>
</tr>
<tr>
<td>Experiential Trust</td>
<td>-.061</td>
<td>.412</td>
<td>-.822</td>
</tr>
</tbody>
</table>
Both dispositional and experiential trust were found to be non statistically significant in influencing on the network characteristics. However, dispositional trust - the trustor has a general tendency to trust others across situations – has a positive relationship with the networking.

Table 6. The Regression Result of Trust and EC Adoption

<table>
<thead>
<tr>
<th>Independent Variable</th>
<th>Beta</th>
<th>p-Value</th>
<th>t-Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dispositional Trust</td>
<td>.203</td>
<td>.007</td>
<td>2.723</td>
</tr>
<tr>
<td>Experiential Trust</td>
<td>.001</td>
<td>.989</td>
<td>.014</td>
</tr>
</tbody>
</table>

The effect of dispositional trust was found to be statistically significant on EC adoption with a positive relationship. Experiential trust, on the other hand, was found to have no relationship with EC adoption.

Table 7. The Regression Result of Network Characteristics and EC Adoption

<table>
<thead>
<tr>
<th>Independent Variable</th>
<th>Beta</th>
<th>p-Value</th>
<th>t-Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Network Characteristic</td>
<td>-.186</td>
<td>.001</td>
<td>-3.225</td>
</tr>
</tbody>
</table>

The result from the analysis of the relationship between network characteristics and EC adoption was quite surprising. It shows a negative and statistically significant relationship. This finding corresponds with the result from the interview that Thai SMEs are not likely to seek assistance from networking. From the descriptive analysis, when they encounter uncertainties, they would rather go to their close friends and family members to seek information.

Figure 2. Path Analysis Result

Analysis of Interviews

Once the data was transcribed, the next step involved data reduction. This involves reading the transcripts so as to identify “commonalities and differences” across different responses (Ghauri & Gronhaug, 2002). This is followed by a process of coding similar responses within specific themes so as to identify the most frequent themes emerging from the data (Yin, 1994). The prevalence of each theme is then calculated. About a third of the transcription was re-examined by another researcher to ensure that similar categories/ frequencies of categories emerged. Only minor discrepancies were identified. The systematic thematic patterns that
emerge from this process are then used to draw conclusions in relation to the research questions (Ghauri & Gronhaug, 2002; Yin, 1994).

The persons interviewed were the owners or managers of small and medium companies in the hospitality industry. The aim was to find the impact of dispositional and experiential trust on their decision to adopt EC technology in their companies. The 11 interviewees were asked about their perception in regards to EC in SMEs environment. An analysis of their transcript identifies similar experience on the factors affecting EC adoption. For example, a common theme that emerged in each transcript was the important of the source of “trusted” information about EC technology. Most of them argued that due to the fierce competitive environment it was extremely hard for them to believe in information given by other companies in the same industry. However, they all agreed that Thailand was a collectivist society which means there was at least one or two trusted source that they felt comfortable to believe. These sources normally were their close friends or family members.

Six of the interviewees had experience in forming network with other companies. A strong emerging theme was that all of them agreed that networking or other kind of alliances were not suitable in Thailand at least within the SME environment. An example of this theme is: “The industry is getting worst. Everyone works for themselves and no one cares about what happen in the future”.

Another emerging theme was that each SME owner/manger all identified the lack of entry barriers into the hospitality industry as a huge disadvantage to them because the competition between firms was “unbelievably high and unfair” (their words). This was the main reason given for the lack of trust between network actors. As a result, they stated that they were forced to only think of themselves as a matter of survival.

When the interviewees were asked about the importance EC to the SMEs environment, they all agreed that EC is not a choice to make rather it is a “must have” technology. A number of interviewees identified the threat from the expansion of large hotel / travel agent chains in to Thailand as the main accelerator promoting EC adoption.

When asked what was the biggest obstacles to EC diffusion among Thai SMEs, an analysis of the responses suggests that the strongest responses related to three themes: (a) lack of funds, (b) Lack of knowledge and (c) Lack of training. A majority of interviewees suggested that it might be the role of government to assist in EC implementation, but a strong theme was that the role of government to date had been “vague and unreliable” (their words).

The interviewees then asked what was the benefit of belonging to network. The themes emerging from an analysis of the interviews suggest that SMEs owners/managers believe that it is beneficial to be a part of a network in order to gain more knowledge and share experience about something new such as EC technology. The next question asked them if they were in a network and in response most of the interviewees stated that it was difficult to join or belong to a network because of the trust issue. The emerging theme was that trust takes a long time to develop within the Thai culture. This is why they turned to friends and family if they need to find information about business.

Hence, in summary, the findings from the analysis of the interviews is that strong ties are more likely to facilitate EC adoption in Thailand because SME owner/managers lack trust in business-to-business relationships and therefore are unlikely to share information that may give one business a competitive advantage over another.

**DISCUSSION**
This paper has examined the impact of dispositional and experiential trust on EC adoption among Thai SMEs. This led to the development of survey instrument to test the importance of the following independent variables: trust disposition, trust experience, network characteristics and EC adoption. This data collecting process was triangulated via data analysed using linear regression techniques and in-dept interviews.

This paper began with the assumption that social networks are a source of information that could facilitate the EC adoption process. O’Reilly (1980) argued that when the business environment encountered the challenge of rapid and complex changes, it was necessary for both management and employees to seek more information regarding such changes in order to gain better understanding that will lead to higher performance and success. This would be a case for EC adoption process. Social network theory postulates that social networks provide the actors with social capital which emerge from the characteristics of both the dyadic relationship in social networks and the overall structure of the social networks (Rowley, Behrens and Krackhardt, 2000). The dyadic characteristics emerge from the relationship between each pair of actors in the social network and it can be measured through the differences in tie strengths.

The strongest finding from this research is that strong ties are more important in EC adoption for Thai SMEs. The second key finding is that the pre-disposition to trust is a significant factor affecting EC adoption (See support for H3). This finding corresponds with McKnight, Choudhury and Kaemar (2002)’s research that disposition to trust is positively related to innovativeness and intention to adopt EC. This is because disposition to trust reflects one’s perception of others generally and it has an influence on a person’s trusting belief and trusting intention (McKnight and Chervany, 2005).

However, the findings did not support the hypotheses about experiential trust at all. This contradicts the findings from McKnight, Cummings and Chervany (1998)’s study that the quality and quantity of trust-related experiences are more likely to affect EC adoption. One explanation of the finding of this paper could be related to the timeframe of the study. According to McKnight and Chervany (2005), experiential trust should replace dispositional trust over time. It could be that Thai people may be less trusting than other nationalities; therefore, they may need more time to develop experiential trust.

A second finding is that the relationship between network characteristic and EC adoption is significant but negative (H5). When considering the logic behind the strong tie concept, the results may be consistent with the existing theory. Even though this paper confirmed the role of strong ties in information finding and confidence building, this does not mean that the information the SMEs owners/managers get would positively contribute to their decision to adopt EC. The findings from this study suggest that strong ties work against EC adoption. Previous research has already identified that the information actors get from strong ties is highly likely to be something they already know. According to Levin and Cross (2004), strong ties are an important conduit because they are more accessible and willing to help. However, the findings suggest that whilst strong ties should yield useful knowledge likely to promote EC adoption, it did not do so for Thai SMEs in this study.

In addition, the findings in this paper confirm that Thai SMEs owners/managers placed a great emphasis on their strong tie network such as close friends and/or family members. One major explanation is because they have a great trust in these people. In Thailand, the competition among SMEs is exceptionally high especially in the tourism industry. Any innovative idea is always treated as confidential including the best way to utilize EC. Therefore, the findings suggest that SMEs believe that it is safer to begin discussing EC adoption with someone they can trust.
The limitation of this study is that the sample used was only in one industry – the tourism industry – which could have generalizability problems when applied to other industries. Future research should be undertaken using the same methods in different types of industries – perhaps capturing those characterized by a less competitive environment because it might generate different outcome. In addition, because the trust development process is time sensitive, future research should add “time” as one key variable in the model.

CONCLUSION

This study makes several contributions to the social network and EC adoption literature. In relation to the EC adoption literature, the findings demonstrate that pre-disposition to trust is a significant factor affecting EC adoption in Thailand, whereas experiential trust was not. This finding contracts previous research. However, the finding may be explained by the fact that the trust development process in different environments requires different amounts of time. In Thailand, because the SMEs are working in very competitive environment, it may take more time for the owners/managers to develop experiential trust. In relation to social network research literature, the findings from this study contribute to a better understanding as to why strong networks may be crucial to EC adoption within cultures where trust is a major obstacle.

The implication of the findings is that the government may have a major role to play in providing information about the benefits of EC adoption to all businesses, such that when SME owner/managers within social networks discuss its merits, an informed debate can occur. Government may also prove to be a trusted source of information because they have nothing personally to gain by diffusing the information. Hence, it may be that SME owner/managers are more likely to be prepared to believe information coming from the government. This issue requires further investigation.
REFERENCE


Hart, P. and Saunders, C. Power and Trust: Critical Factors in the Adoption and Use of Electronic Data Interchange. Organizational Science; 8, 1.


